WHAT MAKES DESIGN HARD? PROBLEMS AND PARADOXES

Many issues that we encounter in our daily lives and professional practices never reach the status of "a problem." If the issue is quite simple and we have an obvious scenario in our repertoire to deal with it, we just get on with it and act. A "problem" occurs only when we either do not know how to progress or our chosen way of working gets us stuck. Then we have to stop and think, devise and critically consider options, perhaps be strategic and create multistep plans, do scenario planning, etc. Problems occur when something blocks our normal flow of how we deal with the issues in life. This "something," the counterforce, is bound to have its own background and rationale—at the core of really "hard" problems is a paradox. The word "paradox" is used here rather loosely, in the sense of a complex statement that consists of two or more conflicting statements (Dorst 2006). All the statements that make up the paradox are (possibly) true or valid in their own right, but they cannot be combined for logical or pragmatic reasons. There are three ways forward. The first option is to choose one side of the paradox and let it take precedence over the other. There is also the option of compromise, where negotiation might lead to a decision that sits near the halfway point between opposing needs and views. The third way forward in these tough paradoxical situations, where there is a real clash of views, standpoints, or requirements, is to redefine the problem situation. Designers do this very well. In her book *Ethics in Engineering Practice and Research*, Caroline Whitbeck (1998) remarks, "The initial assumption (within moral philosophy) that a conflict is irresolvable is misguided, because it defeats any attempt to do what design engineers often do so well, namely, to satisfy potentially conflicting considerations simultaneously" (56).

This observation is borne out by the case studies in chapter 2—somehow, the designers and young artists managed to wriggle out of confounding problem situations that had, in some cases, already existed for a very long time, and created a position from which the problem situation could be steered toward a solution. This accomplishment is in stark contrast to a conventional problem-solving approach, where the problematic situation cannot be redefined because the way the solution must work (the "how," its "pattern of relationships") is already fixed. This is the serious limitation of the normal abduction used in conventional problem-solving. The conventional problem solver only has the options of giving one side of the paradox precedence over the other or creating a compromise between the two positions.

The challenge of dealing creatively with paradoxes is one of the aspects that makes design so fascinating and captivating. Unresolved paradoxes can