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ScuDo

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U R D

PhD in Urban and Regional Development
IN VARIETATE CONCORDIA

Doctoral Dissertation
Doctoral Program in Urban and Regional Development (35th Cycle)

Designing coexistence

European strategies to plan and design biodiverse urban landscapes

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Summary

Most of the human population lives in cities. Due to growing anthropic pressure, urbanisation has become the main cause of worldwide environmental damages. Hence, cities emerge as key places to face the main contemporary challenges, such as habitat fragmentation and biodiversity loss.

The research aims at understanding how design might enhance or trigger the mechanisms regulating the development of urban ecologies in order to implement biodiversity. Since biological diversity can be understood on different levels (genetic, species, and ecosystem), a multi-scale approach has been applied, exploring the contribution of both landscape planning and landscape architecture, and their mutual relationships.

Focusing on the European geographical context and considering the Rio Convention on Biological Diversity (1992) as timescale and founding act of a new environmental consciousness, the dissertation starts with the understanding of the city as an ecosystem. Urban environment is described as a place of colonisation for many living entities, where peculiar ecologies, as well as general patterns of biodiversity distribution, and species adaptation strategies can be recognised. The doctoral thesis therefore discusses the relationship between planning strategies/compositional arrangements and the heterogeneity and quality of urban open spaces, in terms of biodiversity.

In addition to issues related to design and urban ecology, the research identified further themes linked to the nature-culture dualism and the complex relations between humans and other-than-human species, manifestations of the anthropocentric attitude typical of the Western world. Scholars, in fact, agree that one of the major challenges in preserving biodiversity is to balance the needs of humans and non-humans, as well as to address the competition of interests

between established aesthetic canons, use of the space, and environmental conservation.

The final goal of the research is to provide an inventory of possible criteria and strategies to support landscape planning and landscape architecture in the design of open spaces that are attractive to both the public and other-than-humans. To this end, a critical review of biodiversity-aimed plans and landscape architecture projects has been developed in five European cities: Amsterdam, Berlin, Lisbon, Paris, and Sheffield.

Strategic plans have been investigated as to highlight recurring objectives, operational capacity to inform projects, and different approaches applied according to the diverse socio-political contexts and distinct experiences in urban ecology and planning.

For each city, four landscape architecture projects belonging to different categories (residential/corporate open spaces, parks mainly intended for passive recreation, parks with a rich functional programme, and waterfronts) have been analysed in terms of ecological connections with their surroundings, spatial composition, biodiversity-aimed strategies, and links with the local biodiversity plan.

The focus on European case studies stems from the consideration that urban planning and landscape design tradition in Central and Northern Europe was long informed by environmental sensitivity. Such history has supported a broad integration and development of ecological issues in policies, both at the EU and national level. This approach, applied in the planning and management of cities, has fostered the consolidation of ecological awareness in the population, the formation of environmental movements, and the active participation of local communities in the management of the open spaces.

The doctoral dissertation advocates that the conscious attitude that characterises many European cities may become a reference for other geographical areas, where successful strategies can be integrated and calibrated to the specific context.

Keywords: *biodiversity-aimed design strategies, biodiversity-friendly landscape design, ecological planning, species coexistence, urban ecosystems*