Building on geometries of intelligibility:

Planning the Leiden region as a layered movement fabric

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Abstract

This paper discusses the application of space syntax within Dutch planning practice. It contributes to the knowledge of urban spatial structure and dynamics, by way of a study of the functional and movement logic of the urban fabric of the town of Leiden in the Netherlands. The study is done in the context of planning discussions about possible regional scale road and rail infrastructure connections through and in the immediate vicinity of the central fabric. In such discussions the role of the urban fabric itself in mobility patterns is often very unclear as is the role of the fabric as an intelligible walkable/cycleable environment. At the simplest level, elements of the fabric are taken as accessibility routes, connecting into the regional network or connecting parts of the fabric. But the possible secondary centrality and functional effects of changes are usually a matter of pure speculation. Space syntax ideas, coming out of previous research on Dutch cities, are used to unravel emergent natural movement networks (supergrid) in Leiden's fabric. At the same time, the local potentials for centrality inherent along these networks are mapped separately. The mappings of respectively networks and local potentials along that network are presented alongside each other in order to provide a framework for discussion in which the role of the fabric itself and the effects of possible changes is made clearer.

The research is focused initially on tracing the geometric correlates of the factor of scale synergy through the urban fabric for the situations in 1958 and 1998 - revealing what is proposed is an imperfect, not fully continuous, spatially defined supergrid. It is shown that this spatial supergrid is more coherent as a geometry in 1958 and that the types of intervention since then have tended to work against intelligibility within the fabric. This demonstration is used to begin the discussion, which is then directed towards creating new more intelligible structures within the central fabric of Leiden as a by-product of connections at the regional scale.

Current planning alternatives for the improvement of the regional scale mobility networks are tested in the axial map of the Leiden agglomeration in order to uncover the fabric effects of the alternatives. The results are interpreted in relation to the factors proposed above and the mappings of these factors. It is shown that the solution of a regional infrastructure problem can have consequences which go beyond the simple facilitation of accessibility. The fabric itself can react in complex ways to changes, causing unexpected problems - but also delivering unexpected opportunities for the reconfiguration of the pattern of functional centres within the fabric. Space syntax techniques offer an instrument for bringing these complex effects within reach of planning thinking and discussion, and for generating alternatives which may not otherwise be given serious consideration.