



7.6 • Three ways in which the trunk is the highest ranking element of a tree. (a) Composition. The trunk is the largest element (greatest girth). (b) Configuration. The trunk connects to most elements (highest continuity and connectivity). (c) Constitution. The trunk is the single central element through which everything else connects.

In other words, going from composition to configuration, we ‘lose’ things like metric length, width and angle of orientation; but gain resolution of routes with properties such as continuity and connectivity. Then, going from configuration to constitution, we ‘lose’ things like the actual number and arrangement of routes in the network, but gain resolution of type or tier. Going in the other direction, from constitution to configuration to composition, the gain and loss are the other way around.

Elements and assemblies

Composition, configuration and constitution each have correspondence with particular types of assemblies (wholes) and elements (parts). Figure 7.5 demonstrates these graphically. This diagram can be regarded as a conceptual ‘key’ to the understanding of structural relationships, as employed in the rest of this chapter.

We now look in turn at types of constitutional element (constitutionally defined street type) and assembly (types of constitutional structure).

CONSTITUTIONALLY DEFINED STREET TYPE

The definition of ‘arterial’ route or street proposed in Chapter 3 is a constitutional definition. A constitutionally defined street or route type is one defined only in constitutional terms – relating to other types within a network – rather than referring to aspects of configuration (e.g. spine road) or composition (e.g. straight road). We can understand the distinction by considering a further tree analogy, to do with trunks and twigs.

Trunks and twigs

Let us consider the possible ways in which a trunk could be the highest ranking element in a tree structure (Figure 7.6). Although size, continuity and connectivity could all equate with the trunk being the highest ranking element of tree structure, they do not essentially define the pre-eminence of the trunk. Size, continuity and connectivity could all differentiate the status of limbs relative to branches, and branches relative to twigs. Effectively these are the same kinds of stem-like elements, but at a different scale.

At each scale, the elements are similar – all elements are ‘cantilevers’ and ‘stems’ (as defined in Chapter 5). In particular, each branch has exactly the same configuration as each limb (each has a continuity of 4 and a connectivity of 4). Therefore limbs and branches are not essentially distinguished by configuration, but must be distinguished by something else. What differentiates these absolutely is their *depth* – which defines them in relation to the whole (Figure 7.7).