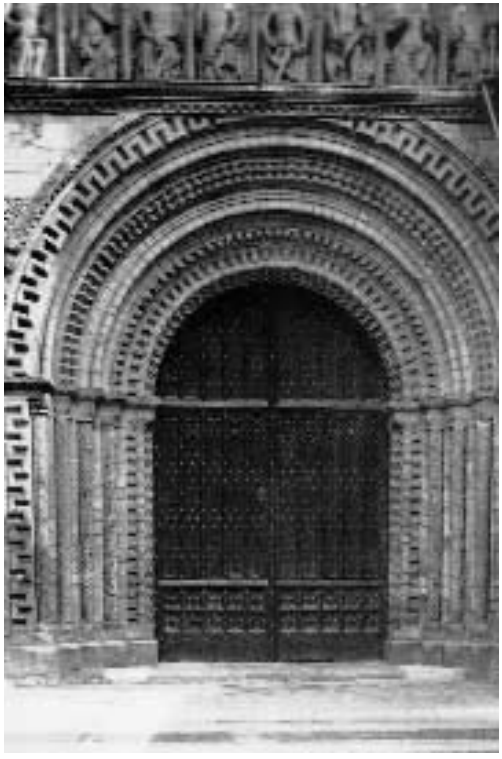
The perception of the unity or wholeness of a building according to the theory developed by classical writers assumed a static viewer who at a glance could take in the whole composition of the façade. This condition is achieved when the viewer is at a distance from the building of about twice its height. At this distance a line from the building to the viewer makes an angle of 27° with a horizontal floor plane. According to Blumenfeld (1953), who followed this line of reasoning, the height of a building should be 9 m (30 ft) if it is being seen at a distance of 22 m (72 ft). For more intimate conditions where recognition of one's neighbours' facial expressions is useful, then the horizontal distance is 12 m (40 ft) and the building height is two storeys. A street width of 21–24 m (70–80 ft) for three storey façades and a street width of 12 m (40 ft) for two storey buildings, appear to coincide with the dictates of this commonsense definition of intimate human scale. At these scales and distances particularly on the ground and first floors, architectural ornament should have no decorative element with its smaller dimension less than 1–1.5 cm. Beyond the third floor, a bolder treatment of ornament is necessary for it to impinge upon the senses. A wide overhanging cornice, or highly modelled roofline is most effective at this viewing distance. At the extremes of human scale, sometimes referred to as monumental human scale, that is, at distances up to one mile, it is the roofline of the settlement which is appreciated and which can have a highly decorative profile.

It can be argued that a building is not appreciated only from some fixed point. There are many vantage points from which a building can be seen. This is even more apparent in the case of a city. The urban scene is presented to the viewer as a series of ever changing pictures in serial vision. In addition the length of time a particular view is seen can vary from location to location. Since, for example, a surface can be seen from a number of vantage points its decoration may have many layers, fine work for close inspection, ordering or structuring elements for medium distances and bold shapes in silhouette for distant views. In western architecture there are two broad approaches to the ordering of architectural elements. The Classical school of design is the first of these approaches. It is derived from the theories of the Greek designers as interpreted by Vitruvius and his Renaissance followers. The second is derived from the master builders of the Middle Ages. The great works of Gothic architecture are made up of elements which are normally of constant size in relation to man and are absolute in regard to the building as a whole. The scale of the Classical order is relative to the entire building: columns, entablature and mouldings expand and shrink with the height of the building. The parts of the building are related to the size of the column base, therefore the scale of the building is absolute in regard to man. In the Classical building the number of elements such as columns, entablature and doors remain constant, their size varies; the elements in a medieval building remain constant in size but their number varies.

The two approaches to scale, while starting from different premises, have much in common and each can result in harmonious compositions. In the great buildings of the Classical and Gothic schools the concept of scale characteristic of the other method was not entirely rejected. The Gothic cathedral like the classical Greek temple front has a clear module of structural members and its western façade can be seen as a whole with clearly articulated elements. It has been suggested (Morgan, 1961) that the regulation found in medieval architecture owes something to the use of the mason's square for setting out building dimensions which ensured the 'recurrence of similar relations' infusing the whole design with 'some harmony' in all its parts. The temples of classical Greece never lost touch with human scale. Temples did not exceed 20 m (65 ft) in height and could be seen as a whole from the close viewing distance of 21–24 m (70–80 ft). The module was related to normal human size by its details being related directly to parts of the body; the fluting on



1.3

1.4

Figure 1.3 Southwell Minster, Southwell
Figure 1.4 Palazzo del Museo Capitalino, Piazza Campidoglio, Rome

the column, for example, is the width of the arm. This system of modular design can and did lead to gigantism both in ancient Rome and in baroque buildings. It can also lead to confusion when two buildings using a different module are placed adjacent to each other. If, however, the module and overall building size are both conditioned by a viewing distance of 21–24 m (70–80 ft) then the building naturally takes on a human scale in addition to being harmoniously proportioned (Maertens, 1884).

This difference in proportional systems and attitudes to the scaling of buildings in European cities has led to the development of two main systems of ornamentation, the classical and medieval or gothic. Each has its typical decorative features and patterning. The result is not quite so distinct as the discussion so far would suggest: the distinction between the two approaches is blurred by a rich panoply of styles which appear more as a continuum rather than a simple dichotomy. Thus the urban designer must be aware of the subtleties when working within the older parts of the traditional city (Figures 1.3 and 1.4).

HARMONY

The theory of harmony in architecture is largely derived from the classical writers of the Renaissance: 'the aim of Classical architecture has always been to achieve a demonstrable harmony or parts. Such harmony has been thought to reside in the buildings of antiquity and to be to a great extent "built in" to the principal antique elements – especially to the "five orders"' (Summerson, 1963). The module or measure used to achieve harmony through proportion was the radius of the column at its base which was divided into thirty parts. All