leaving the access, kitchen and living-room to face the sun and view across the deck. They had calculated the minimum width of the flat as being the sum of the width of the bedroom and bathroom both of which have to accommodate furniture or fittings of known sizes. So far their thinking was sound. But they were unhappy with the shape of the living space which they felt would be dark and depressing.

During a tutorial we identified that they were indeed pseudo-puzzling and got them to articulate the rules of the puzzle as follows.

1. The structure to be load-bearing cross-walls carrying concrete plank floors.
2. All rooms to be naturally ventilated.
3. Kitchen to be a separate space from the living-room.
4. Internal circulation to be minimised.
5. Living-rooms to overlook the access deck and face south.

However, there was another implicit rule adhered to by all the many designs they had drawn. This rule, never made explicit, was that the cross-walls separating the dwellings had to be parallel and straight. Now it makes sense for these walls to be parallel and thus a constant distance apart but there is no reason why they must be straight. Once we had made their burdensome over-rigid rule explicit and then rejected it, the students quickly found a solution they liked much more. By staggering the kitchen partially in front of the next dwelling the living-room could become a more flexible shape and shallower without increasing the width of the dwelling. This configuration also allowed for the living-room to be recessed from the access deck offering a semi-private external space.

The second aspect of the puzzle trap comes into play only when pseudo-puzzles have been solved. Indeed it is the very satisfaction that we experience when solving puzzles which is likely to ensnare the unwary designer. So pleased are we with the solution that it becomes a focal point of the design and may prevent other much more important ideas from emerging. The pseudo-puzzles which designers might solve are usually only small parts of design problems. More important still, they can often only be defined by making a number of assumptions about other aspects of the design. In the case of our students designing housing, the puzzle was formulated only as a result of assuming a deck-access layout and cross-wall form of construction.

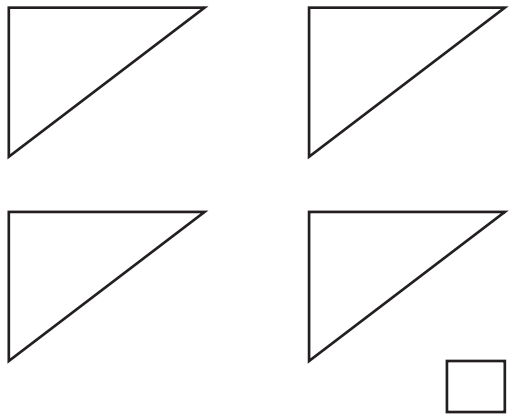

Figure 13.3
The first simple jigsaw puzzle

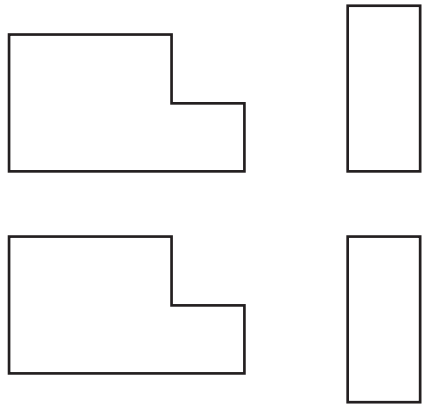

Figure 13.4
The second simple jigsaw puzzle

Consider then the two jigsaw puzzles illustrated here (Figs 13.3 and 13.4). The object in each case is to fit the pieces together in the neatest and simplest way. Undoubtedly the best answers to these puzzles are a square and a rectangle as shown (Figs 13.5 and 13.6). The square in particular has the kind of elegance as a solution which is likely to please the puzzler who discovers it! However, the next and more difficult part of this puzzle is to fit all the pieces from both jigsaws together into a neat and simple form (Fig. 13.7). As can be seen from the suggested solution this entails demolishing the two earlier solutions since they will not fit together neatly (Fig. 13.8).

The unwary designer then can often be found in the second puzzle trap trying to solve the puzzle of how to make use of elegant pseudo-puzzle solutions which are in reality the main obstacle to success, but about which a certain pride and satisfaction is felt. Thus our students designing housing might find it more difficult to