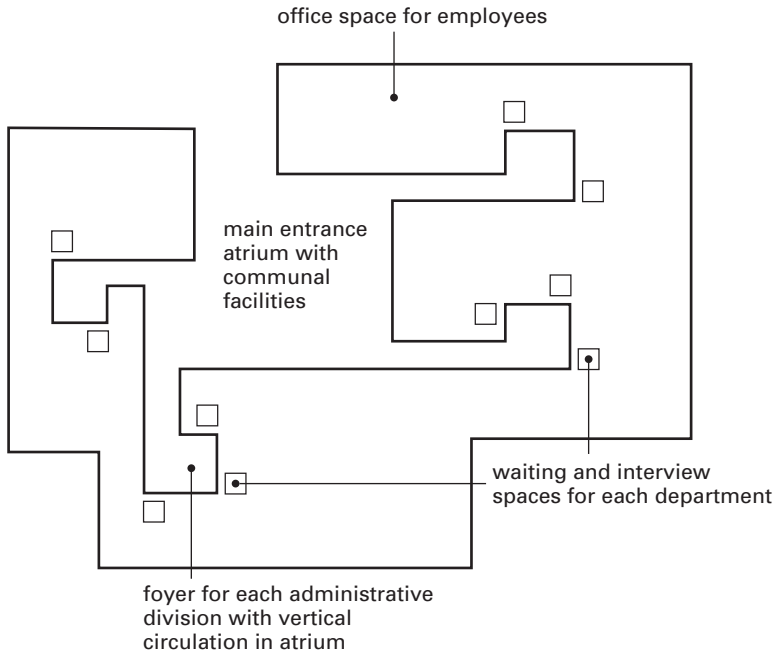

Figure 11.3
The third group add to the variety of approaches possible

user, the employee and the local taxpayer. The first group gave priority to the efficient control of the working conditions and thus recognised mainly radical constraints. By contrast, the second group thought that the quality of the place was more important and they recognised more symbolic constraints. The third group, when questioned, saw no conflict between these and felt that the physical expression of the organisation achieved in their building would not only be easy for the taxpayer to relate to but would also lend a sense of identity and belonging to the employees, thus creating a good social working environment.

The primary generator

We have seen how the range of possibilities can be restricted by initially focusing attention on a limited selection of constraints and moving quickly towards some ideas about the solution. In essence this is the 'primary generator' idea which we first introduced in Chapter 3, but where does the primary generator come from and how does it work?

Obviously it is highly desirable that the primary generator involves issues likely to be central or critical to the problem. However, what is central and what is critical may turn out to be two

quite different things as we shall see. The student architects designing a building for a county administrative authority used a variety of generators relating to the radical functions, user constraints and external constraints of the site. The first and obvious source of a primary generator, then, is the problem itself. Finding those issues most likely to be central is a matter of common sense and some experience, and these students were all demonstrating a growing sense of judgement in these matters.

What is used as a primary generator is also likely to vary to some extent between the different design fields and problems. Mario Bellini the designer of the Olivetti golf-ball portable typewriter, emphasises the difference between designing static artefacts such as furniture, and mechanical or electrical goods in this respect (Bellini 1977). Obviously, the product designer must learn to adapt the design process to the situation.

We have seen in the last chapter that designers develop their own sets of guiding principles and these often set the direction for the primary generator in any one design project. Thus the architect/engineer Santiago Calatrava with his guiding principles of dynamic equilibrium is likely to use practical constraints about the structure of his building. However, he has himself noted that this is not enough, and that it is the highly specific and local external constraints which often help him to create form:

> I can no longer design just a pillar or an arch, you need a very precise problem, you need a place.
>
> (Lawson 1994)

For the experienced designer, then, the guiding principles when set against the local external constraints may often create the material for the collection of issues which primarily generate the form of the solution. The designer uses this initial attempt at the solution gradually to bring in other considerations, perhaps of a more minor or peripheral nature.

The central idea

These primary generators, however, often do much more than simply get the design process started. Good design often seems to have only a very few major dominating ideas which structure the scheme and around which the minor considerations are organised. Sometimes they can be reduced to only one main idea known to designers by many names but most often called the 'concept' or 'parti'.