with our expectation of freely disposed spaces as a hallmark of early modern architecture. Similarly if we look at the quite different figure/ground relationship of the symmetrical masses of a Renaissance church we have some inkling of the kind of building which is being drawn. Our eye translates the plan into some spatial configuration on the basis of our previous experiences that gave us a tutored and expectant eye. Although we make that translation we can have no certainty as to what a three-dimensional reality might be. A plan of Sir John Soane's house at 12–14 Lincoln's Inn Fields in London at the time of the architect's death in 1837 gives no indication of its real complexity, primarily because it does not – and cannot – adequately record what happens on the ceiling.

A series of sections and elevations would enlarge our understanding but still be dependent on our memories. Both sections and elevations are single views from a fixed position and do not represent that vital ingredient of spatial awareness, our movement through space, our kinaesthetic experience both horizontally and vertically. Computer simulators are a significant advance but – as yet – do not capture the subtleties of vision dependent on the movement of the head and eyes, on changing focus from space to detail and on the difference in visual acuity between central and peripheral vision which are all so critical to our full appreciation of architectural space. There is also a simple perceptual problem: if we look at a picture the same image appears on each retina, if we view a solid three dimensional object, a different image appears on each retina (see p.112 & 116)

As we are dealing with a visual medium, the aesthetics of the plan are unavoidable despite a conscious awareness that the plan is a convention, probably even a confusing and perverse convention. There is an expectation that the plan has some congruence between the general characteristics of the building and the pattern of the plan. This may not be a well founded expectation but it is difficult to deny its existence.

We somehow feel that, just as an experienced tracker can identify an animal from its footprint, so we can judge a building's configuration from its plan, or at least think we should be able to do so. This may to some extent be a matter of experience, but certain signals are obvious and do not need a trained eye.

The plan of the Carolingian church in Fulda in Germany, for instance, conveys immediately a sense of simplicity as well as an overt symbolism of Christ's cross. This is very different from the late 15th century plan of the nave and presbytery of the Church of St Barbara in Kutná Hora in the Czech Republic. Although the two church buildings share a generic plan form, we are instantly aware of greater spatial complexity at St Barbara. This is mainly conveyed by the convention of showing what is going on overhead, in this case complex late Gothic vaulting. Both churches conform in their plans to the rules of Euclidian geometry. Many plans of castles, on the other hand, show non-Euclidian attributes that come about from a concern with contours and the needs for defence. These abstract shapes now give us visual pleasure though we fully understand that may never have been a deliberate intention.

The importance of the appearance of the plan is highly significant at the time of design. We judge the plan not only on its ability to resolve functional aspects through the disposition of spaces and its indication of volumetric qualities but also simply as a two-dimensional abstract. Our eye is beguiled by the marks on paper; I admire the lines of the plan of St Barbara even though I can never actually see that plan pattern in the building as it is on paper.

The known limitations of architectural drawings do not prevent them from fulfilling three crucial and distinct functions: as part of the thinking process of design, as an indication to the client and users of what the building will be like, and as a set of specific instructions to those constructing the building. All three can be done manually or be computer aided, or a combination of