4 Conclusion: Towards the Realization of Design Possibilities

We began this chapter by asking questions about the role of intentionality within the design process. Specifically, we have suggested that the path from designers' intentions to the design of products is not a straightforward one. Though on the surface designers may seem like powerful actors, they are caught in the same web of constraints confronting other actors. Designers do not work in a vacuum. And all too often design demands, implicitly or explicitly, that new devices fit with established ways of being. In other words, designers must accommodate themselves to existing social worlds, which implies submitting to existing power relations and hierarchies. The stifling effect of such passive coercion is a significant obstacle to the realization of alternative designs.

We then outlined a critical theory of technology and explained how a greater focus on the historical and cultural conditions underlying the design process could help illuminate paths to different kinds of design. Technical elements, which in principle could be combined in any number of ways to form a device, are brought together under the constraints of a technical code to produce a concrete device that "fits" a specific social context. Moreover, designers are influenced by what has gone before: yesterday's tools inform today's designs, even when yesterday's tools may have been less than optimal.[10] This means that of the many technically feasible options available in the design space, only a small percentage are ever realized. We have argued that the process of resolving technically underdetermined choices should be the focal point of a philosophy of design. We have also argued that, rather than understanding this process solely in terms of the interests or strategies of specific actors (à la SCOT and ANT), we should look at the values and practices that are taken-for-granted in the broader culture.

If we understand technologies to be underdetermined, then the question facing society is not whether to accept or reject technology, but rather how alternative values can be brought into the design process so that the technical codes that determine design are humane and liberating rather than oppressive and controlling. An important first step in this process is to acknowledge that neither proximate designers nor the immediate design environment are decisive in determining the outcome of complex design processes. Instead, people's taken-for-granted assumptions about the forms and meanings of specific technologies – what we have called here our technical heritage – are crucial. Critical theory of technology draws attention to these background assumptions and asks that the researcher take these seriously. Our hope is that by *questioning* technology vigorously we can help open a space for *designing* technology differently.

[10] See, for instance, David's (1985) classic study on the QWERTY keyboard and how, despite being less than optimal in terms of layout and typing efficiency, it has remained the *de facto* standard for keyboards all over the world.

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