# INTERVIEW
# with Kees Dorst

**Kees Dorst is Professor of Design Innovation and Executive Director of the Design Innovation research centre at the University of Technology, Sydney, and Professor in Design Research at Eindhoven University of Technology. He works as a consultant and lectures at universities and design schools throughout the world. He has published numerous articles and five books – most recently the books *Understanding Design – 175 reflections on being a designer* (2006) and *Design Expertise* (2009) with Bryan Lawson.**

**Please would you tell me something about your background and your current passion?**

I was trained as an Industrial Designer at Delft University of Technology. I also studied some Philosophy before moving into design practice – when I realized that I kept thinking about design too much. I took up a small research position at TUDelft to investigate the way designers reach integration in their projects. That project later turned into a bigger PhD study comparing the two paradigms we use to describe and think about design: Rational Problem Solving (in which design is seen as a search process from problem to solution) and Reflective Practice (in which design is seen as a process of learning and reframing). In my thesis 'Describing Design' I use empirical data (protocol analysis) to argue that these two ways of looking at design are fundamentally incommensurable, as they are coming from very different philosophical roots. My design practice then moved into management and consultancy, as well as journalism. Currently I am working with a broad international network of researchers on the application of design thinking for organizational change.

**Are there any particular findings or insights about the nature of design that stand out for you?**

The work on design expertise has given me an idea of the impressive breadth of activities that we so conveniently label design: there are many different kinds and layers of design activities. I find it exciting that we are now at the point of understanding these much more deeply. That deeper understanding allows us to create a level of discussion that is much more precise, and also to transport/transpose practices that are traditionally part of the designing disciplines to other fields. I am convinced that the introduction of elements of creative thought and action that have been professionalized within the design disciplines will

revolutionize the way we create solutions to the problems we face in many different professional fields.

**Can you give me an example of this?**
We live in an increasingly complex and dynamic world, where traditional forms of problem solving are showing unforeseen limitations. Let me explain. Recent technological developments have landed humanity in a state of hyper-connectedness, where we find ourselves linked to innumerable other people. While we are living in this brave new networked society, we are now beginning to realize that the problems we face have become networked, too – to the point where the most important issues we face have become so complicated that they seem impervious to solution. Governments, institutions, and companies alike are struggling to come up with answers and are forced to reconsider their old problem-solving strategies. They used to abstract from the details of the concrete problem situation, decompose and analyze it, and reach a conclusion in due course. But this strategy will not work at all for today's problems: a tangle of relationships within complex and overlapping networks. Problems are intimately related to each other and are so dynamic that the world will have moved on by the time the formal analysis is completed. You can see this happen all the time: governments in particular are used to a hierarchical and purely analysis-based way of problem solving, and they seem powerless to deal with the complex issues we are facing today.

More and more, people are turning towards the field of design for help. Designers have been dealing with complex, networked problems that involve multiple stakeholders for many years. And they somehow have been able to come up with creative solutions that satisfy many of the relevant parties: they do not solve the problem as it has been defined, they innovate by proposing frames and ideas in a solution-focused manner, and test these proposals through experiments. This is a radically solution-focused strategy, as opposed to the problem-focused approaches that are the basis for conventional problem solving.

**Are there any tools or techniques for developing alternative or innovative designs that you've found to be particularly successful?**
This is hard to say . . . What I have found in studying the way design expertise develops, is that experienced designers work very differently from novices. That has alerted me to the fundamental problem that severely limits the usefulness of many tools and techniques: while these tools and techniques are normally developed to support the professional designer, they tend to be rule-based – and experienced designers do not work in a rule-based manner. Thus professional designers tend to see the tools and techniques as alien and disturbing to their natural design process (cumbersome, wordy, bureaucratic). And they are absolutely right. Rule-based tools and techniques would be particularly useful in education and in the early stages of a design career, but not much beyond that. I think this is a real challenge for the academic community: we need to conceive of support for designers that is appropriate for their level of expertise and doesn't unnecessarily disturb the natural flow of their design activities. What would such a non-rule-based tool or technique look like? This requires tool builders to be clearer on what qualities their tools or techniques

aim to achieve, what the scope of their applicability is, and demonstrate to the intended users that they are constructed with a close knowledge of the processes they are supposed to support.

**What is the hardest part of designing?**

For me, the hardest part of designing is dealing with its fundamentally dual nature: it is an open process of creation, that is also goal-directed . . . In practice this means that the designer, at any point in the project, has the choice of either a problem-solving approach or a solution-focused approach. Choosing a problem-solving approach might lead to unnecessarily limiting the scope of possible solutions; choosing a solution-focused approach might lead to a process that just spins out of control. The wisdom to choose well in a particular design situation comes with a lot of experience.

**What does all this mean for interaction design?**

Interaction designers can play a key role in the developments that are sketched above. Of all design disciplines, they may be the closest to having the skills and knowledge to deal with the dynamic and complex problems that we are confronted with. After all, interaction designers have always been used to dealing with dynamic relationships and complex scenarios – in contrast to, for instance, industrial designers, who have tended to focus more on the physical design outcome. This ability to describe, understand, explore, and create new frameworks and relationships is the key strength of design into the future.

The challenge for interaction designers will be to look beyond the current borders of their discipline, and re-contextualize their current abilities to meet these bigger challenges. In some of the leading companies and institutions (especially service providers, like banks and cultural institutions), we already see interaction designers moving into very strategic management roles where their core skills and knowledge are applied far beyond the reaches of the interaction design profession. ■