

by which the structure of a street pattern could match the structure of a tree.³ Only one of these equates with the classical mathematical condition of a tree as a branching structure. In other words, there is more than one way for a structure to be 'tree-like'.

In particular, the first four conditions seem to relate to street type and hierarchy, whereas the subsequent two relate to configuration. The hierarchical aspect of tree structure seems to be distinct from the configuration, just as in a building structure there may be a 'hierarchy' of different structural members (e.g. main columns, cross-beams and brackets) but this does not necessarily imply a 'tree shape' (e.g. an all-cantilever structure).

This distinction echoes the way that the configuration of a tree structure (or a traffic light sculpture, Figure 7.1(c)) is quite distinct from its composition (the size and shape of the component parts). Indeed, we can recognise the system of hierarchical differentiation as a *separate* kind of structure from configurational structure, that we can refer to as *constitutional* structure.

COMPOSITION, CONFIGURATION AND CONSTITUTION

The concept of constitution has just been suggested, to add to those of composition and configuration. This section draws all three together in an integrated framework that helps crystallise the meaning of constitution.

Structural assemblies

At the start of Chapter 5, it was suggested that 'structure' is something that relates parts to each other and to the whole. Now, when referring specifically to 'a' structure, we tend to be alluding specifically to the whole assembly, rather than the parts.

A street hierarchy is an assembly of street types – a set of relationships between parts – just as a network is an assembly of links or routes. In other words, 'a' hierarchy is not just an abstract 'system' of relationships, or a vague 'means' of organising types, or a general 'kind of organisation'. A hierarchy is itself a specific kind of structure.

The relationship between street types *within* a hierarchy is analogous to the relationship between streets *within* a street network (or routes within a route structure). In other words, a hierarchy is a 'structure of types' in the way that a network is a 'structure of routes'. Just as a network of routes expresses and contains within it all the connections between individual routes, a hierarchy expresses and contains within it all the connections (or relationships) between individual types.