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Design tactics

Part of the art of dealing with wicked problems is in the act of not knowing too early which type of solution to apply.

Rittel and Webber, *Dilemmas in a General Theory of Planning*

That sudden fits of inadvertency will surprise vigilance, slight avocations will seduce attention, and casual eclipses of the mind will darken learning; and that the writer shall often in vain trace his memory at the moment of need, for that which yesterday he knew with intuitive readiness, and which will come uncalled into his thoughts tomorrow.

Samuel Johnson, *Dictionary of the English Language*

Methods and tactics

We have already seen in earlier chapters of this book that there is no one correct 'method' of designing, nor one route through the process. In this chapter we turn our attention to ways in which designers choose to control their thoughts, either consciously or not, during the design process. It is one of the infuriating characteristics of our minds that they tend to display directional inertia. How many of us have tried in vain to remember some vital piece of knowledge, perhaps in an examination, only to have it appear, as if to poke fun at our efforts, when we no longer need it? How many of us have lain awake at night turning a problem over and over in our mind and yet somehow managing to retrace exactly the same steps, only to have a completely different idea appear just when we had set the matter aside to concentrate on other things? These characteristics and the distinctively creative mind were identified in Chapter 9. Here we turn our attention to overcoming the obstacles to productive and creative thought in the design process.

Of course these characteristics of the human mind are not just an issue for designers they must be addressed by all creative and productive thinkers. Many books have been written on how to think

more productively, most notably a whole series of ideas have been advanced by Edward de Bono. Most of the very sound and useful advice given in such books may be helpful to designers but it is best read in its original form and is thus not reproduced here. There are a relatively small number of principles underlying all this advice which are based on controlling the direction and quality of thought. Even Edward de Bono's famous use of 'lateral thinking' is an exhortation not to rely entirely on what he calls 'vertical thinking'. He characterises 'vertical thinking' as the tool we use to dig holes deeper and bigger, whilst 'lateral thinking' leads us to dig another hole somewhere else (de Bono 1967). In fact, both kinds of thought are necessary in design, but de Bono and many others repeatedly point out that when thinking, we do not naturally reflect on how we are thinking to see if that could be changed or improved.

Many devices recommended for more productive thinking are based on devices for changing the direction of thought. Looking at a problem from a different direction can often yield quite startling results. In his more recent books, de Bono, has suggested imagining that you are wearing different coloured hats or shoes (de Bono 1991) which he uses to remind us of different characters and personalities. By imagining we are those characters it is often possible to formulate our problem in such a way that new ideas for solving it emerge. Yet another way to challenge the direction of our thought is to interact directly with other people. Techniques such as brainstorming and synectics rely on the assumption that a group of people are not likely all to approach a problem in the same way, and that if the natural variety of the individuals can be harnessed the group may be more productive. We return to these ideas in Chapter 15.

There have been a number of books published more specifically on 'design methods' (Cross and Roy 1975; Jones 1970; Jones and Thornley 1963). However, these are usually not full 'methods' for designing but techniques for controlling the direction of thought at certain stages on the way. So long as the reader does not expect too much from these mental tools and is prepared to adapt them they may well prove useful. It is not the intention behind this book to replicate these 'cognitive recipes' and there is very little evidence that professional designers find such things practically useful. However, underlying many of these mental tricks are a relatively small number of fundamental principles which can also be observed in the design process of successful designers. Some of these principles are explored in this chapter.