FROM CRITIQUE TO RESPONSIBILITY: THE ETHICAL TURN IN THE TECHNOLOGY DEBATE

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In recent years Dutch media have shown a rapid increase in interest in the ethical aspects of technological developments. The genetic manipulation of animals and plants and the cloning of animals caused heated arguments about the question whether technology can be allowed to intervene in the design of life itself. According to many the patenting of live organisms is fundamentally wrong. Mad cows and plagued pigs have been taken as signs that our bio-industry has lost all sense of moral direction. In the medical sphere, technological progress confronts people with hitherto unknown moral dilemmas: Is abortion defensible in the case of severely handicapped fetuses? Should everything that is technologically possible actually be done? Are we investing too much in spectacular medical high-tech and too little in relatively dull, but nonetheless essential, forms of day-care? And so on. Computers lead to their own moral questions, ranging from privacy-infringements to the shamelessly aggressive and sexist character of many computer games. And these are only a few of the many examples of the moral issues around technology which in recent years have become the topic of extensive public debate.

These debates do not restrict themselves to the media, however. A few years ago the Dutch Minister for Education, Culture, and Science created a new institution to initiate social debates on controversial technological developments: the Dutch Organization for Technology Assessment (the Rathenau Institute). Another institute, the Multidisciplinary Center for Church and Society has in recent years produced a steady flow of publications on the professional responsibilities of the engineer, on the desirability of ethical codes for the engineering profession, and on other instruments to manage technological developments. Technical universities are beginning to list the ethical-evaluative questions with which their students may come to be confronted in their future professions, and to develop educational courses to train them in recognizing and dealing with these questions in a professional way. Also, in many engineering societies members are

debating the desirability of a professional code. All in all, the ethics of technology seems to have become a fairly hot topic in the Netherlands.

But in what respects do the recent debates on the social effects of technology differ from earlier science and society debates? And how to explain these differences, if any? In this paper I want to make a start by answering these two questions. My hypothesis is that the recent ethical turn in technology research combines three different elements, each of which deserves a separate explanation.

(1) From the sixties into the eighties, the Dutch science and society discussion was dominated by five themes: Auschwitz, Hiroshima, the environment, the conveyor belt, and technocracy. These themes provided the *paradigms* which directed research on the relations between society and technology, with respect especially to the increasingly technical character of evil and its resulting banalization (Arendt); to the danger of wiping out the whole of humanity in one Big Bang; to the prospect of consuming the earth as far as consumable, and of polluting the remains; to the alienation and dehumanization which are the consequences of labor processes that turn workers into parts of a large machine; and to the political tendency to reduce citizens from subjects of deliberation to objects of manipulation. Not only did these five themes often overlap, ultimately they all centered on the same theme: the *survival* of humankind—be it in a direct biological sense or in the more abstract anthropological sense of "man as the meaning-giving subject."

Today these five themes seem to have lost much of their paradigmatic power. Indeed, Auschwitz may still be exemplary of the ultimate horror, but less and less is this horror somehow ascribed to technology. Typical of this interpretive switch is the work of the controversial American historian Goldhagen. He stresses that Nazi evil may have been widespread, but it was in no way banal or unthinking: the murderers were well aware of what they were doing and there is no reason whatsoever to absolve them of their personal responsibility. Their responsibility is in no way diminished by blaming technology as the evil force in the background. Second, the A-bomb has lost its prominent position in popular consciousness to the "smart bomb," which, if we may believe American PR, can find and kill Saddam even if he is hiding in the toilet. Third, the environment is less often conceived as an absolute value than as one value among many others. In the Netherlands, environmental debates have lost much of their apocalyptic tone

and have become blander: shades of gray, trade-offs, and compromises have replaced earlier black or white oppositions. Fourth, in modern management the talk is all about "human resources" and "quality," the common idea usually being that the best way to motivate employees is by giving them responsibilities of their own, and more generally that the best workers are workers who find some fulfillment in their work. Finally, it is increasingly difficult to worry about a perfect technocracy, as sketched in *Brave New World* and *1984*, when on television experts, almost on a daily basis, disagree on virtually everything of importance, and when the idea of society as manipulable is more often remembered as a naive illusion than perceived as a real threat.

Although it is notoriously precarious to interpret history-in-the-making, it seems to me that these classical themes are gradually losing ground to new themes, like the ones I mentioned in the first two paragraphs of this paper: Do plants and animals have intrinsic value? What is the value (if any) of suffering? How to weigh the conflicting interests of safety and privacy? To what extent can the life of a severely handicapped baby still be called human? How to deal with the autonomy of those who are not able to judge for themselves? How to deal with technical artifacts that reinforce specific sex discrimination? And so on. With all these questions, the issue is no longer survival, but the *quality of life*, the *good life*. And that is an issue that from ancient times on had preoccupied the minds of moral philosophers.

So, the first cause of the ethical turn in technology debates is that the focus of debate has shifted from survival to the good life. That these new themes have come up, can be explained by referring to technological development itself. Especially in the domains of bioengineering, healthcare, and automation, modern technology confronts us directly with existential questions about life, death, and well-being.

(2) This specific preoccupation with the good life, however, is only a first element in the ethical turn. A second concerns the degree to which values and norms themselves have become the topic of discussion. Looking back on the science and society discussions in the previous three decades, it is striking how little was said about the underlying values themselves. However, this is not so surprising when you realize that human survival itself was perceived to be at stake. And human survival is a value most people tend to agree upon; no party

defended Auschwitz, atomic wars, the destruction of the environment, the alienation of the working class, or the manipulation of citizens. Therefore the debate with opponents could concentrate on the *factual* question, whether they did do—maybe unknowingly—what everyone knew to be wrong. This explains why "critique" is the core concept of that period. On the other side, the discussion with one's own could be restricted to the *strategic* question how humankind and life could best be defended. This period can therefore be characterized by pointing to the stable opposition—in the words of the Dutch technology researcher Jaap Jelsma—between technology makers and technology watchers.

Of course, we still see the old confrontation between technology makers and watchers acted out everywhere. But still, the old battlefield seems to be losing some of its traditional dichotomous structure. Inside both rival camps there seems to be growing room for doubt and ambivalence. For example, discussion about the threat to our privacy, as posed by automation, tellingly takes place (in part) on the Internet itself; genetic manipulation of cows can lead to better child care; etc. There are many other examples where it is impossible to reject technological developments *en bloc*. At the other side of the field, technology makers find it increasingly hard to act deaf to the doubts and concerns, as aired in the public technology debate. This debate seems nowadays more open, more searching than in the previous decades. This is the second element of the ethical turn we are currently witnessing; this openness is a reason why the current debate is more ethical in character. We usually restrict the label "ethical" to situations where reflection on norms and values is called for, for example, because they conflict, or because the application of traditional norms leads to manifest injustices, or simply because new questions arise for which the appropriate norms are still lacking. When the norms are perfectly clear, they constitute the background of the debate instead of its subject matter. In such a constellation there is little need for ethics; critique and political struggle are what is called for.

That the technology discussion has become more open, searching, and therefore more ethical, is partly caused by the aforementioned technological developments that lead to existential questions. However, at least as important is the progressive incorporation of many techniques. Everyday it gets less convincing to oppose humanity and technology because the human life world is getting more and more entangled with technology. Twenty-four hours a day we are surrounded by and dependent on technological artifacts. In a situation like

that, binary choices, which do have some meaning in the case of nuclear energy and atomic bombs, lose their sense; nowadays we are faced with more complex choices. The struggle between defenders and critics gives way to decentered discussions between countless users of technology, who all contribute their own experiences, norms, and values. The resulting complexity and openness leads us to prefer "ethical" as a label for modern technology discussions.

(3) The third element in the ethical turn in the technology debates concerns a change in the social allocation of moral responsibility. In the previous decades, technology makers and watchers, the opposing parties, seemed to have little or no positive expectations of each other. As a result, they both watched in the direction of the state to produce collectively binding decisions. The technology watchers lacked the power to directly influence technological development, so their aim was to persuade the government to act as their strong arm by managing technological innovation with the help of laws and financial impulses. The technology makers, on the other hand, also oriented themselves primarily toward the government, be it more in the fashion of everything is allowed, except when forbidden by law. Thus, ultimately, the responsibility for technology development was laid in the hands of the government.

Today, this exclusive orientation toward government seems to make place for a more diffuse conception of responsibility. Citizens, for example, are asked to consume in a more conscious manner and to apply existing technology more wisely. Really new, however, is the appeal to scientists and engineers. No longer depicted as the unthinking slaves of the technological imperative, there is a growing tendency to hold them co-accountable for the social consequences of their innovations. This, of course, on the condition that the organizations where they work give them the chance to give practical content to this responsibility. With this aim, different kinds of ethical instruments are being developed, e.g., professional codes, ethics committees, and other types of moral deliberation in the course of technology development. The government acts more like the initiator of these kinds of collective deliberation than as a strong arm.

This spreading of responsibility does not restrict itself to the field of technology; it is a development on a much broader scale. A renewal of individual responsibility is proposed as a remedy against the loss of a work ethic, the declining willingness to do communal service, the calculating character of the

modern citizen, the shameless self-enrichment in big business, the disintegrating family, the growing gap between the citizen and the politician, the decline of patriotism, and the difficulty of having shared values when even fewer people see themselves as Christians. Although an empirical basis for all this pessimism is usually lacking, there is a large consensus about the importance of individual responsibility.

In part this can be interpreted as an ideological success of the right. Left-wing theoreticians usually are primarily interested in the structures that supposedly determine the actions of the individual, whereas right-wing intellectuals tend to regard structures as the outcome of individual acts. The latter therefore see the individual as the one primarily responsible for his actions. Here I do not want to delve into the causes behind this liberalization of political discourse, but surely of importance is the fact that it seems to be getting harder and harder for the government to successfully steer the actions of the citizens by using financial incentives and laws. In its place, government appeals more and more to the powers of individual self-government, i.e., to civic duties and individual responsibility. This moralization of political discourse is partly the result of failing steering powers on the part of the government. The appeal to the individual responsibility of engineers seems to be no exception.

But the increasing appeal to a person’s individual responsibility can not be explained adequately by pointing to this change in political discourse alone. Another factor is what I would like to refer to as a "democratization of moral authority." Modern citizens no longer leave it to accepted authorities, like the priest, officials, politicians, or the queen, to determine what is right and what is wrong. That is seen as the task of all adult citizens; public debate is conceived as the only legitimate source of collectively binding norms and values. Where the authorities used to call the ordinary citizens to account for their doings, in a democracy the trend is exactly the reverse: the powerful are forced to answer for their doings to the citizens. It is this obligation that is the common denominator in recent proposals for an ethical monitoring of technology development: the technology makers are asked, or mandated, to give answer for their technological choices to those who have to bear the results of their technology.

I have argued that the recent attention given to technology ethics is not simply old science-and-society wine in new vessels: technological developments

have generated discussion topics which have more to do with the good life than with the survival of humankind; the incorporation of technology in ways of life has had as a result that debates on technology cannot simply start from consensual norms and values, but have to take these norms and values as their subject matter; and the liberalization of political discourse in combination with the democratization of moral authority have led to reallocating the responsibility for technological innovation away from the state and into the hands of technology makers and consumers.

Of course, the trends sketched here are to be seen as extrapolations, not as descriptions of the status quo, which of course combines elements of the old and the new. But I think it likely that these trends will continue to influence the technology debate in the near future. Whether the ethical turn is not only new but attractive as well is a question that needs separate reflection. It is clearly a danger that in this ethical discourse social problems become individualized, and that the individual engineer is given a responsibility that far exceeds her influence. But this evaluation has to wait for another time.