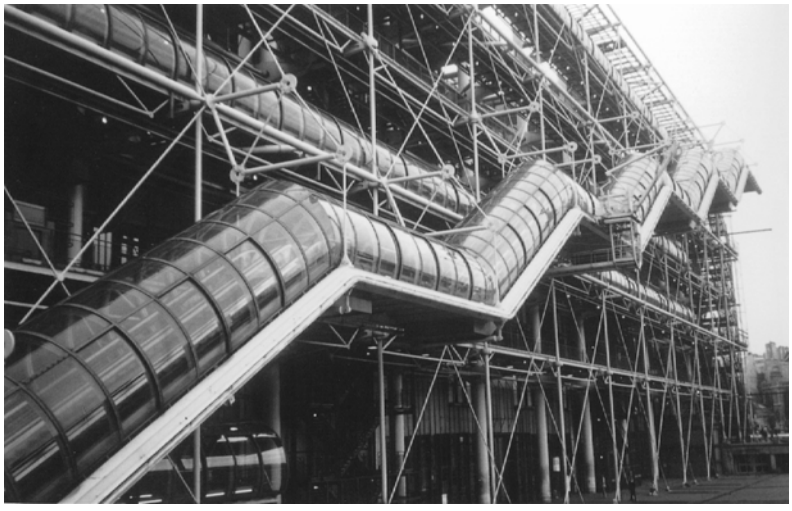

Figure 7.1
The Pompidou Centre which Richard Rogers regarded as 'a gigantic . . . erector set'

Thus Rogers is telling us that there were more problems which had been identified and which he would liked to have solved if he had more time. The design process rarely has a natural conclusion of its own, but must more often be completed in a defined period of time. It is perhaps like writing an answer to an examination question under pressure of time. Frustratingly, you may still be thinking of new and related issues on which to dilate as you leave the examination hall. Certainly this seems a better model of the design process than that conjured up by the idea of completing a crossword puzzle which has an identifiable and recognisable moment of completion.

Design problems and design solutions are inexorably interdependent. It is obviously meaningless to study solutions without reference to problems and the reverse is equally fruitless. The more one tries to isolate and study design problems the more important it becomes to refer to design solutions. In design, problems may suggest certain features of solutions but these solutions in turn create new and different problems.

Design as a contribution to knowledge

In this chapter we have seen how the design process is affected by the uncertainties of the future. In the last chapter we saw how the design process could be seen to vary depending on the kind of

problems being tackled. In Chapter 3 we saw a series of attempts to define the design process as a sequence of operations, all of which seemed flawed in some way. A more mature approach was presented by Zeisel (1984) in his discussion of the nature of research into the links between environment and behaviour. He proposed that design could be recognised as having five characteristics. The first of these is that design consists of three elementary activities which Zeisel called imaging, presenting and testing. Imaging is a rather nice word to describe what the great psychologist Jerome Bruner called 'going beyond the information given'. Clearly this takes us into the realm of thinking, imagination and creativity which will be explored in the next two chapters. Zeisel's second activity of presentation also takes us into the realm of drawing and the central role it plays in the design process. This will be explored in later chapters too. Finally the activity of testing has already been explored here in Chapter 5.

Zeisel also goes on to argue that a second characteristic of designing is that it works with two types of information which he calls a heuristic catalyst for imaging and a body of knowledge for testing. Essentially this tells us that designers rely on information to decide how things might be, but also that they use information to tell them how well things might work. Because often the same information is used in these two ways, design can be seen as a kind of investigative process and, therefore, as a form of research. We currently live in a world in which it is fashionable to produce simple, some might say simplistic, measures of performance. So schools and hospitals have to summarise their performance in order that 'league tables' can be published for their 'consumers'. Similarly universities must be assessed for the quality of their teaching and research. The readers of Chapter 5 will already be alerted to the dangers of this approach. However, when it comes to assessing the research done in departments of design the problem becomes even more tricky. How on earth do we evaluate the output of artists, composers and designers in terms of their contribution to knowledge? This is a problem for those who wish to impose these simplistic global measures of performance on a complex multi-dimensional phenomena. Suffice it to say that designers are naturally able to accept these difficulties since that is just what designers have to do, but they also recognise their efforts are imperfect!

It is worth pausing briefly here to summarise some of the important characteristics of design problems and solutions, and the lessons that can be learnt about the nature of the design process