

Landscape as a factor of the city vertical dominants system formation

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Abstract – The influence of landscape on the vertical dominants system formation is described. The interrelation of landscape specifics with town-building composition, the influence of landscape on the visual perception of vertical dominants and on the compositional scheme of vertical dominants formation are investigated.

Key words – landscape, town-building composition, the vertical dominants system of city, terrain, water, visual perception.

I. Introduction

The problem of composition of the high-rise buildings disposition in the city structure is a very topical now, especially for the territories with historical and cultural values. We know the high speed of urbanization and globalization deforms the value system of town-building composition. That's why there is no system in modern vertical dominants location. It destroys the composition integrity of town area. It is important for Ukraine too, because the new period of urban development differs by dynamic processes of integration in the world tendency of high-rise construction.

Harmonious composition of natural landscape with urban area is one of the most important criteria for the integrity of town planning composition. That's why the research of the influence of landscape on the town-building composition and on the vertical dominants system formation is very important.

II. Landscape and the town-building composition

The town-building composition is forming corresponding to the esthetics of whole natural landscape and considering its separate elements esthetics properties. The esthetics perception of landscape is influenced mostly by such dominant elements as mountain peaks, line of hillsides, rivers or big waters, and more rarely by plantation. According to the layout configuration it may be local or single-point formation (stand-alone mountain peaks, grove), or lineary, lengthy formation which generate axes of landscape (mountain ranges, river valleys). Such elements often take part in the formation of urban area composition if they are situated on the territory of city. Under the other circumstances the landscape elements create nature background area and general framework of urban view [3]. The analysis of town landscape provides the ability to identify optimal compositional orientation, perception points of the general panoramas and prospects,

localization of separate visual fields, exposition and special aspects of territory illumination that is important while designing the vertical dominants system.

The compositional potential of landscape elements depends on its relative variability. Among landscape elements, which influence on the urban objects composition, plantation is the most variable, and terrains and waters are the most permanent elements [3].

The relief structure influence on the viewpoints location and view field. This viewpoints should be specified as valuable places of landscape, considering the specific of plantation systems, that are often in a contradiction with the town-building specific of the historical regions, with the conditions of its panoramas perception and listed buildings observation [5].

III. The influence of town landscape specifics on the visual perception of vertical dominants

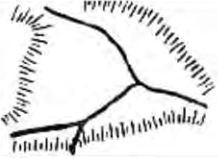
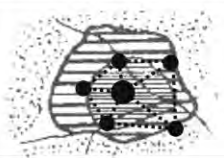
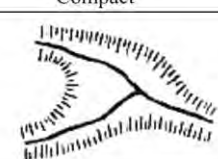

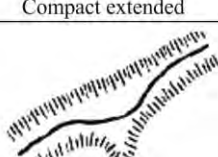
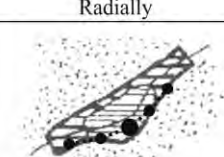
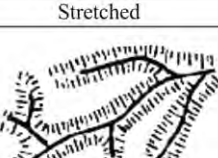
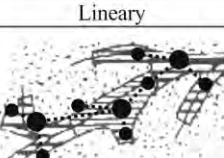
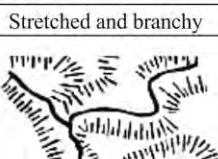
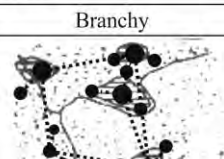
The mountain peaks, hills, high coasts has been playing an important role as active elements of the town-building composition since ancient times. The importance of these elements intensified by the vertical dominants dislocation on them. River valleys were acquiring the meaning of space and compositional axes in historically formed structure of city, the valleys of small water courses and ravines often were playing the role of the natural boundaries, which were amplified by defensive buildings, etc. Identification of these peculiarities is essential for understanding of those regularities of architectural and spatial composition which may be used as basis for its hereditarily development [5].

The visual perception of town image and its ambient environment depends on the landscape characteristics.

The visual city image at the plain areas is defined by views, prospects and panoramas, which are limited by the nearest for the looker streets development and squares fronts. The perception area of vertical dominants does not exceed 3.5-5km if its located on the axes of highways. The depth and width of these views are relatively small. The visibility area is rapidly increasing on the sloping terrain, for example, if the observation point is increasing only till 25 meters the perception distance of the dominant increases to 20 km. The dominants perception region is also increasing if terrain is challenging. In this situation it is necessary to consider physical conditions disclosure of observation objects, distance of clear visibility perception, conditions of the city image, etc [2].

IV. The The principle of nature-alignment between the vertical dominants system and the city landscape

The vertical dominants composition and the accents composition in the developing cities should be forming along the main spatial connections, which at the same time should coincide with the structural axes of relief forms. This principle is an important resource of organization of vertical dominants and accents network [1].

Type of the relief state, by V. Krohnius [2]	The most widespread compositional scheme of vertical dominants system, by author
	
Compact	Radially-circular
	
Compact extended	Radially
	
Stretched	Lineary
	
Stretched and branchy	Branchy
	
Insular	Multi-core

The graphical symbols





-  - the hill
-  - the vertical dominant
-  - the river
-  - the compositional connection

Fig. 1. The influence of the relief state type on the compositional scheme of vertical dominants system

The significant influence of landscape on the compositional scheme of the city vertical dominants formation was identified in a result of research. Figure 2 depicts the most widespread relief situations and corresponding compositional patterns of the cities vertical dominants systems.

The natural landscape components should influence on the composition of vertical dominants location according to two hierarchical levels: the first order vertical dominants take part in the general image of the city formation (panorama, silhouette), the second and the third-order vertical dominants take part in the internal city landscapes formation. The nature-aligned principle determines relief generalization, overlay leading communications on the specific reliefs directions axes (Fig. 2).

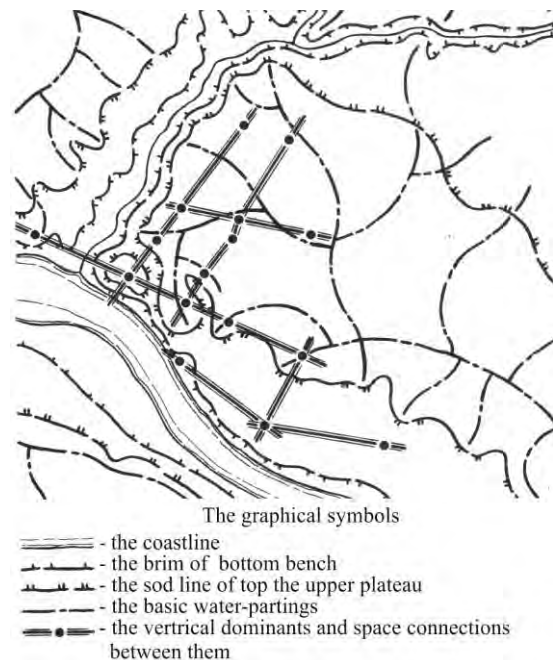


Fig. 2. The principle of nature-aligned forming of the vertical dominants system [1]

Conclusion

Landscape is a very important factor that influences on the urban composition and vertical dominants composition formation. The characteristics of landscape depends on the dominants location, on the spatial and compositional connections between them, on the zone of visual influence and on the compositional scheme of vertical dominants.

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