# Plot Syntax: a configurational approach to urban diversity

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## Abstract

More than forty years ago Jane Jacobs wrote the most influential book on urban development in the post war era. Immensely clear-sighted and poignant in its criticism it was not, although often intuitively correct, as strong in theoretical depth in its suggestions for remedies. It can be said that one of her four main suggestions, the idea of short blocks and its importance for through movement and inhabited streets, has within space syntax research been lifted from the handbook level of Jacobs to a general theory under the name of "The theory of natural movement".

Another main suggestion of Jacobs was the idea of buildings of varying age and their importance for the diversity of uses within cities. In this paper a series of earlier papers are summarised and further developed, trying to also lift this suggestion to the level of a general theory, possibly called "The theory of natural diversity". A first paper presented the theoretical foundation for such a theory where the importance to focus the spatial level of plot-structures in cities was argued. The plot-structure is in a direct way a representation of the distribution of landowners and thereby fundamental actors in the city, which act according to different strategies. Many actors can then lead to many strategies that in effect can lead to a higher diversity, it was argued. A second paper presented empirical support for such a theory, showing convincing correlation between the density of plots and number of people renting space for economical activity and in extension the number of present lines of businesses.

In these empirical tests plot-density was measured as a density of plots either for an urban block or street. Thereby it was fundamentally a geographic approach of description, aggregating values on a geographic unit, that is there were no analyses of the distribution of space itself. A new GIS-based application, called the Place Syntax Tool, has opened the door to a morphological approach to the same issue, where the axial map developed within space syntax is instrumental. In effect what is measured is configurational densities, that is densities that through the axial map take into account densities of other geographical units in the system. In that way it is a tool applicable to analysis of any kind of urban density.

In this paper it is used to measure and correlate plot- and diversity-densities, where the results supports the general theory suggested above not only for economical parameters but also social, such as age, income and level of education.