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Survey methodologies of urban land uses: An oddment of the past, or a gap in contemporary planning theory?

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ABSTRACT

The primary objective of this article is to review the evolution of urban land-use survey methodologies during the last century, with a special focus on the methodologies concerning eld surveys that are conducted for urban planning purposes. Our review reveals, on the one hand, that there has been a steep decrease of interest in the further development of these methodologies over the last 50 years, and, on the other, that they have been seriously trivialized, as shown by the simplistic and empirical approach to land-use survey methodology in contemporary textbooks. Next, the article explores three possible explanations of the contemporary situation: (a) there is no potential for further development of eld survey methodologies of urban land uses, (b) urban land uses are no longer signi cant to the analysis and planning of urban space, and (c) technologies, such as remote sensing and crowd-sourcing geo-platforms, have rendered eld surveys of urban land uses obsolete. The article concludes that none of the above explanations is true, thus there is an obvious gap in contemporary urban planning theory with regards to the survey methodology of urban land uses, and this omission has a strong negative impact on the potentialities of urban analysis.

1. Introduction

In the eld of urban planning, there is a strong tradition of survey

use of image-based classification techniques, fail to discern the precise nature and details of land uses, while crowd-sourcing geo-databases are still in their infancy and are hardly able to provide any useful insight into existing land-use patterns. Thus, despite these technological advances, field (on-site) inventory of land use continues to constitute the main surveying method for urban planning purposes.

7. Discussion

The starting point for this article was to study the evolution of urban land-use survey methodologies over time. The main findings of this research suggest the following situation: the most important literature on both the theoretical and the operational aspects of urban land-use survey methodology is found in textbooks of the 1960s, some of which are now hard to find. At the same time, contemporary urban planning literature does not adequately cover the relevant methodological framework, nor is it interested in further reviewing, updating, or evolving it, while the limited number of textbooks that include such references take a particularly simplified and empirical approach to the subject.

In the interest of understanding the reasons for the alienation of urban land-use survey methodology from the concerns of contemporary urban planning research, even when the latter does not fall into or emanate from a postmodern approach to planning, three possible explanations have been investigated: (a) no further possibilities exist for development of this methodological framework, (b) the allegedly reduced contribution of urban land uses to the understanding of urban space, and (c) the possible existence of alternative methods to field surveys of urban land uses. With regard to these positions, our analysis revealed that, first, there are significant potential research paths and considerable space for further development and refinement of key aspects of the methodology; second, international urban planning practice today is actually quite a strict land-use planning practice and as such is very much based on the recognition and analysis of existing land-use patterns; and, third, technological solutions, such as land-use databases produced with the use of image-based classification techniques and crowd-sourcing geo-databases, cannot, yet, be a substitute for a detailed field survey of urban land uses.

Based on the above findings, the article concludes that obviously there is a gap in contemporary land-use planning theory with regard to the field survey methodology of urban land uses. It is also important to note that this omission is a particularity of the field of land-use planning theory. For example, there is a respectable tradition and vivid ongoing research activity on remote sensing techniques in land-cover studies generally (see: Lillesand et al., 2015; Todd, 1978), as well as flourishing research on remote sensing techniques in urban land-cover mapping specifically (see: Huang, 2018). Furthermore, in the field of transportation planning there is a vast contemporary literature on survey methods and techniques (see: Allen et al., 2012; Richardson et al., 1995). Last but not least, there is a whole field explicitly focused on the development of a general survey theory (see: Fowler, 2014; Franklin, 2010), with which land-use planning theory has felt no need to engage.

While this article has not investigated the exact reasons for this omission, it is my belief that it is related to more extensive weaknesses of contemporary land-use planning theory. Alexandros Ph. Lagopoulos (2018b, p. 1), for example, states that the whole field of land-use planning is currently characterized by a relative lack of systematic analysis regarding the theoretical and technical aspects of planning, a neglect of methodology (including land-use survey methodology), and a lack of interest in clarifying key concepts. It is precisely this lack of proper methodological development in spatial theories that is perceived as the theory-practice gap (Alexander, 2016; Breheny, 1983) and needs to be addressed.

It is my aim, and the main underlying objective of this article, to bring this omission into the spotlight of academic research. This is not a desire emanating from a personal whim regarding the agenda, scope, and orientations of contemporary urban land-use planning theory. It is an aim based on a pragmatic viewpoint and related to the strong negative impact this omission has had on practice and, all the more, on the potential of land-use analysis, as documented by the particularly simplified and empirical approaches of contemporary textbooks to the issues of urban land-use survey. With regards to the potential of urban land-use analysis, the international literature (see: Browning, 1965; Harrison, 2006) explicitly notes that the development of a consistent and methodologically sound approach to the survey and classification of land uses:

(a) will improve the quality of data collected and will minimize the surveying time and the resources needed,
(b) will allow the inventory of land-use information in a detailed, very flexible database with a standardized coding, with numerous post-processing capabilities,
(c) will allow the easy periodic update of existing surveys and thus the production of new datasets in a fraction of the time that is needed to perform an all-new survey,
(d) will allow the easy access of individual researchers and planners to large amounts of detailed land-use data across the globe, and
(e) will allow comparisons among cities and, even more important, will allow time-series analysis of land-use data.

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