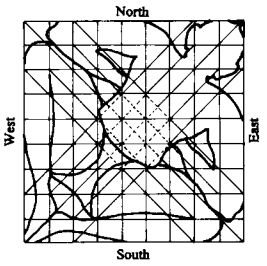


Figure 7.1 Indian Mandala

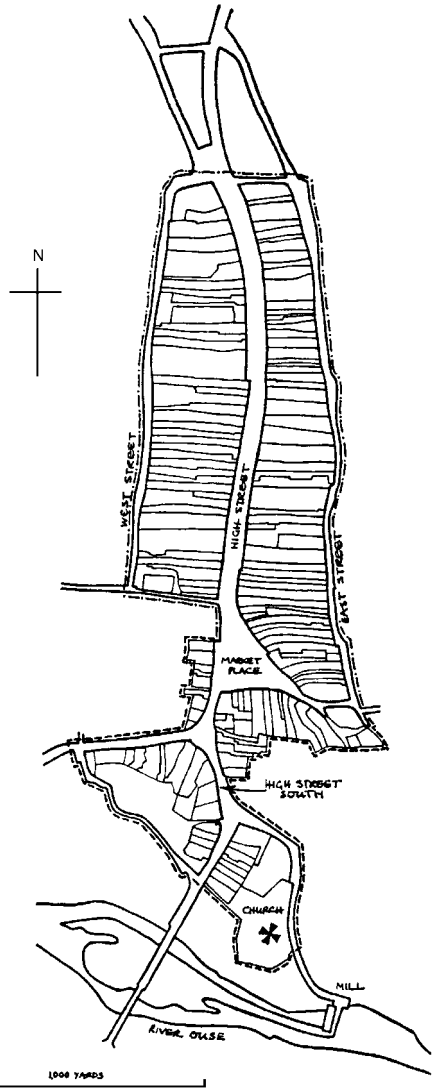
Figure 7.2 Madurai, India (Lynch, 1981)

such and the use of a deformed but clear grid, while the most holy buildings occupy a central position.

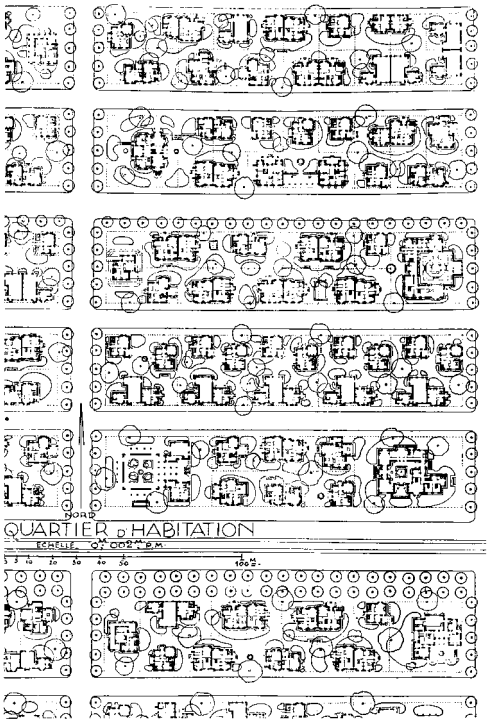
The three main archetypal city forms have been converted into an array of hybrid types of city structures to serve different ends. The particular form of a city may owe its shape to a number of factors such as imperatives of location, land values, or social structure. The choice of a structural concept for a new urban foundation may have been influenced by attitudes to: density; the form and distribution of central area functions; the predominant means of transport; the location of social infrastructure or places of work; and, more generally, ideas about ideal forms of lifestyle. Narrowing the range for use in sustainable development is a daunting task. Fortunately in Britain there were a number of new towns built after the Second World War in the last century, which offer a wide range of urban structures available for close study (Osborn and Whittick, 1977).

LINEAR URBAN FORMS

Linear urban forms can be found in many unplanned developments of the Middle Ages (Beresford, 1967) (Figure 7.3). However, they are more usually a product of the industrial revolution. They are most closely associated with the metaphor of the city as a machine. The main feature of the linear urban form is its ability to deal with the rapid and efficient mass movement of people and goods within and between cities. A further quality of the linear structure is its ability to deal, in theory, with infinite growth. Two early examples of linear urban forms are Ciudad Lineal by Soria y Mata for the suburbs of Madrid and Cité Industrielle by Tony Garnier (see Figures 6.26 and 6.27). The linear suburb for Madrid was discussed in Chapter 6, while the Cité Industrielle has also been mentioned before. However, other features of this project are worthy of discussion in the light of sustainable urban form. The most important locational factor for Garnier's ideal city was to be an energy source (Wiebenson, undated). Garnier's prescient choice of energy source, hydro-electric power, foreshadows much of today's preoccupation with renewable energy. The form and layout of housing in the Cité Industrielle was to be governed by orientation. The design aim of the building form was to achieve good ventilation and high levels of sunlight into all homes. Both of these qualities are important considerations



7.3



7.4

7.5

Figure 7.3 Medieval linear settlement, Olney, Bucks (Beresford, 1967)
Figure 7.4 Cité Industrielle, residential quarter (Wiebenson, undated)
Figure 7.5 Cité Industrielle, housing (Wiebenson, undated)

for the design of sustainable housing where the aim is to maximize solar gain and reduce the need for mechanical ventilation (Figures 7.4 and 7.5). Garnier's ideas about land use zoning was also a precursor of one of the important but perhaps less sensitive innovations of modern city planning.