Analysis of Two Squares in the City of Samsun: Intelligibility, Imageability, and Space Use

K. Fusun Erkul

**A.Taubman College of Architecture and Urban Planning**

University of Michigan, Ann Arbor

The focus of this study is analysis and comparison of different readings of urban space; subjective and objective. Subjective reading depends on spatial cognition, how people perceive and behave in urban space, whereas objective reading is the analysis of urban morphology, the characteristics and the relationship of its elements. In this study, the aim is to compare these two different ways of reading and to examine how spatial characteristics of urban space, land use, and space use are related to each other.

The study areas are two urban squares in the city center of Samsun, which is a port city in northern Turkey. Saathane (Clock Tower) Square is the historical center of the city which was planned in the 19th century whereas Cumhuriyet (Republic) Square is the new public plaza built in the 1990s. Although being situated close to each other in the Central Business District, these two areas have significant differences in terms of physical-spatial and social-behavioral aspects of urban spaces, which are studied comparatively.

The method of this comparative study is to make in-situ observations in order to understand space use in relation to movement and to analyze the data using space syntax tools like axial maps and isovists. These data is composed of surveys, cognitive maps of inhabitants, and observations on space use and movement. Space syntax provides the tools for objective analysis of urban space with respect to cognitive and behavioral characteristics, and space configuration. By comparing global properties of the city to local properties of the squares, the study aims to understand the relationship between integration and connectivity values that defines the intelligibility of the areas. Moreover, the visual field and the connectivity analyses help correlate movement patterns, moving and static people preferences, and space use.

Saathane Square

Cumhuriyet Square

The city of Samsun
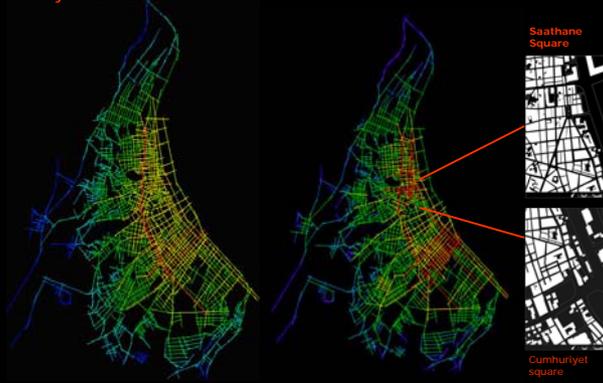
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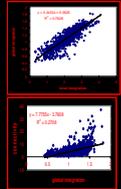
Intelligibility

If the correlation between the global integration and connectivity values is examined: the city has a low value of intelligibility, which is 0.2708. However, the correlation between the global and local integration values gives a high value of 0.7628, which defines the global and local system as well-connected. Accordingly, one can argue that the low value of intelligibility might depend on a part of the system that causes low degrees of connectivity compared to the whole system.

Global Integration

Local Integration R3

Cognitive Analysis

Axial Analysis

Cognitive Image Analysis

In Saathane Square, the major paths structuring mental images are the two diagonal streets and the corresponding axial street. Other streets intersecting the square on the corners are generally perceived as secondary paths. Moreover, the highway defines an edge for the study area. The principal paths are the bus routes and the busiest motor traffic and the ones on which the pedestrian movement flows over. Accordingly, the paths which people move along are the major elements of cognition. When the hierarchy of streets is considered, the frequency of use is also effective, as the busiest paths are the most significant ones.

In Cumhuriyet Square, there are two principal streets: first does not have access to the square however satisfies connection to the historic center of CBD, second is lining the square on one side and separated by level difference from the square. The secondary streets do not surround the square but have connections with the principal streets. Similarly major circulation paths are presented as the most significant structuring elements of the area. Compared to well-defined urban relationships in the Saathane Square, one can argue; principal paths of the Cumhuriyet Square do not provide connection of the area within the urban structure but rather dominate the area.

Axial Line Analysis

In Saathane Square, when the axial line analysis of the area is superimposed with the most frequently defined paths in the cognitive images, there is a significant correlation between the two. The major integrated lines within the global system are defined by inhabitants of the city as major movement lines. So, one can argue that, the values of intelligibility of the area correspond with the quality of imageability.

In Cumhuriyet Square, same aspect does not appear instead there is weaker correlation between most integrated lines of area and most frequently defined paths by the inhabitants. In other words, globally integrated lines are not considered to be the most imageable ones. Therefore, form of the area with its grid structure provides less integration within the global system and does not coincide with cognitive structure of the area.

Juxtaposition of cognitive and axial analyses

Preference for Movement and Static Activities

Within the area surrounding the Saathane Square, the primary land use is commercial mostly based on small-scale business activity. Thus, there is a concentration of traditional small shops around the square like restaurants, teahouses, bakeries, herbalists, fish-markets, butchers, buffets. When observations of static and moving people are compared to local integration values of urban space, major movement paths coincide with most integrated lines. However, static people do not prefer being on most integrated lines rather they are closest to boundaries of space. Visual field analyses also support this result: people do not prefer to be stable on most integrated axial lines and having the widest visual field, they reject the chance of having knowledge of global structure and prefer edges of space which provide more local knowledge than other points within the area.

According to the observations of behavior of people, passing by is the dominant activity; thus in contrast to the Saathane Square, there are not many people standing, watching around and getting into social contact. Also the superimposition of activity plots and local integration lines proves no significant correlation between static activity and integration values. Furthermore, visually most integrated areas don't correlate with axial lines and preferred spots for static activity. The visual fields of static activity and movement paths are similar to the Saathane square; movement lines have more global knowledge wider visual filed however static activity spots have smaller visual field with more local information.

Preferred spots for static activities and movement

static

moving

Visual Field Analysis

Evaluation

According to the analyses results shown above in the Saathane Square one can observe a better correspondence between qualitative and quantitative characteristics of the area i.e. the values of imageability and intelligibility might prove good correlation. However, in the Cumhuriyet Square, the results give a lower degree of correspondence between these values. As a typical characteristic of modern urban spaces, Cumhuriyet Square has a less integrated structure within the global system which causes a loss of intelligibility and imageability of the area. However, Saathane Square still holds its traditional well integrated core of structure, which satisfies a well defined and integrated urban structure in relation to the global system.

Another finding of this study is the relationship between movement lines, static activity spots and visual fields. It can be concluded that the preferred spots for static activities have a common characteristic of having a smaller area of vision but more information on local structure. However, activities related to movement require more information on the global system that is satisfied by wider areas of vision.