

elements of the structure were multiples of this module. The five orders of architecture each had their own system of proportion, for example, in the Tuscan order the column height was fourteen modules, in the Ionic and Corinthian it was nineteen and in the Composite twenty (Summerson, 1963). All other parts of the orders varied in a similar manner. The purpose of such proportions is to establish harmony throughout the building. The harmony is appreciated through the use of one or more of the orders as dominant components of the building, or more simply by the use of dimensions repeating simple ratios: 'It is the property and business of the design to appoint to the edifice and all its parts their proper places, determinate number, just proportion and beautiful order; so that the whole form of the structure be proportionable' (Alberti, *Book I*, 1955). Alberti, writing about proportion, also states: 'Variety is without dispute a very great beauty in everything, when it joins and brings together, in regular manner, things different, but proportionable to each other; but it is rather shocking, if they are unsuitable and incoherent. For as in music, when the bass answers the treble, and the tenor agrees with both, there arises from that variety of sounds a harmonious and wonderful union of proportions which delights and enchants the senses' (Alberti, 1955). Beauty, according to Alberti and other Renaissance theorists, is a harmony inherent in the building imbued with a system of proportion which does not result from personal whim but from objective reasoning.

Searching for a secret mathematical harmony behind every form of architectural beauty is not confined to the Renaissance. According to Scruton (1979) this has been the most popular conception of architecture from the Egyptians to Le Corbusier. The fundamental concept is simple. Certain shapes and their arrangement seem harmonious and pleasing, others appear disproportionate, unstable and unsatisfactory. There is a general conviction that harmony in architecture results only if the shapes of rooms, windows, doors and, indeed, all elements in

a building conform to certain ratios which relate continuously to all other ratios.

It is debatable whether such rational systems of proportion do produce the effects which the eye and mind consciously see and understand. The chapters which follow adopt Summerson's pragmatic attitude to proportion. He reduces the whole argument to a commonsense and practical viewpoint: 'To what extent rational systems of this kind do produce effects which eye and mind can consciously apprehend I am extremely doubtful. I have a feeling that the real point of such systems is simply that their users (who are mostly their authors) need them: there are types of extremely fertile, inventive minds which need the tough inexorable discipline of such systems to correct and at the same time stimulate invention' (Summerson, 1963).

The city must be experienced to be appreciated. Ornament and decoration, apart from distant silhouette, is best appreciated at close quarters. The city, however, is not simply an artefact to be viewed: the viewer is part of the city. The city is not only a visual experience, it is experienced by all the senses. Sounds, smells and texture are important: the cool sound of fountain spray or sonorous distant bell, the smell of garlic, hot chocolate and gauloise cigarettes on Parisienne streets, the rising heat from sunny pavements, or chilly dark shadows in distant alleyways. The measure for these experiences is the footstep. Distances are measured in paces. The pedestrian, therefore, is the module that gives proportion to the city. The rhythm of the pace is regulated by the floor pattern, it is quickened, slowed or brought to a standstill by the promptings of decorated pavements.

#### BALANCE AND SYMMETRY

There are other concepts such as symmetry, balance, rhythm and contour which have been used to analyse 'good' architectural design. These concepts, along with others that formed part of the earlier discussion, overlap and are mutually

reinforcing: individual concepts do not, nor cannot, stand alone. There are two common sayings in the English language - 'a sense of proportion' and a 'balanced outlook' - both of which, when used about someone conveys the impression of a reasonable and well-adjusted human being. Similarly a building which achieves balance is visually well adjusted, exhibiting a reasonable distribution of its component parts.

A simple pair of scales is often used as an analogue for balance in design. In the case of the simple scale, the force of gravity ensures that equal weights placed at equal distances from the fulcrum will balance. This idea of physical balance is extrapolated to the world of visual forms and is important in architecture both structurally and visually. An obvious imbalance looks awkward, top-heavy, lopsided or even drunk. Symmetry, in its modern usage, has come to mean the balance of formal axial buildings. Symmetry of this type implies an axis of movement. Most creatures or man made objects which move directionally are symmetrical with regard to an axis of movement, whether they be flies, birds, mammals, aeroplanes or ships. Symmetrical arrangements in architecture, together with other man-made structures use this analogy of movement from nature. Consequently the symmetrical building composition is best appreciated while the viewer is moving along its central axis. Formal symmetrical decoration is also often best viewed from the central axis.

Asymmetry is the informal balance of non-axial components. It corresponds to the human figure in profile, which is capable of balanced positions of great complexity compared with the more static frontal symmetry. In simple terms a great weight close to the fulcrum of a balance will be balanced by a lesser weight at a greater distance. Similarly, the notional weights of architectural masses can also achieve a complex balance (Figure 1.5). There are no limits to the number of elements which form a unified composition providing they resolve themselves round a point of balance or a dominant



**Figure 1.5** Church of San Francisco, Assisi

focal point of interest. It is to this point that the eye is first attracted, and to which it returns after an examination of the rest of the composition. Symmetrically balanced decorative patterning is usually associated with classical design and asymmetrical balance with medieval or Gothic compositions. Admittedly this is a great oversimplification; for example, Mannerism and Baroque compositions while employing many of the stylistic details of classical decoration achieve a movement in composition more closely associated with the work of medieval builders, sculptors and decorators.

#### RHYTHM

Rhythm is a basic characteristic of our nature. Children in the dark, listening to the tick-tock of the clock magically turn the sounds into a rhythmic beat, a pattern imposed by the mind. The great dancer moves rhythmically to the music both controlling and controlled by the motion, carried along by the experience. The ritualistic dances of