

## Chapter II

# A Multi-Disciplinary Approach to Technoethics

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### ABSTRACT

*In this chapter it is argued that a multidisciplinary approach to technoethics is necessary to do justice to the complexity of technology. Normativity pervades all aspects of technology, including technological knowledge. As a consequence, ethical considerations should guide not only the production of artifacts, but also their design and the research that is needed to acquire knowledge about the artifact-in-design. Experts from different disciplines should cooperate to identify relevant ethical issues related to the various aspects of the reality in which the artifact will function.*

### INTRODUCTION: THE COMPLEXITY OF TECHNOLOGY

If there is one lesson that engineers and society in general have learnt about technological developments in the past decades, then that is its complexity. In earlier days, such as the 1950s and 1960s, it seemed that technology was simply a matter of getting the technicalities worked out, so that the products would function well. The market would then absorb all new products and there was always an interest for the latest gadgets. There was not yet any concern about environmental issues, nor were there economic constraints. There was not

yet a need to set limits to technological developments by legislation, and aesthetical issues could easily be dealt with afterwards, once the product had already almost been completed. It was as the slogan of the 1933 Chicago World Fair suggested: Science Discovers, Technology Applies, Man Conforms. It was only later, since the 1970s, that industrial companies were confronted with critical consumers, governments that wanted to exert an influence on technological developments, economic constraints, and a growing concern about natural resources. Then it became clear that in technological developments a range of aspects has to be taken into account in order to

bring about a successful product. Industrial companies have developed a whole range of methods to deal with this complexity, often formalized in ISO certification procedures (I have described these developments more extensively for the case of the research organization in the Philips Electronics company; see De Vries 2005ii). In all the aspects that create this complexity ethics is somehow involved. For instance, one can question what is ethically permissible when trying to please the customer, or when trying to conform to new legislation without too much effort. It seems, though, as if ethical debates still tend to be reduced to only a few aspects. Often this is the aspect of environmental effects. In other cases, such as in communication technologies, it is perhaps the aspect of privacy. It may seem as if other aspects are less relevant. In general one can state that ethical debates are often reduced to risks, and particularly to calculated risks. In that case the ethical debate is reduced to the numerical aspect of reality. In this chapter it will be claimed that a proper ethical debate needs to take into account reality in its full complexity. As a consequence, such a debate needs input from knowledge about these various aspects. In other words: contributions from different disciplines are needed to get a proper insight into the ethical considerations about new technological developments. A philosophical theoretical framework will be presented that is suitable for analyzing the complexity of technology and the range of disciplines that ought to contribute to ethical debates on technological developments.

## **BACKGROUND**

Probably ethical considerations have always in some way or other accompanied the development of technology. But by the end of the 1960s ethical debates began to play a more explicit role, due to the fact that negative effects of technology started to become evident and social concern

about technological developments arose. This was also the period in which philosophers began to develop an interest in technology. Reflecting on the nature and effects of technology seemed to be a relevant contribution to discussions about how technological developments could be controlled socially. Until then this control had not been a great concern, as technology seemed to play a useful role in society and also its development was not held back by economic concerns. But once it became evident that technology's role in society was less innocent than one had experienced before, critical reflection on technology emerged as a new field in philosophy. At that time, it was primarily Continental philosophers who developed this new interest. Analytical philosophy at that time had a different agenda. It should be noted here that the distinction between Continental and analytical philosophy is nowadays becoming more and more problematic. But in those days, the differentiation between philosophers who were concerned with critical and cultural debates and those who were concerned with analyzing the meaning of terms was still pretty much the same as that between philosophers working on the European continent and philosophers working in Anglo-American countries. Two Continental philosophers that stand out in their critical writings about technology are Martin Heidegger and Jacques Ellul. Both saw technology as a threat to humanity. Heidegger stressed the way technology narrows our perspective on reality: in stead of appreciating reality for its intrinsic value, through technology we tend to see it only as a resource, as something that still has to be processed to become valuable. Ellul pointed out that technology had become a system with certain autonomy. People felt that they had lost control over technology, and in fact they had. Even for an individual engineer it was no longer possible to control the development of technology in any substantial way. Both in the case of Heidegger and Ellul there is no ethics of any substance in their reflections. Although both pay much attention to the negative values that ac-

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