Chapter IV
Culture and Technology:
A Mutual–Shaping Approach

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ABSTRACT

The aim of this chapter is to discuss the mutual influence between culture and technology on a broad inter- and transcultural level. Especially, how does information culture shape the meaning of information, communication, and knowledge, and consequently, the design, spread, and usage of ICTs in certain societies? Vice versa, we are interested in the ways in which the spread and usage of ICTs affect the predominating culture. We aim for a model that incorporates cultural as well as technological factors in order to provide a basis for future ICT research that goes beyond both technological determinism and social constructivism. We believe that new technologies indeed can contribute to more justice in the world in terms of access to knowledge and wealth, if sociocultural factors are taken into account more seriously. Current developments in the context of the UN World Summit on the Information Society raise awareness in this direction. At the same time, we are well aware that the loose notion and imprecise definition of the concept of culture allows for the exploitation of the term in empty political and techno-economical policies. Culture degenerates to an indispensable buzzword in the current ICT debate. This chapter is an attempt to introduce the concept of culture into the socioresponsible ICT research on equal terms with technology, economy, and society.

THE RELATIONSHIP BETWEEN CULTURE AND TECHNOLOGY

How can technology be defined? Technology often is considered a means to a particular end, the means being artificially created, not natural, and something that is not directly necessary for the individual or the end user; it serves, rather, to fulfill the need to produce something that is later to be consumed. However, we use the term in a broader sense. We regard technology as being more than just the sum of such artefacts, which are merely the crystallized, concrete manifestations of human behavioral patterns. A method is the *how*, the way in which a goal is reached and which involves the use of means. A means is a medium in that it mediates between the starting point and the desired result, regardless of what sort of action is involved. Thus, one could speak of social technology (e.g., psychotherapy) as a technology and not merely of technology as something used for (material) production in a society. So, technology also includes the know-how involved in the use and application of the artefacts. In short, technology embraces the ways and means of acting in pursuit of a goal (Hofkirchner, 1999).

How can culture be defined? Using the same analogy for technology, it could be understood to be an equally artefact-based concept, which is not a means to an end but rather an end in itself. That is to say, it is not in itself an essential of life, but rather something that represents a human desire (i.e., what makes humans distinct from other living beings). Here, too, there is a notion that culture is not only the result of a process but also this very process as it moves toward the goal; that is to say, culture is a characteristic of goal-oriented actions (i.e., the striving toward goals as well as the goals themselves) (Hofkirchner, 1999). It is this notion of culture that we refer to in this chapter.

Are there imaginable connections between culture and technology? The two ideal-typical extreme positions are well-known, each making a single direction of determination (Hofkirchner, 1999).

The first position can be referred to as technological determinism, which postulates the total, or at least dominating, influence of technology on culture. Technology is supposed to develop more or less on its own, pushing social development along as it goes. This may be interpreted positively or negatively. An uncritical opinion of Marxist origin saw social advancement as an inevitable result of technical achievements, just as the ideology of the bourgeoisie justified the progress of the technically possible as socially desirable. This view is opposed entirely by fundamentalists who hold technological development responsible for the loss of important values in society. Neither philosophy accepts the possibility of technological development being influenced in any way. Both ignore the fact that there would be no such development if multinational corporations and national governments were to stop investing in research and development; if there were no economic, military, or political interests to divert their resources into these areas; and if there were no values, morals, or norms that underlay these economic, military, or political interests. The fact that on a micro-level there are countless thousands of engineers constantly involved in technology design, and that on a macro-level managers and politicians decide which technological options are realized, supports the second theory—social constructivism—that technology is constructed deliberately to be a part of society. According to this view, the interests of those groups that dominate the genesis of technology finally are embodied in the technology, which in itself cannot be neutral. Here again, both a critical and an approving variant may be distinguished. While the one bemoans the inability of existing technology to pursue ethically justified, socially acceptable, and peaceful and environmentally sound objectives, the other sees the existing economic, democratic, and human rights structures as the best guarantee

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