that the way housing is arranged on the ground may provide so much free space that the needs of schools or recreation will overlap and may even be contained within it (Martin 1968).

In the first instance the uses are regarded as self-contained entities: Alexander equates this kind of thinking with an organisation like that demonstrated by a mathematical tree. In the second instance the patterns of use overlap: the organisation in this case is much closer to a far more complex mathematical structure: the semi-lattice. The illustration of the separate consideration of housing, schools and open space is elementary. But it is Alexander's argument that whole towns may be planned on this basis. And it is this attempt to deal with highly complex and overlapping patterns of use, of contacts and of communications in a way which prevents this overlap from happening that Alexander deplores. Hence the title of his paper: 'A city is not a tree'. In this sense of course he is correct. But the argument can be put in a different way. It can be argued that the notion (implied by Mrs Jacobs) that elaborate patterns of living can never develop within a preconceived and artificial framework is entirely false. This can be developed by saying that an 'organic' growth, without the structuring element of some kind of framework, is chaos. And finally that it is only through the understanding of that structuring framework that we can open up the range of choices and opportunities for future development.

The argument is this. Many towns of course grew up organically by accretion. Others, and they are numerous and just as flourishing, were established with a preconceived framework as a basis. Both are built up ultimately from a range of fairly simple formal situations: the grid of streets, the plots which this pattern creates and the building arrangements that are placed on these. The whole pattern of social behaviour has been elaborated within a limited number of arrangements of this kind and this is true of the organic as well as the constructed town. Willmott and Young, studying kinship in the East End of London (1957), were able to show that everywhere elaborate patterns of living had been built up. All these elaborations, and a great variety of needs, were met within a general building pattern of terraces and streets. Change that pattern and you may prevent these relationships from developing or you may open up new choices that were not available in the original building form.

The grid of streets and plots from which a city is composed, is like a net placed or thrown upon the ground. This might be called the framework of urbanisation. That framework remains the controlling factor of the way we build whether it is artificial, regular and preconceived, or organic and distorted by historical accident or accretion. And the way we build may either limit or open up new possibilities in the way in which we choose to live.

The understanding of the way the scale and pattern of this framework, net or grid affects the possible building arrangements on the land within it, is fundamental to any reconsideration of the structure of existing towns. It is equally important in relation to any consideration of the developing metropolitan regions outside existing towns. The pattern of the grid of roads in a town or region is a kind of playboard that sets out the rules of the game. The rules outline the kind of game; but the players should have the opportunity to use to the full their individual skills whilst playing it.

2

How does the framework of a city work? In what way does the grid act as a generator and controlling influence on city form? How can it tolerate growth and change?

The answer to these questions is best given by historical examples, and in order to give the argument some point we can deliberately choose the most artificial framework for a city that exists: the grid as it has been used in the United States, and so well illustrated by Reps (1965).

We can start with the notion that to the coloniser the uncultivated wilderness must be tamed into a single urban–rural relationship. In the plan for the proposed Margravate of Azilia (the forerunner of the colony of Georgia) the ground to be controlled is 20 miles square, or 256,000 acres. Implicit in the subdivisions of this general square is a mile square grid; and out of the basic grid the areas for farmland, the great parks for the propagation of cattle and the individual estates are built up. At the centre is the city proper.

The Margravate was never built, but the concept of the single urban–rural unit and the principle of a grid controlled land subdivision within this remains. In the County map of Savannah, Georgia, made in 1735, a grid of (slightly less than) one mile square sub-divides a rectangle nearly 10 miles long and 6 miles deep. Thirty-nine of these squares remain wooded areas: within this primary subdivision, further subdivisions create farms of 44 acres and 5-acre garden plots. These are the related grid systems of