

Only later, perhaps when it is too late, do the difficulties emerge in response to some effort.

One of the essential characteristics of design problems then is that they are often not apparent but must be found. Unlike crossword puzzles, brain-teasers or mathematical problems, neither the goal nor the obstacle to achieving that goal are clearly expressed. In fact, the initial expression of design problems may often be quite misleading. If design problems are characteristically unclearly stated, then it is also true that designers seem never to be satisfied with the problem as presented. Eberhard (1970) has amusingly illustrated this sometimes infuriating habit of designers with his cautionary tale of the doorknob. He suggests that there are two ways in which designers can retreat back up the hierarchy of problems, by escalation and by regression.

When faced with the task of designing a new knob for his client's office door, Eberhard's designer suggests that perhaps 'we ought to ask ourselves whether a doorknob is the best way of opening and closing a door'. Soon the designer is questioning whether the office really needs a door, or should even have four walls and so on. As Eberhard reports from his own experience, such a train of argument can lead to the redesign of the organisation of which the client and his office are part, and ultimately the very political system which allows this organisation to exist is called into question. This escalation leads to an ever wider definition of the problem. Rather like the after-image in your eye after looking at a bright light, the problem seems to follow your gaze.

We may also respond to a design problem by what Eberhard calls regression. A student of mine who was asked to design a new central library building decided that he needed to study the various methods of loaning and storing books. As his design tutor I agreed that this seemed sensible, only to discover at the next tutorial that his work now looked more as if he was preparing for a degree in librarianship than one in architecture. This trail of regression is to a certain extent encouraged by some of the maps of the design process which were reviewed in Chapter 3. This behaviour is only one logical outcome in practice of the notion that analysis precedes synthesis and data collection precedes analysis. As we have seen, in design it is difficult to know what problems are relevant and what information will be useful until a solution is attempted.

Both escalation and regression often go together. Thus my architectural student studying librarianship may also become convinced that a new central library building is no answer. The problem, he

may argue, lies in designing a new system of making books more available by providing branch libraries, travelling libraries or perhaps even using new methods of data transmission by television.

While this continuous broadening of the problem can be used to avoid the issue and put off the evil day of actually getting to grips with the design, nevertheless it does represent a sensibly cautious response to unclearly stated problems. Design action, like medicine, is only needed when the current situation is in some way unsatisfactory, but which is better, to treat the symptoms or to look for the cause?

## The design fix

A client once asked me to design an extension to his house. The initial brief was rather vague with various ideas of adding an extra bedroom or a study. The real purpose of this extension was difficult to understand since the house was already large enough for all the family to have their own bedrooms and still leave a room which could have been used as a study. The site was cramped and any extension had to either occupy some valued garden space or involve considerable expense in building over a single storey garage and removing a rather splendid pitched roof. It seemed that any extension was almost bound to create new problems, and was not even likely to prove a worthwhile investment. The client's thinking was still unclear and at one meeting, ideas of being able to accommodate grandparents were being discussed to the sounds of rather loud music from one of the teenage children's bedrooms. It then gradually emerged that this was the real source of the problem. In fact the house was indeed already large enough but not well enough divided up acoustically. The problem then shifted to installing some better sound insulation, but this is by no means easy to achieve with existing traditional domestic construction. I suggested the actual solution initially as a joke. Buy the children some headphones! Thus by treating the cause of the problem rather than fixing the symptoms the client kept his garden and his money. I regrettably lost some fees, but gained a very grateful client who remained a friend. This presents a rather unglamorous view of design problems. The stereotypical public image of design portrays the creation of new, original and uncompromising objects or environments.

The reality is that design is often more of a repair job. Part of the problem is in correcting something which has gone wrong in some