

## **INTEGRATION OF RECENTLY BUILT-UP AREAS INTO THE PATTERN OF THE CITY**

Ing. arch. Jaromír Hainc

*Czech Technical University in Prague, Faculty of Architecture, Department of Town Planning, Thákurova 7,  
166 34 Praha 6, Czech Republic, jaromir.hainc@volny.cz*

Ing. arch. Jan Jehlík

*Czech Technical University in Prague, Faculty of Architecture, Department of Town Planning, Thákurova 7,  
166 34 Praha 6, Czech Republic, jehlik@janjehlik.cz*

### **Summary**

Currently, there is a big discussion going on about the process of suburbanisation, which is perceived rather as a negative phenomenon. The aim of the work is the study of the relationship between things being built and already built in the built-up areas, because there are many arguments for building within the city borders. The summary of this work should allow us to learn more about design proposals for future cities. The work will search for the proportional relations between objects. All these relations are formed by different qualities. These qualities will be compared and classified based on the comparative methods. The necessity of organic incorporation of each element as well as the whole unit in to the structure of the city will be pointed out. The following qualities will be studied: relation to the whole, to the part, to itself; qualities of the parts; qualities of the whole. The hypothesis of the importance of physical expression of spaces – street grid and its pattern - for clear orientation and movement of people in the city will be approved by using Space Syntax Analysis; the examples will be distinguish in terms of accessibility, visibility and connectivity. The range of researched areas will not be restricted by any land use, but will be limited by the age - built in last 20 years and by the size of its plot (site) area. Prague will be used as a case study. This work is exploring how successfully these additions are added to the city.

This paper has been supported by grant of GAČR 103-09-H095 “Sustainable Construction of Buildings and Sustainable Development of Urban Space”.

**Keywords:** suburbanisation, street pattern, Space Syntax Analyses, comparative methods, Prague

### **1 Introduction and concept – learning from the design**

By designing contemporary parts of our cities are we able to create places where people would like to go or where they would be part of these places? It must be possible today to design and develop buildings or ensemble of buildings respecting the environment while bringing some benefit to the neighbourhood. The relationship between users-people and places can be recognized as a contribution to the sustainable and responsible development. As Christopher Day says in his book *Consensus Design*: “No ecological places will be sustainable unless people want to live there, want to maintain them, imprint them with

care”(Ch. Day, 2003, p. 32). He is emphasizing the fact, that we often forget in “usual designs reconnect people with place” (Ch. Day, 2003, p. 32).

The aim of the work is the study of the relationship between new and old, between things being built and already built. The summary of this work should allow us to learn more about design proposals for future cities. What kind of city space is designed and built will be the main theme of the work especially how the areas, neighbourhoods and city itself are affected in the perspective of space and its physical expressions.

The recently built-up areas of city parts (neighbourhoods, quarters, localities) will be presented and compared. They will be compared and classified based on the comparative method. The necessity of organic incorporation of each element as well as the whole unit in to the structure of the city will be pointed out. The incorporation will not be described according to aesthetics or formality. However it is necessary to find out the degree of independency or peculiarity of these new urban structures.

## **2 Methodology - Field of study, theory and tools**

Methodology is based on the comparative approach looking at the area in relation to the whole, to the part, to itself.

Qualities of the parts, from public space and its proportion to the whole, the size of units in relation to the uses, physical qualities – the width of houses, sizes of blocks, proportions, width of street, hierarchy of the spaces, typology of built-up schemes, private-public space and its relation and connectivity, interconnectivity to index of the gross surface area will be used and described.

Qualities of the whole are as follows: functions in the area, proportions in relation to surrounding areas, relation among certain measures, orientation in the space, attractiveness of the space, relation to the existing street grid (pattern of public spaces), comparison new built-up areas with the existing – Space syntax analyses.

### **2.1 Field of study**

The work focuses on the realized and built areas (part of cities) in the last 20 years. That period has not been yet mapped or researched in terms of relationship between ensemble of buildings versus its surrounding. The range of researched areas will not be restricted by any land use, but will be limited by the size of its plot area; that includes realized ensembles of buildings bigger than one city block, ideally covering several blocks (3-10), which means at least 2 hectares in the site area.

Prague will be used as a case study. The border of the study area will be defined by the border of the coherently build-up area of the municipality of the capital Prague. Prague has the highest development potential while having the sufficient number of realized architectural works in required size and complexity in existing inner built-up area.

### **2.2 Theory**

For the purpose of the research the theory of situationists and theory of Space Syntax Analyses will be used. In the psychology situationism means that the personality is more influenced by the outer factors than inner qualities and motivation. This theory will be commented upon and possibly accomplished by the actual knowledge during the research process.

In contrary Space Syntax Analyses method represents top-down approaches. as the theory quoted, that the orientation in the city is related to the trajectory of movement and ability of human to memorize it. The city can be redrawn in to the net of lines. That is possible through the system of transformation, which applies the same rules by redrawing the city street pattern. This method provides tools to be able to analyze and show how the city works in his spatial syntax. That is sometimes obvious, but often the clear image or interpretation is missing. The clear comparison of the studied areas is illustrated through it.

The comparative approach using different analyses and types of analyses to support the results and findings will be used.

*Hypothesis 1*

The physical expression of spaces – street grid and pattern of public spaces- is important for clear orientation and movement of people in the city; the relationship between parts plays an important role.

*Hypothesis 2*

Analytical methods of Space Syntax Analysis can identify the segregated places, hidden areas and not accessible spaces in the city structure. These spaces exist and will exist; the question is whether they should be placed in the city centre or in the suburb or what other use they should have.

*Hypothesis 3*

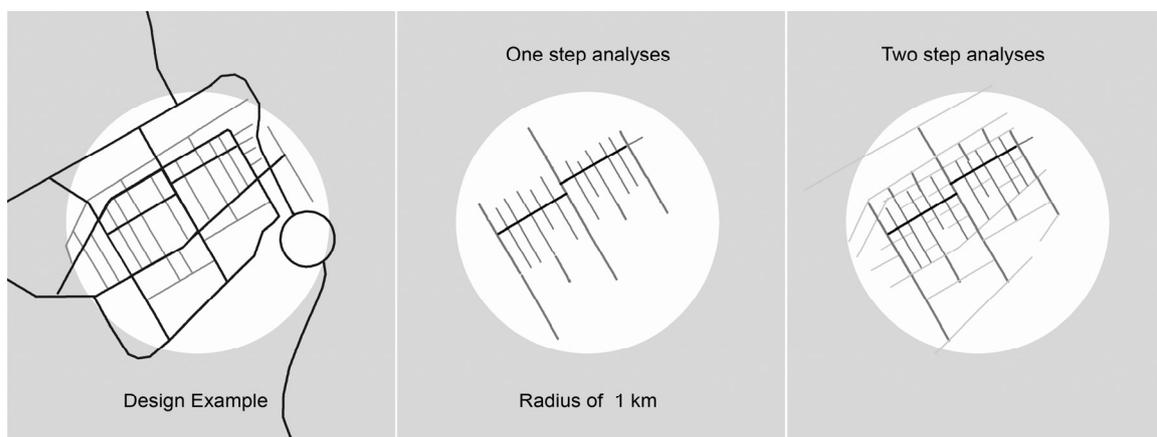
The proportion of private – public spaces can measure the quality of the work in urban space, by the connectivity of public spaces and by the connectivity to the super grid.

The Space Syntax Method can properly test the connectivity of spaces and relation among the spaces as well as the inner clear configuration. Of course, it is absolutely requisite to have a respect to the uniqueness of each place. The commentary will be done to each studied example.

*Hypothesis 4*

By introducing and using analytical methods and looking at the examples of urban development like buildings with the surrounding it is possible to distinguish them in terms of accessibility, visibility and connectivity.

### 2.3 Tools and ways of presentation



**Fig. 1** The proposed example shows the street network on the first scheme (super grid in dark color). Two other schemes show the analyses and the coverage of the area by two steps analyses.

The presentation will be done through the variety of schemes: built-up areas, public spaces and private spaces, spatial configuration, street network, super grid, street pattern, analytical schemes (one step analyses, two step analyses)

To be able to compare the results and make comments, several examples of foreign realizations will be presented. The condition for doing so is that there will be methodologically evaluated the scale of local influences, history and culture.

### **3 Conclusions**

The work will try to describe and later clarify the real qualities of the recently built areas in the scope of their connectivity within the “urban field” (Henri Lefebvre, 2003(1970), II 28). Its dynamic processes and spaces characterize urban field; Stephano Boeri says “the European space is transformed by accumulation, addition, and superimposition, but rarely by outright replacement or elimination” (R. Koolhaas, 2000, p. 362). This work try to explore how successfully these additions are added to the city, because the street pattern and grid maintain much longer than the buildings in it. If the pattern of the city is sustainable and works well than the buildings might work in the same way. The comparison and description will be the outcome together with the commentary of used methods.

### **References**

- [1] Day, Christopher; Parnell Rosie. *Consensus Design- Socially inclusive process*. Kent:Gray publishing, Tunbridge Wells. 2003. ISBN: 0 7506 5605 0.
- [2] Jacobs, Jane. *The Death and Life of Great American Cities*. New York. 1993. ISBN-13: 9780679600473
- [3] Gehl, Jan. *Life between buildings/ Using public space*. Wiley, John & Sons. 1987. ISBN-13: 9780442230111.
- [4] Read, Stephen; Pinilla, Camilo. *Visualizing the Invisible: Towards an Urban Space*. Delft: Spacelab,. 2006. 194 s. ISBN: 90-8594-003-6.
- [5] Hillier, Bill. *Space is the Machine*. London: Space Syntax. 2007. 356 s. ISBN: 978-0-9556224-0-3
- [6] Read, Stephen; van Eldijk, Jo; Rosemann, Jurgen. *Future City*.MISTO. 2000. 296 s. ISBN: 0415284511.
- [7] Rem Koolhaas, Rem; Arc en Rêve Centre d'Architecture; Harvard Design School. *Mutations*. Barcelona: Actar. 2000. 720s. ISBN: 8495273519.
- [8] Sitte, Camillo. *Der Städtebau nach Seinen künstlerischen Grundsätzen*. Braunschweig. 1983. 216 s. ISBN: 3-528-08695-5.
- [9] de Certeau, Michel. *The practice of everyday life*. University of California Press. 1988. 229 s. ISBN: 0520047508.
- [10] Henri Lefebvre, *The urban revolution*. Minneapolis: University of Minnesota Press. 2003. 196 s. ISBN: 0816641609.