

# FROM SOCIOBIOLOGY TO URBAN METABOLISM

## LANDSCAPE DESIGN, ECOLOGY AND ENGINEERING IN BELGIUM (1900-2016)

► **Koenraad Danneels**  
Supervisors: Bruno Notteboom and Greet De Block  
University of Antwerp  
Faculty of Design Sciences

### ► RESEARCH INFORMATION

#### KEYWORDS

Landscape Urbanism, Urban Ecosystem, Metabolism, Sociobiology, Belgium.

#### INTRODUCTION / CONTEXT

Landscape design plays an increasingly important role in ecological development and infrastructure planning, leading to a **disciplinary realignment between landscape designers and ecologists**. Current research and design proposals in Belgium tie in with international trends in design, based on a balance between 'the urban' and 'the natural' and the potential of landscape design to act as an integrative instrument for several disciplines and experts. However, this transdisciplinarity, that culminates in new scientific fields like landscape urbanism and ecological urbanism, often remain highly technical, thus influencing the socio-political spectrum, but also leaving it out of the equation.

#### QUESTION / GOAL

This research tries to mobilize a **historical understanding of the role of landscape design** in relation to: (1) a complex field of knowledge production, policy making and planning and (2) shifting conceptions of city and nature in Belgium since the early 20th century. Such a research adds academic and historical profundity to current design discourse, and it contributes to recent developments in urban history. I will look at the field of landscape design and biology/ecology in Belgium to explore these shifting alliances between designers, scientists and policy makers.

#### HYPOTHESIS / METHODOLOGY

The focus will be on two case studies. The first case (1900-1929) is about the biologist **Jean Massart** and landscape designer **Louis Van der Swaelmen**. The latter developed an 'ethological' view on landscape design and a '**sociobiologist theory on urban planning**'. Massart, as an early evolutionist, had contact with Van der Swaelmen, and his work influenced the designs that Van der Swaelmen made. The second case (1970-2016) is about **Paul Duvigneaud** and the **Brussels Agglomeration**. Duvigneaud developed the scientific field of **Urban Ecology** with his publications on the '**Ecosystème Urbs**'. His political actions and scientific influence translated his theories into the planning and design practices of the Brussels Agglomeration. The methodology will consist of a network, discourse and design analysis on the different cases. The main resources will be archival documents and published sources, although for the second case also interviews will be used.

#### RESULTS

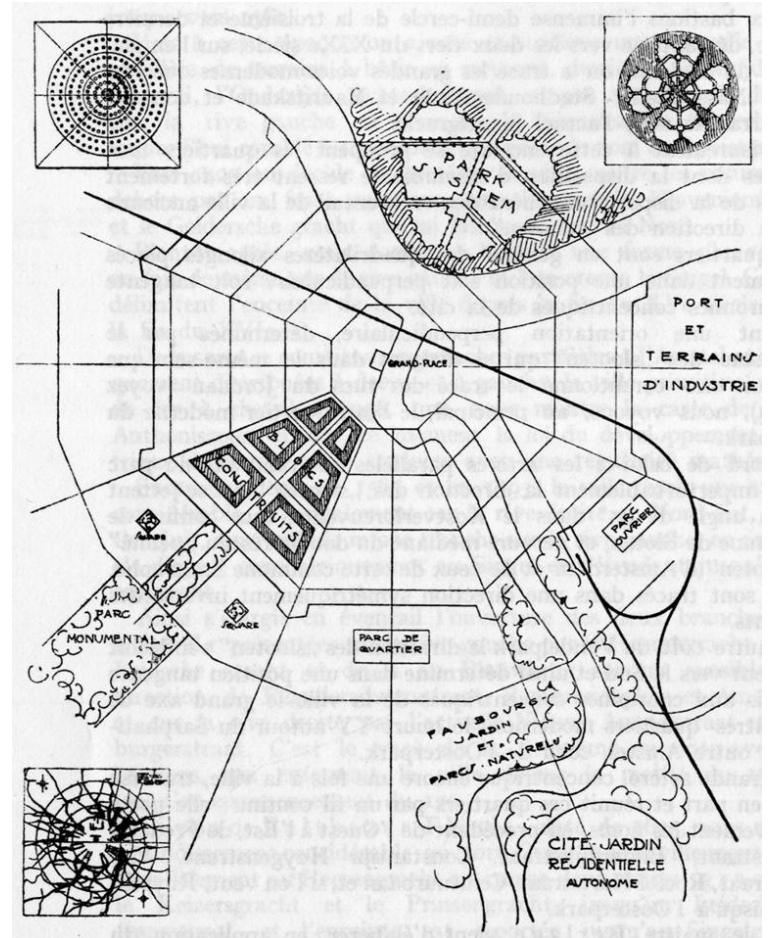
The result will be a thorough understanding of the networks scientists, designers and planners where in and how scientific concepts and knowledge, and thus certain ideologies and visions migrated from one field into the other. As such, it offers a new perspective on on-going academic discussions, in both urban history and urban (landscape) design. The **research develops a new methodological approach by charting transformations in landscape and urban design through its shifting relations with other disciplines**. The final end product of the research will be a PhD-thesis that links together the case studies, and builds a history of 20<sup>th</sup> century (ecological) landscape design in Belgium.

#### CONCLUSION

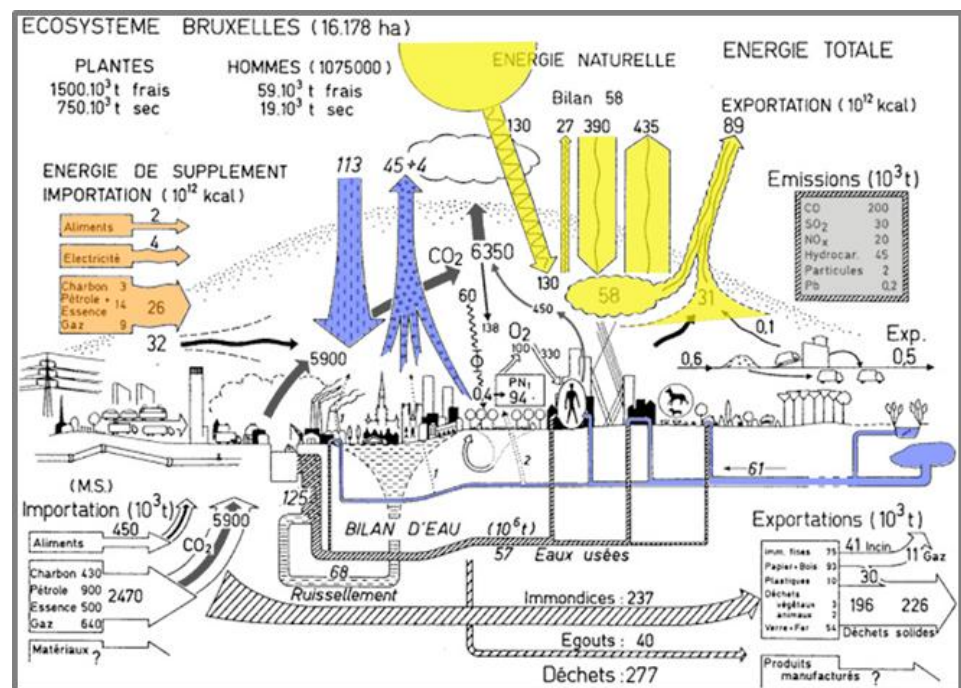
Although the research is still in a tentative phase, recent findings already show that in both cases, **political and ideological motivations played a major part in the production, transposition and migration of the actors' (scientific) knowledge**. By offering a close reading of the historical discourses, the study demonstrates that it is necessary to introduce ideological, sociocultural and aesthetical perspectives in today's -often technical- discussions on ecological design. This '**history of the present**' has the ambition to **contribute to discussions on landscape design and urban planning**, and can be used in the today's articulation of theory and practice.

### ► CONTACT

Koenraad Danneels  
koenraad.danneels@uantwerpen.be  
University of Antwerp  
Faculty of Design Sciences



► Fig. 1: Ideal scheme for a concentric city (Louis Van der Swaelmen, *Préliminaires d'Art Civique*, 1916).



► Fig. 2: Brussels Metabolism (Paul Duvigneaud, *Ecosystème Urbs*, 1974).