# Resistance Is Futile: Toward a Non-Modern Democratization of Technology

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**Abstract:** Andrew Feenberg's political philosophy of technology uniquely connects the neo-Marxist tradition with phenomenological approaches to technology. This paper investigates how this connection shapes Feenberg's analysis of power. Influenced by De Certeau and by classical positions in philosophy of technology, Feenberg focuses on a dialectical model of oppression versus liberation. A hermeneutic reading of power, though, inspired by the late Foucault, does not conceptualize power relations as external threats, but rather as the networks of relations in which subjects are constituted. Such a hermeneutic approach replaces De Certeau's tactics of resistance with a critical and creative accompaniment of technological developments.

**Key words:** dialectics, hermeneutics, power, political philosophy of technology, mediation theory

## 1. Introduction

Phenomenology and Marxism have always had a complicated relationship. When asked about the possible contributions of philosophy to social change, in a famous television interview with Richard Wisser, Martin Heidegger replied with a sharp critique of Karl Marx. In his *Theses on Feuerbach*, Marx stated that "philosophers have only *interpreted* the world; what matters is to change it" (Marx 2000: 174). And against this, Heidegger showed that this statement ignores that it is in fact based upon a very specific understanding of the world itself: it presupposes that the world is makeable and changeable. For phenomenologists, Marxism overlooks the hermeneutic dimensions of human existence; for Marxists, phenomenology is politically ignorant.

Andrew Feenberg is one of the very few scholars who successfully manage to connect these two traditions. Firmly rooted in neo-Marxism, he critically integrates phenomenological analyses in his critical theory of technology, culminating in his study *Heidegger and Marcuse: The Catastrophe and Redemption of History* (Feenberg 2005b). For Feenberg, political power and the cultural appropriation of technology are closely connected. In his view, technology involves both a decontextualization and a recontextualization: while it detaches entities from their context in order to use them in a functional way, the resulting technologies are always recontextualized when they acquire a place in society. Both aspects need to be addressed in philosophy of technology. Moreover, because of his contextual and empirical approach to technology (cf. Achterhuis 2001), for Feenberg technology is never problematic *in itself* but only in its concrete workings. And this connects closely to contemporary approaches in philosophy of technology that focus on actual technologies and their social and cultural implications, rather than 'Technology,' as a broad social and cultural phenomenon. For Feenberg, then, the task of a political philosophy of technology is not to criticize technology as such, but to find an alternative technological rationality and materiality.

In this article, I will address the question of how to arrive at such an 'alternative technology,' engaging in a critical way with Feenberg's approach. The central point of discussion will be the conceptualization of the relations between technology and society that supports and guides political analyses of technology. With a nod to Heidegger's critique of Marx, I will discuss the basic understanding of the human-technology relation that underlies the neo-Marxist approach to technology. Against the neo-Marxist dialectical model of a *struggle* between technology and society, focusing on oppression and liberation, I will propose a phenomenological model in which humanity and technology are closely intertwined, and in which technology helps to shape frameworks of meaning and interpretation.

At the background of this discussion, as will become clear below, is the question of modernity. While a critical theory of technology strives for the development of an *alternative modernity*, the phenomenological approach indicated above rather results in a *nonmodern* framework, inspired by contemporary approaches such as Postphenomenology and Actor-Network Theory. Such a framework does not take a sharp division between human subjects and technological objects as its starting point, but focuses on their interwoven character. This discussion will, finally, lead us to the question of how to do politics with this nonmodern alternative to critical theory. I will address this question by expanding Feenberg's analysis of the democratization of technology. In addition to the reorganization of power

relations, I will propose a 'democratic accompaniment' of technological developments, in which the reintroduction of the question of the good life in the public sphere has a central place.

## 2. Criticizing Critical Theory

### *Domination and Resistance*

Feenberg's critical theory of technology integrates classical Marxist 'technology critique' with contemporary empirical and contextual approaches to technology. Rather than addressing 'Technology,' as a broad social and cultural phenomenon, he addresses actual technologies and their political workings. For Feenberg, technology is a thoroughly political phenomenon. Not because it provides the infrastructure for industrialization, as classical Marxism would have it, but because it embodies political interests, ideologies, and power relations. Feenberg developed the concept of the "technical code" to explain this. A technical code, in his own words, is "the realization of an interest or ideology in a technically coherent solution to a problem" (Feenberg 2005a: 52). Such codes are not always explicitly formulated by designers; most often they come about implicitly:

> Although some technical codes are formulated explicitly by technologists themselves, I am seeking a more general analytic tool that can be applied even in the absence of such formulations. More precisely, then, a technical code is a criterion that selects between alternative feasible technical designs in terms of a social goal. "Feasible" here means technically workable. Goals are "coded" in the sense of ranking items as ethically permitted or forbidden, or aesthetically better or worse, or more or less socially desirable. (Feenberg 2005a: 52)

The heart of Feenberg's analysis is formed by his theory of instrumentalization. For Feenberg, instrumentalization is the essential characteristic of technology. Instrumentalization has two manifestations: there are two ways in which technology turns entities into instruments, which Feenberg calls "primary" and "secondary" instrumentalization. Primary instrumentalization consists in "the functional constitution of technical objects and subjects": technology approaches both human and nonhuman entities in terms of the function they could have. Secondary instrumentalization is "the realization of the constituted objects and subjects in actual networks and devices" (Feenberg 1999: 202): it occurs when instruments take on a specific social and cultural role, and become part of relations with human beings.

The first form of instrumentalization, in Feenberg's analysis, *decontextual- izes* and reduces subjects and objects to the functions they can have in a tech- nical system, as analyzed in various ways by Marx, Habermas, and Heidegger (cf. Feenberg 2005a: 50). Technological development requires a reduction of humans and things to 'raw material' with functional properties. The second form of instrumentalization consists in a *recontextualization* of entities, placing them back in the "dimensions of reality from which the primary instrumentalization abstracts" (Feenberg 1999: 205). Here, the focus is on how technologies become part of networks of relations, and take on mediating roles in people's practices and experiences. After the reductionism of primary instrumentalization, secondary instrumentalization brings in complexity, embodying an entirely different politi- cal dimension of technology. Besides a functionalization of humans and things— which can easily develop into exploitation—technology also generates new forms of meaning and organizes new practices and experiences. At this level, there is also creative appropriation of technology, in which human beings use and embed technologies in unexpected or even subversive ways.

For Feenberg, the current technological configuration of our society is deeply problematic. Feenberg shares Marx's analysis that our capitalist, industrial society "orients technological development toward disempowering workers and the mas- sification of the public" (Feenberg 2005a: 53). Feenberg calls this control over the labor process "operational autonomy," which he defines as "the freedom of the owner or his representative to make independent decisions about how to carry on the business of the organization, regardless of the views or interests of subordinate actors and the surrounding community" (ibid.). This autonomy gives the managers a safe position, far away from the consequences of their decisions, from which they can "reproduce the conditions of their own supremacy at each iteration of the technologies they command." This situation ultimately results in technocracy, when "technology and management spread to every sector of social life" (Feen- berg 2005a: 55).

Yet, technology can take another direction. "What can be done to reverse the tide?" Feenberg asks, immediately answering that "only the democratization of technology can help." Democratic movements can create "alliances of actors" which make sure that the consequences of the actions taken are also experienced by the people making the decisions. In this way, agency is restored to "those treated as objects of management in the dominant technical code" (Feenberg 2005a: 55).

In his democratization theory, Feenberg clearly shows his dialectic roots: it primarily comes down to *resistance*. "Subordinate actors," he says, "must inter-

vene in a different way from dominant ones" (Feenberg 2005a: 55). In order to elaborate this, Feenberg bases himself on Michel De Certeau—more specifically, on De Certeau's interpretation of Michel Foucault. De Certeau makes a distinction between "strategies" and "tactics." Strategies belong to institutional groups that have the power to actually develop a strategy, whereas tactics belong to those "subject to that power and who, lacking a base for acting continuously and legitimately, maneuver and improvise micropolitical resistances" (ibid.).

For Feenberg, the level of tactics is by far the most interesting. Tactics are the antidote to domination; they are the medium of resistance, because they equip people with the means to counter the dominating and exploiting effects of technology. While strategies belong to the realm of decontextualization and primary instrumentalization, tactics are forms of secondary instrumentalization. They are in the realm of recontextualization, giving new roles and meaning to technologies, and thus rewriting the technological code (Feenberg 2005a: 55–59).

### From Dialectics to Hermeneutics

The importance of Feenberg's critical theory of technology cannot be overestimated. His work offers many points of application for political action and for the further development of a political theory of technology. Yet, from a (post) phenomenological point of view there is also a problem with Feenberg's conceptualization of the relations between technology and society. The basic model of these relations in his work, from his dialectical neo-Marxist approach, is that of a *struggle*. Technology and society are conceptualized as two separate realms, and the role of democracy is to make sure that the power is with the people, not with technology. If technology invades too deeply into the human sphere, practices of resistance and subversion are needed to push it back into its own realm. The logic of primary instrumentalization is a logic of technology, while the logic of secondary instrumentalization is human—and the first should not overrule the second.

This struggle-model rests upon a conceptualization of human-technology relations that is highly contestable. Contemporary approaches like Actor-Network Theory and Postphenomenology convincingly argue that humans and technologies are closely intertwined, and can only be conceptualized in their interrelations. Don Ihde's postphenomenological approach to technology, for instance, focuses on human-technology *associations*, rather than technologies themselves. By analyzing the character of the various shapes these human-technology relations can take, Ihde unravels how technologies help to shape human interpretations and practices (Ihde 1990). Bruno Latour's Actor-Network Theory works along com-

parable lines. In order to understand reality, Latour claims, we need to give up the a priori separation we make between human and nonhuman beings. Human 'subjects' and nonhuman 'objects' are always intertwined, and the networks of relations between them produce the world in which we live (Latour 1993). The French philosopher Bernard Stiegler even speaks about an "originary technicity" of human existence: human existence has always taken shape in close interaction with technologies (Stiegler 1998).

The human being cannot be understood in isolation from technology, just as technology cannot be understood in isolation from humanity. Conceptualizing this relation in terms of struggle and oppression is like seeking resistance against gravity, or language. Technology helps to shape what it means to be human. This does not imply, of course, that all roles of technology in human existence are equally desirable, and that human beings are in fact powerless victims of the power of technology. But it does imply that the model of oppression and resistance might not be the most productive model if one wants to change undesirable configurations of humans and technologies.

If there is a struggle between humans and technologies at all, as I will show later, it should rather be conceptualized in the way Heidegger conceptualized artworks as a struggle between "earth" and "world." A work of art, Heidegger argues in *The Origin of the Work of Art*, brings a world into being on the basis of "earthly" elements, like cloth and paint, bronze, vibrations of the air, et cetera (Heidegger 1971). Experiencing a work of art is experiencing the coming into being of a world, out of these material elements. Watching Van Gogh's painting of a pair of peasant shoes, in Heidegger's well-known example, sets into motion a "struggle" between the cloth and the pigment on the one hand, and the reality of the pair of shoes that arises out of these material elements on the other. In this struggle, there is no oppression and liberation, but interaction and mutual shaping. It would be strange to say that the paint oppresses the shoes, or the other way round: the two are necessarily connected. Similarly, forms of human existence and arrangements of society are "revealed" in the relations between technological materialities and the human beings who design, organize, and use them.

An example may serve to illustrate the differences between these positions. From a dialectical perspective, a technology like Facebook can appear as a threat to society. After all, it embodies the power of a few mighty people who earn a lot of money by analyzing our personal profiles and selling these analyses to advertisers. Moreover, Facebook can be seen as a threat to the quality of social relations, because it makes us shallow (Carr 2011) and consumerist (Borgmann 1984, 1999).

If the basic model is a model of oppression, the only answer can be to reverse the tide, in more or less radical ways. Forms of resistance can range from activist attempts to hack the Facebook website, to developing alternative digital social networks in which the power is not with a small elite but with the entire community of users. Also, people could be educated about the effects of Facebook on the quality of the social relations they are involved in, in order to be able to develop a critical relation to it.

From a (post)phenomenological perspective, though, the opposition model needs to be overcome. For mediation theorists, Facebook is simply one of the media through which friendship can take shape, just like real-life conversations, letters, or e-mails. All of these media establish radically different types of relations—but these relations are typically the basis of *new forms* of friendship, not the end of it. Rather than *alienating* people from each other, Facebook *mediates* their relations, offering new ways of interaction. These need not always be desirable—but the central idea is that, when integrated in people's everyday lives, technologies like Facebook do not function as technological invasions alien to human existence, but as the very *media* of human existence. To be sure, there are powers of capitalism behind it, and Facebook is performing a "primary instrumentalization" of its users in order to make money out of their social interactions. But seeing this as a situation of oppression to which resistance is the only answer—which is the model one ends up with by embracing De Certeau's distinction between the strategies of the powerful and the tactics of the overpowered to analyze technology—would not do justice to the complexity of the social and cultural roles of Facebook. Rather than developing tactics to counter the strategies of dominating powers, citizens in a technological world should develop techniques to give a desirable shape to their technologically mediated existence and to organize their technological society. This does not take away the importance of countering the power of the big companies if these would form a threat to society. But it shows that an exclusive focus on the dialectics of oppression and liberation leaves crucial social and cultural aspects of technology untouched.

### Technologies of the Self

In order to arrive at such an approach, an alternative to De Certeau's reading of Foucault is needed. The foundations for such a reading of Foucault are laid in the recent work of Steven Dorrestijn (Dorrestijn 2012). Dorrestijn reads Foucault's work on power through the lens of his later work on ethics. While Foucault's earlier work focuses on the normalizing workings of specific forces and structures

in society, the last two volumes of his *History of Sexuality* can be read as an investigation into how human beings can shape their existence *in interaction with* these power structures. Instead of being the *objects* of power, humans then appear as *subjects* who develop a productive interaction with the powers that be. This makes it possible to further develop the idea that the struggle between humans and technologies is not oppressive but productive, as I pointed out on the basis of Heidegger's philosophy of art. Michel Foucault, indeed, approaches human existence itself as a work of art, that takes shape in a creative interaction with power structures—his ethics concerns "the art of living" (O'Leary 2002).

Foucault's work on power shows how modern society, ever since the Enlightenment, has not only produced a modern subject that has come to see itself as 'autonomous,' but also a series of implicit power structures that make the subject much less autonomous than it might seem to be. Hospitals, prisons, and schools have a normalizing power: they implicitly determine how human beings are supposed to live, and what is normal and abnormal. Quite often, as De Certeau's position illustrates, Foucault's work on power is read in a dialectical way: as a story about oppression and liberation. And, obviously, this interpretation matches nicely with neo-Marxist approaches. Oppression is there to be resisted: political activity should aim to develop counterprograms against oppressive power structures; subversive practices should restore power to the oppressed. As we saw, Feenberg's proposal to democratize technology takes place exactly along these lines. By taking sides with De Certeau, Feenberg adopts a model of power in which technology oppresses human beings, and tactics need to be developed to resist this oppression.

Foucault's later work adopts an entirely different relation to power. Rather than resisting power structures, it approaches them as "sources of the self," if I may borrow Taylor's expression (Taylor 1989). Power structures are not alien to human beings, but form the basis of our existence. Rather than resisting them, we need to develop productive interactions with them. Such productive interactions Foucault calls "self-practices," or even "technologies of the self" (Foucault 1997a: 223–52). He discovered them particularly in the ethics of sexuality in ancient Greece. There and then, sexuality was not approached so much in terms of inhibitions and obligations, but in terms of 'styling' oneself as a sexual subject. In dealing with the passions, the main question was not what was allowed and what not, but how to find a good way of dealing with them. Put in my own words: giving the passions not enough space would be denying a part of oneself, while giving them too much space would make humans their slaves, which would also result in losing oneself.

The ethics of sexuality, therefore, was the art of living a life-with-passions. Rather than being an external invader, the passions were considered to be constitutive for human existence—not in the sense that they *determine* us, but in the sense that they urge us to *govern* them. Ethical activity was not directed at a liberation from oppressive powers, but at developing a *free relation* to these powers. Not making oneself free from power, as an autonomous subject, was the central aim, but engaging in a free relation with these powers, by understanding their workings and getting involved in the ways they have an impact on one's subjectivity. Between 'yes' and 'no' it was looking for a 'how.'

Making Foucault's approach of the "technologies of the self" fruitful for a political philosophy of technology requires some translation work, as the work of Steven Dorrestijn shows (Dorrestijn 2006). Just like the passions, technologies have a continuous impact upon us. The art of living in a technological culture, then, is the art of giving a desirable shape to one's technologically mediated subjectivity, and to the organization of our technological society. Instead of focusing on the question of which technologies are acceptable and which are not, the main task is to ask ourselves how we want to shape our relations with technologies. And instead of developing the tactics of resistance, we need tactics of "subjectivation."

This translation of Foucault's revival of classical Greek ethics makes clear that acknowledging the fundamental intertwinement of technology and society does not require us to give up on politics. Yet, at the same time it is far from self-evident what a political philosophy of technology could be when it bases itself on the fundamentally technologically mediated character of human existence. If there is no 'external' position from which to 'criticize' technology, but only a position 'from within,' what can politics be? Doesn't this position boil down to surrender before the struggle? In what follows, I will argue that the opposite is true. Building upon Foucault's concept of the "limit-attitude" I will show that democratization does not need to take the shape of external critique but can also be a form of *accompanying* technology.

## 3. From Critique to Governance

How to do political theory of technology if critique cannot be the model? In the symmetrical approach of Bruno Latour, in which human and nonhuman entities play equal roles, and in the mediation approach of Postphenomenology, where human practices and experiences are always technologically mediated, there does not seem to be an 'outside' position anymore with respect to technology. And if there is no outside anymore, from where could we criticize technology?

Here, it is very helpful to connect to Foucault's approach to the phenomenon of 'critique' in his lecture "What is Enlightenment?" (Foucault 1997b). In this text, Foucault is looking for an answer to what he calls "the blackmail of the Enlightenment." This blackmail consists in the fact that it is extremely hard to criticize the Enlightenment, since all attempts to do so are typically explained as being *against* it. Anyone who dares to do open a discussion about the Enlightenment raises the suspicion of being against rationality, democracy, and scientific inquiry. Foucault, however, wants to explore if an *alternative* Enlightenment would be possible—much like Feenberg's attempt to formulate an "alternative modernity."

As the title suggests, Foucault's text is primarily occupied with the work of Immanuel Kant. In fact, it proposes an empirical and practical reinterpretation of Kant's ideas on the Enlightenment. Rather than aiming at a transcendental approach, which focuses on non-empirical conditions of possibility, Foucault reinterprets the Enlightenment as an *attitude*. For Kant, Enlightenment was a way out of "immaturity," using "reason" rather than accepting "someone else's authority to lead us in areas where the use of reason is called for" (Foucault 1997b: 305). This requires critique: critique can tell us under which conditions "the use of reason is legitimate in order to determine what can be known, what must be done, and what may be hoped" (Foucault 1997b: 308). Such critique, according to Foucault, must be understood as an attitude, an "ethos." This attitude is always looking for the limits of what seems to be given and self-evident.

Foucault calls this Enlightenment attitude a "limit-attitude." This limit-attitude is looking for "the singular, the contingent, and the product of arbitrary constraints" in "what is given to us as universal, necessary, obligatory" (Foucault 1997b: 315). And while Kant's transcendental method was looking for formal limits, Foucault is looking for the historical sources of our current situation: "criticism is no longer going to be practiced in the search for formal structures with universal value, but, rather, as a historical investigation into the events that have led us to constitute ourselves and to recognize ourselves as subjects of what we are doing, thinking, saying" (ibid.). Critique, as 'enlightened' activity *par excellence*, then becomes a form of practical self-inquiry: investigating what has made us the beings that we are. This also relates to the modern self-understanding of the autonomous subject. The limit-attitude makes visible that this self-understanding has a history, and therefore it also shows that other forms of subjectivity are possible than that of the autonomous subject.

Foucault's ideas about critique as limit-attitude could inspire an alternative 'critical theory' of technology. What sets the limit-attitude apart from other forms

of critique is the way it positions itself. While critique places itself *outside* of the phenomena it relates to, for the limit-attitude there is no outside. The human subject is always situated *within* the world to which it has a relation. In Foucault's words: "We have to move beyond the inside-outside alternative; we have to be at the frontiers" (Foucault 1997b: 315). In the context of technology this means that the frameworks from which one can criticize technology are technologically mediated themselves. We can never step out of these mediations. The farthest we can get is: to the limits of the situation we are in. Standing at the borders, recognizing the technologically mediated character of our existence and our interpretations, we can investigate the nature and the quality of these mediations: where do they come from, what do they do, could they be different? Not the transcendental conditions of our existence outside the empirical world are central in this form of 'critique,' but the material-historical 'sources of the technological self.'

As such, the Foucauldian limit-attitude provides a 'way out' of the question as to whether political reflection and action are still possible when we adopt the symmetrical approach of Latour or the mediation approach of Ihde. Rather than letting ourselves be blackmailed by the Enlightenment—fearing that a nonmodern conceptualization of technology and society as interwoven would make it impossible to have a reasonable and normative discussion about technology—the alternatively-enlightened "limit approach" can offer a different, nonmodern political approach to technology. Not the *assessment* of technological developments from outside is the central goal of political action and theory then, but rather its *accompaniment*, 'from within,' borrowing a concept from the Belgian philosopher Gilbert Hottois (Hottois 1996).

The crucial question in such a politics of accompaniment is not so much where we have to draw a boundary between human beings on the one hand and technologies on the other. It rather is how we should give shape to the interrelatedness between humans and technology, which has in fact always been a central characteristic of human existence. The limit-attitude leads to a political theory that is not preoccupied with the question of whether a given technology is morally acceptable or not, but that is directed at the quality of our lives, as lived with technology.

Focusing on the close relations between human beings and technologies does not mean, to be sure, that all relations are equally desirable, and that no critical perspective of technology is possible anymore. Rather it implies that politics needs to engage deeply with actual practices of design, use, and implementation. Giving up an external position does not make us give up all critical distance; it only

makes sure that we do not overestimate the distance we can take. The Foucauldian limit-attitude urges us to develop a 'critique' from within, engaging with how technological practices actually take shape, and from a situation that is technologically mediated itself.

In line with the work of Michel Foucault, this 'technology accompaniment' can be seen as a form of "governance." By deliberately shaping one's involvement with technology and with the impact technology can have on one's existence, it becomes possible to give direction to one's technologically mediated subjectivity. Governance needs to be distinguished sharply from 'steering.' Governing technological developments implies a recognition of their own, distinctive dynamics, and of the relatively limited autonomy human beings have in their relations to technology. The phenomenological approach to technology that I indicated above, in opposition to a dialectical approach, entails precisely that human beings are 'implied' in technological developments, just like technologies are 'implied' in human existence. From such a phenomenological point of view, the modernist ambition to 'steer' technology and to 'protect' humanity against technological invasions needs to be replaced with a more modest ambition to govern the development of technology by taking its social implications into account, and to govern one's subjectivity in relation to those technologies.

## 4. Alternative Democratization: Governing the Power of Technology

Feenberg's way out of the threat of technocracy is a democratization of technology, as explained above. The strategies of the powerful need to be countered with the tactics of the oppressed. The functionalizing impact of primary instrumentalization can only be balanced by the meaningful activities of secondary instrumentalization. Technocracy or democracy, these seem to be the alternatives that Feenberg's approach has to offer. And in this way, Feenberg's approach takes us right back to Foucault's "blackmail of the Enlightenment": not opting for a democratization of technology implies signing up for technocracy.

Yet, this is a false dilemma—just like the "blackmail of the Enlightenment" was. Feenberg's "tactical" elaboration of the democratization of technology, based on De Certeau, is not the only way to avoid technocracy. The struggle model behind it, as we saw, does not do enough justice to the thoroughly interwoven character of humanity and technology. And this is where the importance of a phenomenological approach to power came in.

A phenomenological approach to power shows that non-technocratic forms of engagement with technologies involve much more than the tactics of resistance.

As is implied in Feenberg's own concept of secondary instrumentalization, human beings can also develop creative reinterpretations of technologies, and shape their existence in a productive interaction with technological mediations. Such dealings with technologies do not embody resistance but confidence—understood as elaborated above. And rather than tactics they involve "technologies of the self," which aim at *governing* technological developments rather than steering or resisting them.

Elsewhere I have explained this approach in terms of *trust* (Kiran and Verbeek 2011). Often, political discussions about technology revolve around trust in technology, moving between the extremes of relying on technology versus being suspicious of it. A naïve instrumentalist view of technology blindly trusts that technological instruments will realize the goals they were designed for, while a skeptical and suspicious view distrusts the workings of technologies. While the model of reliance is characteristic for technocratic politics—putting all faith in technology—the model of suspicion is characteristic for (neo-)Marxist approaches that fear technocratic threat to democracy.

Against these two opposite approaches, a third form of trust exists in relation to technology. This could be called *confidence*, and it involves trusting oneself *to* technology. Rather than being suspicious of technology, this approach recognizes the fact that human existence takes shape in close interaction with technologies. But rather than trusting technology blindly, 'succumbing' to it, it sees the interwoven character of humanity and technology as a *task*, as something that requires *work*. Trusting oneself to technology comes down to taking responsibility for one's technologically mediated existence, in a technological society.

*From Subversive Technology to Technologies of the Self*

One of the most well-known case studies Feenberg worked on is the Minitel case in France. Minitel was an information retrieval system, introduced in the 1980s, that used the telephone line to connect citizens to central databases, enabling to look up all kinds of information that might be useful. Users of the system, though, appeared not to be very interested in this centralized system, and mainly used it to consult the phone directory, until hackers transformed the system radically, and made it possible to use it for the exchange of messages. From then on, the system became very popular—but it did not resemble at all the system that was originally designed. By creatively appropriating and redefining the system, users had actually succeeded in changing the technological system entirely (Feenberg 1995).

In Feenberg's analysis, this case study is a story about the victory of the people against the elite. The reconfiguration of Minitel into a communication system is a modest form of rebellion. By refusing the rules set by the elite, and by creatively developing a counternarrative and a counterdesign, the oppressive strategy of the powerful was frustrated by the powerless. Even though I am very sympathetic to Feenberg's efforts to debunk deterministic approaches to technology, I think that this model of struggle is not able to cover all politically relevant aspects of the interactions between humans and technologies. The actual impact of the Minitel system remains out of sight in this model of oppression-versus-resistance—after all, it was the 'reconfigured' Minitel system that introduced new forms of interaction and communication, and therefore it is this impact that deserves normative reflection in the first place.

Here, we need to augment Feenberg's analysis. From a phenomenological point of view, the most relevant thing to study here is how communication media like Minitel have an impact on the quality of our daily lives. And that is exactly what the theory of technical mediation, as developed in the context of 'postphenomenological' studies of human-technology relations (cf. Ihde 1990; Verbeek 2005), is concerned with. From the perspective of this postphenomenological theory, the impact of computer-mediated communication should not be reduced to the ideology from which it comes, but should be studied in terms of the material mediation of people's experiences and practices. Rather than seeing a technocratic ideology installed through technologies that reduce personal communication to functional interaction, mediation theory investigates how new communication media have specific amplifying and reducing workings with respect to the ways in which human beings can be present to each other. From this perspective, political activities regarding technologies should not so exclusively focus on breaking the power of the elite, but on shaping the quality of our lives-with-technologies.

Let me illustrate this with another example of government regulation of technology—an example that I have discussed in earlier publications from an ethical perspective and that I would like to give a political elaboration here: the use of obstetric ultrasound in antenatal diagnostics (Verbeek 2008a, 2008b). Over the past decade, it has become very normal—also in the Foucauldian sense of the word—to have several sonograms made during pregnancy. In the Netherlands, the typical situation at this moment is to have two scans made. One takes place around eleven or twelve weeks of pregnancy, to determine the term of the pregnancy and often also to calculate the risk of Down's syndrome. The second sonogram is then made around twenty weeks of pregnancy, to scan the entire body of the fetus and

check its health condition. The second scan is included in the standard coverage of all insurance companies; the first scan is covered only in specific circumstances, but nevertheless virtually everybody chooses to have that scan done because it has become the standard 'confirmation' of pregnancy and the first visual encounter with the unborn.

In previous publications I have drawn attention to the 'material morality' that is embodied in such diagnostic technologies. Obstetric ultrasound helps to constitute the fetus and its parents in very specific ways: the fetus is constituted as a possible patient; congenital defects are constituted as preventable forms of suffering; and expecting a child is translated into choosing a child, also after the conception. But there is a political dimension to this technology that deserves attention too. The large-scale introduction of obstetric ultrasound has important implications for how we, as a society, deal with congenital diseases, and how we draw a line between a 'normal' and an 'abnormal' fetus. Even though there is a substantial group of people who choose not to abort a child with Down's syndrome, it is becoming ever more normal to see Down's syndrome not as a fate but as a preventable disease.

Also the twenty-week scan has important effects. It has been shown, for instance, that since the introduction of this screening ever fewer babies with *schisis* (a 'harelip') are born. And one can imagine the reasons for this: at twenty weeks of pregnancy, a face with schisis looks terribly malformed, and one can hardly believe that surgery can indeed repair this very well. Still, this effect was not intended at all when the Dutch parliament decided to introduce the twenty-week scan as a screening instrument.

In this example, Feenberg's proposal for a democratization of technology reaches its limits. Even though a democratic decision was made about the introduction of this technology, its actual impact on people's everyday lives remained unaddressed. No proper analysis was made of the potential ways in which this mid-term screening could reorganize people's experience of expecting a child, and the ways in which people feel responsible for the lives of their unborn children. For that reason, the screening is offered without a proper system that can support people in their decisions about participating in the screening program or not, and about what to do if the scan has specific outcomes.

If De Certeau's reading of Foucault would be the only perspective available for political reflection, we would need to address this case in terms of a struggle between the strategy of the government or the medical system on the one hand, and the people on the other. Expecting parents then have the choice between fol-

lowing the technocratic imperative and subjecting themselves to the screening program, or developing a tactics to counter this imperative and break the power of the system. The real decisions, though, concern the ways in which human beings deal with the screening system, how they shape themselves as expecting parents in interaction with the mediating power of this technology. What is needed here, is not a tactics to fight against the strategies of the powerful, but a repertoire of "technologies of the self," to deal responsibly with the new ways in which antenatal diagnostic technologies help to shape pregnancy and the moral decisions that come with it.

There are more ways to deal with the availability of antenatal diagnostics than simply applying all of them, after all. The decision to use these technologies is also a decision to engage in a very specific relation with one's unborn child. And such forms of engagement can be shaped in various ways. When expecting parents are aware of the potential impacts of diagnostic technologies, they can deliberately choose to give it a specific place in their existence. Sonograms can then result in different 'styles of technologically mediated parenthood': using sonograms only to determine the term of pregnancy, for instance, without getting any further information; or deliberately scanning for medical problems, in order to be prepared when the baby comes rather than to have an abortion, or in order to prevent one's child from having to live a life full of suffering.

In order to shape one's technologically mediated subjectivity, though, users need to be equipped adequately to develop a creative relation to the technologies that affect their lives. And that is, actually, what is often lacking. When the twenty-week ultrasound screening program was introduced in the Netherlands, for instance, the impact of this screening on practices and experiences regarding pregnancy was not adequately addressed. Rather than merely giving expecting parents information about the health condition of their unborn, the screening program created a new relation between parents and fetus, including new responsibilities and moral questions. And this requires an infrastructure to assist people in giving shape to this relation. Just like the Dutch healthcare system does for, say, palliative chemotherapy. For such treatments, there is a delicate balance between the quality of life and the expected impact on people's life expectancy. Patients are extensively helped to make a balanced, personal decision here, shaping their own lives as cancer patients in relation to the technological means that are available. Technologies of the self have a social infrastructure here, as it were—and a similar infrastructure would be beneficial in the case of obstetric ultrasound as well.

### Restoring Public Discussions about the Good Life

Here, an alternative democratization of technology becomes visible. Democratization does not need to consist solely in giving back the power to the people that technocracy took away from them. It can also consist in creating a public realm where people can deliberate about the ways in which they incorporate technologies in their daily lives.

The leading question for such a politics of 'self-governance' is: what is a good way of living a technologically mediated life? This is not a political question that poses itself in opposition to technology, but a question that *accompanies* technological developments. It focuses on the quality of the relations between humans and technologies. But, more importantly, this approach also challenges modernist political thinking because of its focus on the question of *the good life*. The core of modernist political theory, after all, is precisely the expulsion of the question of the good life from the public realm. Ideas about the good life belong to the private realm; in the public realm we only discuss the rules that make it possible for everybody to answer the question of the good life individually. We would not want a church, state or monarch to answer that question for us. This political model makes possible a large plurality of visions of the good life, but at the price of a rather thin public discussion, in which any argument that bases itself explicitly on a vision of the good life is immediately put aside as irrelevant (Valkenburg 2009). Technological developments take this liberalist ideal to its limits. Because of their explicit impact on the ways we live our lives, technologies keep putting the question of the good life right in front of us (cf. Borgmann 1984; Swierstra 2002). And if political discussions about technology keep referring that question to the private sphere, politics will never be able to address it adequately.

But is it possible to give the good life a new place in politics? Wouldn't that be the end of democracy? The obvious objection against such a nonmodern political approach is that reintroducing the question of the good life in the public realm would threaten the liberal character of our society. But that would only be the case if politics would aim at organizing an overarching, uniform answer to the question of what makes a good life. When we follow Hannah Arendt's interpretation of classical Greek politics, though, a completely different picture emerges. In her view, discussions of the good life in the classical *polis* were rooted in plurality (Arendt 1958). Not the desire to develop overarching frameworks was the drive behind political action, but inter-action: acting with others, shaping one's existence in the encounter with others and with other ways of living one's life.

This is much in line with Foucault's aesthetic interpretation of the ethics of the good life. For Foucault, ethics ultimately rested upon a choice of style—a style one gives to one's moral subjectivity. Shaping one's existence, then, resembles giving shape to a work of art. The good and the aesthetic coincide: *kalos kagathos*, beautiful-and-good at once (O'Leary 2002: 53). One's own existence can be demonstrated as an example of the 'art of living,' and other people's lives can be approached like that as well. The role of the good life in politics, then, is not to enforce one specific way of the good life, but to organize a public exchange of visions of the good life.

This aesthetic interpretation of the good life, then, brings us back to Heidegger's conceptualization of the work of art that I mentioned above. For Heidegger, as we saw, art is to be conceptualized as a struggle between earth and world. In this struggle, the material elements of the earth help to disclose a world. Similarly, the art of living one's life can be seen as a struggle between technology and human beings. In the ways in which human beings shape their existence in interaction with technological mediations, specific ways of living come about. And in the complex interplay between mediating technologies and their critical and creative users, human beings are "revealed" as specific beings with a specific existence. Shaping one's technologically mediated subjectivity, therefore, is a form of art, and in the public realm people can learn from the ways in which other people master this 'art of living.' At the ethical level, this 'art of living' has often been connected to virtue ethics—where virtues can be seen as characteristics of human beings who master the art of living. On this basis, politics becomes nothing more or less than a public forum for encounters with various ways of living, and therefore with a plurality of answers to the question of the good life.

This phenomenological approach to the democratization of technology is a necessary addition to Feenberg's neo-Marxist analysis. Power structures are everywhere, but the relations between humans and technologies cannot be exhaustively analyzed in terms of power. If there is a struggle between technology and society, it is a struggle in which human beings are not only oppressed but also given a specific context for shaping their existence. And this implies that the politics of power and the politics of the good life augment each other in at least two ways. First, there is more at stake in politics than the distribution of power, just as there is more at stake than the encounter of various visions of the good life. And, second, political actions directed at a democratic distribution of power should also take into account how power relations enable human beings to shape their lives in interaction with technological mediations. A democratizing politics of technology,

therefore, should *accompany* technological developments, addressing how they raise questions about the good life and organizing a societal infrastructure for addressing these questions adequately. The liberalist focus of our liberal democracy would then be transformed into a pluralist focus. Not the autonomous individual that is to be liberated from oppressive forces is the center of politics then, but the plurality of visions of the good life. Democracy then realizes what its name actually indicated: power (*kratos*) to the people (*demos*), not to separate individuals.

## 5. Conclusion

Contemporary insights in the interwoven character of humanity and technology urge political philosophy of technology to move beyond the dialectical model of oppression versus liberation. Rather than conceptualizing the struggle between humans and technologies as oppressive, it needs to be understood as productive: human beings shape their existence by developing creative relations to mediating technologies.

If this struggle should be understood in a dialectical way at all, this should happen along the lines Nietzsche set out in *Also sprach Zarathustra,* in Zarathustra's lecture about "the metamorphoses of the spirit." Zarathustra describes how the spirit began in the shape of a camel, bearing heavy loads and kneeling down to be loaded with more. After that, it took the shape of a lion, which defines itself in opposition to the camel, replacing the oppressive "Thou shalt" of the camel with a subversive "I will." The lion, however, only defines itself in opposition to what it does not want to be, and therefore it is not able to create something *new.* For that, the spirit needs to take on a third shape: the shape of a child. The child embodies a "sacred Yes," a "new beginning," a "first movement" (Nietzsche 1969).

This Nietzschean parable can be a model for political philosophy of technology. By freeing itself from the dialectical tension between oppressing technologies versus democratic liberation, political philosophy can achieve an alternative democratization of technology. Not only a redistribution of power, but also the question of the good life has a central place in this approach. From a political perspective, not only the threat of technocracy and oppressive elites is a relevant issue, but also the ways in which technologies raise questions regarding the good life. Technologies have a profound impact on the ways in which human beings live their lives, and deal with moral and political issues. A real technocracy comes about when technologies implicitly answer the question of the good life for human beings. Political action, therefore, needs to enable human beings to 'read' the intricate connections they have with technologies, and to explicitly shape their exis-

tence in interaction with these technologies. This requires a reintroduction of the question of the good life in the public realm. Not to impose one specific vision of the good life to society at large, but to equip people with a rich, plural context for answering the question of the good technologically mediated life. Phenomenology without politics is empty—with a nod to Kant, this time—but politics without phenomenology is blind.

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