many of those tend to be extremely regular structures that do not look like typical street patterns (Appendix 6.4). Actual street patterns tend to fall within a limited area of the netgram. The characteristic 'street pattern shape' is one of heterogeneity.

The second half of this chapter concerns an analysis of the differentiation, regularity and complexity of network structures – referred to, for convenience, as 'complexity analysis' to differentiate it from the analyses of the preceding section. This analysis also demonstrates how properties of the *route* types present influence the character of the whole network, although in a slightly different way: it is concerned with the amount of differentiation among types of route – whatever their individual constituent properties such as connectivity. In a sense, the issue of complexity opens up a new dimension for identifying different types of pattern, which is the subject of the remainder of this chapter.

### Recognising heterogeneity

It was noted earlier, in Chapter 5, that each route in a network can be regarded as a specific type, based on its combination of the properties continuity, connectivity and depth. For example, in the case of Bayswater, we saw that there were 20 such route types (Table 5.1, Figure 5.15).

Now, as well as telling us something about the relative connectivity of the network, the spread of the scatter in a sense tells us something else about the character of the network. The more different types of route a network has – relative to the total number of routes – the more irregular and complex it tends to be. This may possibly be equated with the 'plannedness' of a layout. For example, the Bayswater layout, which was built up in a relatively piecemeal fashion, with various lanes and mews off side streets, had a diverse array of route types – 20 distinct types out of a total of 27. In contrast, we saw that the Thamesmead case – a planned development – had far fewer types relative to the total number. In a network of 68 routes, there were only 19 distinct types. Thamesmead therefore has much less variety, and more regularity, than the traditional example of Bayswater.

### Regularity and irregularity

We can capture properties of heterogeneity by considering three small demonstrative networks (Figure 6.8). Layout (b) in Figure 6.8 is intended to represent the typical 'irregular' shape that networks tend to take on when not deliberately configured as a particular pattern, such as a tree or a grid. Layout (b) lies somewhere in between (a) and (c) in terms of



**6.8** • Three network types demonstrating differentiation of route type. (a) Tributary. (b) Mixed. (c) Grid.