

they approach problems in a very strategic, deliberate, and thoughtful way. This approach involves a lot of hard work, where inspirational ideas are helpful but never yield a complete shortcut to a quality solution. Yet the myth of the wonderful, magical, “divine spark” idea that suddenly occurs to the brilliant mind of the incredibly gifted has been quite irresistible to designers, and many of them when interviewed will readily reinforce this image. Unfortunately, it is too good to be true.

*Design is not irrational*

There is nothing “soft” or vague about designing. Despite a deceptive playfulness in the conceptual phase of a design project, design ultimately needs to be rigorous in its approach if it is to deliver results for the real world. An essential part of the design process is making educated guesses when proposing solutions; yet these guesses will be tested later on in the project, if not by the designer then by the confrontation of the design with reality itself. The best designers are all very strong analytical thinkers with an original and playful bent of mind. Exercising judgment based on a clear analysis is an integral part of the design disposition (Lawson 1994). People sometimes see design as irrational because designing is not a completely objectifiable, closed form of rationality: design is inherently open-ended, as there is always more than one solution to a design problem. Design is not about creating “solutions” in the same sense that we create solutions to mathematical equations, as absolute truths in an abstract world. Designers create proposed solutions that can be judged on a sliding scale of better or worse relative to the needs of stakeholders. To ensure the relevance of their proposals, designers have developed elaborate phase models and work processes to deal with the inherent ambiguity in their practices, building in checks and balances wherever they can. To quote Nigel Cross, paraphrasing Hamlet: “Yes, they are quite mad—but there is method to their madness” (Cross 1996).

*Design is not mysterious*

We actually know a lot about design: the activities it consists of, the sequence in which these activities often take place, the abilities needed to be a good designer (Cross 1990, 2004), and the path of development of these abilities (Lawson and Dorst 2009). Systematic design research has been around since the early 1960s, and there is a flourishing design research community that has amassed a wealth of knowledge. There is much more to be discovered, and the design professions themselves are presenting a moving target for research by continuously reinventing themselves (Dorst 2008, 2013b). Yet there is now a