

*co-existent functions of different sorts that find their right place*. His chief observation is that land uses are symmetric across streets and asymmetric across blocks. In another paper, MacCormac uses an analogy with the game of dominoes where each end of a domino has different numbers of spots, but where the game is played by joining the ends of dominoes with equal numbers of spots. From these observations he later develops a notion of the 'osmotic' properties of streets – the manner in which activities within buildings percolate through and infuse the street with life and activity, noting that some land uses have very little relation to people in the street, while others involve and engage people. Characterising the activity generated by different land uses as their 'transactional' quality, he draws a distinction between 'local' and 'foreign' transactions. Foreign transactions are carried out on a regional or national scale and are not part of the street they inhabit and have very little impact on street life because the activity is essentially internalised. Local transactions, on the other hand, are peculiar to place and sensitive to change, have a significant impact on street life, have active frontages and generate many comings and goings. This does not suggest that some uses are unnecessary or have no place within an urban area – merely that they should have less claim to frontage onto the street and onto public space. MacCormac's paper, thereby, offers a more theoretical background and context for the concept of 'active frontages' in urban design.

Chapter 28 is **Bill Hillier's** 1996 essay 'Cities as movement economies', originally part of his 1996 book *Space is the Machine* and subsequently published

as a paper in *Urban Design International*. Hillier's work has been one of the most important contributions to the development of theory in urban design over the past 25 years. With colleagues at University College London's Space Syntax Laboratory ([www.spacesyntax.com](http://www.spacesyntax.com)), Hillier (Hillier and Hanson, 1984; Hillier, 1988, 1996a, 1996b; Hillier, *et al.*, 1993) has extensively explored and theorised the relationship between the pattern of movement and the configuration of urban space (i.e. the topology of its route network, which is analysed through the use of an axial map). Hillier argues that the configuration of space, particularly its effect on visual permeability, is important in generating movement. From an analysis of the structure of the urban grid (and irrespective of all other factors – including the distribution of land uses – that can be expected to affect movement), he claims to be able to account for, and effectively predict, the distribution of movement within a network. Space Syntax is now widely used as an analytic and design tool, while the theories behind its use continue to be developed by Hillier and others. The ideas, however, are not without their critics – for a fascinating exchange of views see Hillier and Penn (2004), Ratti (2004a; 2004b) and Steadman (2004). For the advancement of urban design as a field, such debate and critique is eminently healthy and Hillier's work challenges urban designers to think critically about the relationship between the configuration of space, movement and land uses.

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