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## Toward a Science of Cities

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### Abstract

*Cities are increasingly at the center of global challenges related to climate change, social inequality, economic transformation, and technological innovation. The growing complexity of urban systems calls for new theoretical and methodological frameworks capable of integrating knowledge across traditionally separated disciplines. This article argues for the development of a coherent Science of Cities, understood as an interdisciplinary field that brings together urban planning, engineering, environmental sciences, social sciences, and education studies.*

*Starting from a critical analysis of the current state of urban research, the paper highlights the fragmentation of existing approaches and the limitations of sectorial perspectives in addressing contemporary urban problems. It then explores emerging issues related to sustainability, resilience, governance, and knowledge production in urban contexts, emphasizing the need for systemic and holistic models.*

*Rather than presenting empirical results, the article offers a conceptual reflection aimed at fostering dialogue among disciplines and encouraging the construction of shared analytical frameworks. The proposed perspective seeks to contribute to the advancement of urban studies by promoting integrative thinking and by outlining the foundations for a more unified scientific understanding of cities in the Mediterranean, European, and African contexts.*

**Keywords:** Science of Cities, urban studies, interdisciplinary research, sustainable cities, urban complexity, climate change, governance

## 1. INTRODUCTION

Anyone currently working on topics related to cities, territories, environments, and landscapes cannot help but be confronted with some ongoing processes of change that will increasingly affect living conditions in cities.

To better understand the considerations we will make, let's recall some of the most relevant ones:

1. The city is the place where most of humanity currently lives, and by 2050, the urban population will reach 70% of the total (9.8 billion), meaning there will be over 6.0 billion city dwellers.
2. This place takes on a wide variety of forms: from the small medieval villages that dot the heart of Europe, to the medium-large cities found throughout the world, to the vast megalopolises of Asia, Africa, and South America.
3. There is also a clear perception that certain global macro-phenomena are emerging—climate crisis, demographic disparity, urban inflation, economic inequality, artificial intelligence—destined to profoundly alter the structure and form of 21st-century cities.
4. For its part, urban planning now seems to have forgotten its original mission, the one for which it was born in the second half of the 19th century: to plan and design urban spaces in a way that responds to the needs, expectations, desires, and fears of their inhabitants.
5. These global phenomena and the glaring shortcomings of urban planning in urban governance are compounded by a failure to understand that the complexity of cities requires the contribution of multiple fields of knowledge alongside those traditionally associated with the city. That is, it is necessary to involve other fields of knowledge, diverse and interconnected: history, geography, sociology, economics, literature, archaeology, law, computer science, biology, medicine, and others.

These considerations are the starting point for broadening the scope of studies on the theme of the city and, at the same time, moving it beyond the confines of a specialist context to make it the subject of broader reflection.

## 2. THE CURRENT STATE OF THE ART

If this is the goal, the starting point can only be to take stock of the state of the art of the various disciplines with regard to 21st-century cities.

To put it in question: what are the current theories and methods with which the disciplines we believe should converge to form the most suitable scientific body for interpreting cities' structure and form?

This is the question we posed to scholars from various backgrounds, whose writings have yielded insights of extraordinary importance for pursuing the objectives of ensuring:

- that the fusion of multiple fields of knowledge leads to the construction of a Science of Cities as a place of research and training in theories and methods of knowledge, planning, design, construction, and management of cities that are capable of addressing the massive phenomena currently affecting the planet, their local impacts, and the specific situations that the local environment presents.
- that urban planning be regenerated, in the true sense of acquiring *peculiar and distinctive characteristics* that will once again make it responsive to the purpose for which it was created—to provide the tools to govern cities in the primary public interest—which seems long forgotten.

An initial assessment of the progress of this research path revealed a widespread awareness that we are in a phase of urban life that presents considerable difficulties in interpreting. Nevertheless, it is in this direction that numerous scientific fields are moving, addressing both the significant global phenomena currently underway and the specific situations present in different local contexts.

### 3. EMERGING ISSUES

Within this general framework of reference, the first emerging aspect is the *Climate change* and its impact on cities, a topic that has received specific attention from environmental economics — that is, the branch of economics that focuses its studies on the pervasive issue of environmental changes — suggesting that cities, in addition to mitigating the causes, primarily by limiting CO<sub>2</sub> levels, must also implement measures to adapt to the effects. This theme is in line with the 2019 European Green Deal, which directly addresses urban planning.

Next up is *Environmental engineering*, which focuses on the same topic, highlights one of the most serious problems affecting the landscapes of many countries: hydrogeological instability. This problem, in addition to ongoing climate crisis, stems from a historical disregard for the effects of land management based on widespread urbanization, intensive agriculture, deforestation, and the abandonment of mountain slopes. This observation leads to the emergence of so-called *sponge cities*, cities that absorb excess rainfall, because this is how true conditions of resilience are created.

A particularly serious aspect of this issue concerns cities that, due to climate change, are subject to periodic catastrophic events—floods, hurricanes, rising sea levels—which raise the question: should the city be rebuilt on its original site or relocated?

This is a question that already directly affects cities like New Orleans, Jakarta, and St. Louis, but which, albeit with different connotations, will eventually affect many other cities in many parts of the world.

Another emerging aspect concerns one of the crucial issues that are on humanity's table in this century, linked to the *Demography of the planet* and the *Economic disparities* between countries, regions and continents. The consequence of this condition can only be an epochal migration of people because, as has been said, *either the poor countries will become richer, or the poor will move to the rich countries* (Livi Bacci, 2015).

Therefore, we have to consider that already in the year 2000 the population of Africa (1.5 billion) was twice the size of Europe (745 million) and that by 2050 it was tripling (2.5 billion versus 703 million). This indicates in the unequivocal way that the European city is the main point of arrival of mass emigration, it is significant that it will increase the social disruption. As Bernardo Secchi wrote, *social inequalities are one of the most relevant aspects of what I call the “new urban question” and this is a significant cause of the crisis that the planet's major economies are experiencing today* (Secchi, 2013).

*Urban Geography* also has a careful vision of these phenomena, in particular of the processes of territorial organization and the emerging dynamics within the city: *on inequalities, on gentrification and the right to the city, on individual agency and on the practices of reappropriation of public space* (Secchi, 2013).

A further significant contribution comes from *Urban Archaeology*, which not only addresses the past of cities but also delves into the continuity of their life and proposes *a new idea of the relationship between archaeology and the city: an archaeology linked to urban planning, the construction of major works, and preventive protection* (Volpe, 2025).

Finally, it does so with a vision of *Urban aesthetics* that distances itself from a way of understanding it that distances it from culture and education in favor of *a strong but facile taste for amazement, for the wonder of the unusual, of the grandiose, of something beyond our reach*. (Todaro, 2025)

Urban aberrations such as *Dubai City*, the under-construction *The Line* in the Arabian desert, and the built-and-abandoned *Forest City* in Malaysia demonstrate how difficult the road ahead is to ensure that aesthetics continues to play its fundamental role in 21st-century cities.

#### **4. CONCLUSION**

In light of what has been said so far, what can we say about the idea of building a Science of Cities as a place of research and higher education characterized by the presence and fusion of multiple and diverse fields of knowledge?

We can say that we must continue this journey with awareness and caution.

Awareness of the fact that we have achieved consensus across many disciplines, which, on the one hand, has confirmed the correctness of the idea from which we began and the project we have implemented; on the other, it has created an initial group of scholars with whom to work on further refinements of the proposal.

Caution, given that the concrete implementation of the project requires an agreement with a university institution that formally places it within its structure, granting it legal legitimacy.

At what level? The final stage must be a *School of Higher Education*, but the possibility of moving through an experimental phase with the launch of a second-level Master's program could be considered.

The current phase of the activity of the School *La Fenice Urbana* and the Magazine of the same name is dedicated to perfecting these further steps.

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