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'Nature's offensive': The sociobiological theory and practice of Louis Van der Swaelmen

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Abstract

During and after the First World War, Belgian landscape architect and planner Louis Van der Swaelmen attempted to develop a 'sociobiological' theory and practice of landscape architecture, urbanism and urbanization. Both in his writings and designs he combined biological approaches with sociopolitical concerns. In this article, I will focus on the ambitions and ambiguities of this approach. First, a history of ideas will show how the sociobiological theory of Van der Swaelmen was the outcome of an intermingling of the science of ethology and landscape theory. This trajectory culminated in the book *Préliminaires d'art civique*, in which he created a theory of urbanism based on the idea of urbanization as a process following biological laws, and an urban design approach based on geographical and geobotanical knowledge. The second part of the article will trace the translation of these ideas into the design (process) of the garden suburbs Le Logis and Floréal and will further question the use of a biological approach in urbanism, offering a critical reflection on today's (lack of) sociopolitical questions in ecological urbanism.

Ecological urbanism / garden cities / sociobiology /
ethology / Belgium

Introduction

Le Logis and Floréal are connected garden suburbs on the south-eastern fringe of the Brussels region in Belgium, with landscape and urban plan designed by landscape architect and planner Louis Van der Swaelmen. The suburb was constructed in the 1920s as part of a broader movement of cooperative social housing construction in Belgium during the post-First World War period.¹ It was one of the testing sites of Louis Van der Swaelmen's sociobiological theory of urbanism, an intellectual endeavour in which he incorporated reflections on the geographical and biological nature of urbanization processes.² In a commemorative book on Van der Swaelmen by his peers, the project of creating these garden cities as a new urbanization programme was called 'nature's offensive', aptly summarizing the activist and biologically informed nature of his work.³

Van der Swaelmen claimed to base his landscape designs on the natural physiology of the regional landscape, an approach that corresponds with his theoretical writings, in which he declared that 'the geographical status' determined the growth of the city.⁴ The importance of vegetation and topography in the design of both suburbs resonates with today's rise of the field of ecological urbanism, in which urban 'form "emerges" as an extrusion of the patterns and textures "naturally" delineated on site'.⁵ Authors like Greet De Block and Ross Exo Adams argue that this practice is a new paradigm starting to unfold in the field of landscape and ecological urbanism today, where ecological qualities are the main instigators of design practices, but "'grand ideas" about society with related spatial ideologies are lacking'.⁶ In this article, I claim that the intermingling of biological sciences, landscape architecture and urbanism is not new, nor is the notion of biology as having a normative agency in urbanism and planning. In the history of urbanism and landscape architecture, bio-

logical-foundational logics often went hand in hand with a political and social imaginary. Louis Van der Swaelmen (1883–1929), one of the founding fathers of the discipline of urbanism in Belgium, is an example of a designer who worked towards such a dual approach. Van der Swaelmen was a landscape architect who became a leading urban planner and theoretician during and after the First World War.⁷ He considered the reconstruction of Belgium as one of the key questions of his generation, aimed at alleviating the housing shortage and rethinking the spatial condition of the Belgian territory. He combined biological theory, design knowledge and sociopolitical concerns in both his writings and his designs. By analysing this sociobiological approach, I want to show how landscape architectural design theory and practice based on a naturalizing approach also had societal and political goals. However, this mix of sociopolitical questions and biological theory was not clear-cut, and in the design of Le Logis and Floréal the biological seems to relapse into an aesthetic, while the sociopolitical emancipatory role of the suburbs is confined to the cooperative housing project that was already present before the act of designing. Existing historical research on the development of the discipline of urbanism during the First World War focuses mostly on the national and international context in which garden cities were established in Belgium.⁸ This article, however, specifically zooms in on the legacy of the sociobiological approach in Van der Swaelmen's work, mobilizing his story as a Foucauldian 'history of the present' that can critically engage with today's ecological design sciences.⁹

Consisting of two parts, this article will first reconstruct a history of ideas that will show how the development of landscape architecture and urbanism in Van der Swaelmen's work was founded on a scientific attitude and a biological theorization, in conjunction with ideas on collective ownership and sociopolitical emancipation, what I call his sociobiological urbanism theory. The concept of *sociobiology* used by Van der Swaelmen is, however, not an early form of the controversial evolutionary branch of biological science developed by Edward O. Wilson on human behaviour in the 1970s, nor is *ethology* the discipline concerned with animal behaviour developed in the 1930s.¹⁰ Here, *ethology* is the 'scientific attitude' developed at the end of the nineteenth century, a 'science dealing with the habits of living beings and their relations, both with each other and with the cosmic environment'.¹¹ This sort of proto-ecology is central to the development of Van der Swaelmen's sociobiological theory. In the second part, the focus shifts from theoretical writings to practical design. The garden suburbs of Le Logis and Floréal are explored to see how his ideas about biology and urbanism were translated into design, showing how this resulted in ambiguous design solutions for a sociobiological urbanism.

The 'sociobiology of cities':

The development of a theory of urbanism

Van der Swaelmen's ideas can best be read in the multitude of texts that he wrote both on landscape theory and on urbanism and spatial planning. He was a prolific writer with many connections in architecture and landscape architecture circles and was active in—often theoretical—debates about gardens, landscapes and cities. In his theoretical work, Van der Swaelmen

questioned the contemporary disconnection of the spatial layout of the territory from modern society, stating that the 'historical growth of the city' was 'opposed' to the 'functioning of the modern city', resulting in 'conflicts'.¹² He therefore proposed to ground landscape architecture and urbanism back into the natural landscape, ideas that were backed up with biological theories derived from ethology and geobotany.

Although Van der Swaelmen would become one of the forerunners of the modern movement in Belgium, before the war, his practice was that of a *paysagiste* mainly concerned with the aesthetics of *l'art des jardins*, paired with a strong interest in the functionality of gardens, an interest that was channelled into the Belgian association *Le Nouveau Jardin Pittoresque*.¹³ The historian Bruno Notteboom has demonstrated that in its early years, this association targeted the popularization of 'garden art and gardening amongst the working class', and Louis Van der Swaelmen was explicitly one of the members who championed the 'social role of the garden'.¹⁴ The new picturesque garden was a 'natural', 'wild' garden interpreted by Van der Swaelmen as a regularized picturesque garden where architectural, rectangular elements were combined with wild elements.¹⁵ These aesthetic choices show that Van der Swaelmen saw the garden as a connector between architecture and the surrounding landscape, which meant that it had to be embedded in the 'physiognomy of the landscape' and to be grounded in the 'biological associations' of a region, ideas that reappeared in his work on urbanism.¹⁶

These scientific concepts were borrowed from the biological sciences of that period, mainly early ethological research, of which geobotany—a science linking geography to the growth of plants—was a part. Ethology as a 'scientific attitude' originated in a reaction against laboratory-based biological sciences in the nineteenth century, criticizing the 'excesses of late nineteenth-century laboratory culture' and stressing that biology was incomplete without 'ethological observations in nature itself'.¹⁷ Historian Raf De Bont defines ethology not as a unified scientific theory, but a field of research centred on the influence that the environment has on organisms, linking morphology and physiology, since 'the analysis of the effects of the milieu on living beings would automatically involve both form and function'.¹⁸ Van der Swaelmen's ideas were inspired by this French school of biology, and he was even associated with one of its main Belgian practitioners, Jean Massart (1965–1925). This (geo)botanist and participant in the ethological network was linked to both *Le Nouveau Jardin Pittoresque* and 'the Friends of the Sonian Forest', two associations of which Van der Swaelmen was part. Massart studied the influence of the natural milieu (geology, climate, phenology, etc.) on plant distribution in Belgium, making him a precursor of plant ecology.¹⁹ However, he also incorporated the influence of human intervention, effectively studying natural and cultural landscapes.²⁰ In his work, he delineated thirteen geobotanical districts, thereby showing the diversity of landscapes present in Belgium, which he further documented with photographic material.²¹ In a book on the maintenance of the Sonian Forest, Van der Swaelmen refers to the characteristics of the geobotanical districts of Belgium by Massart, as for him these offered a practical tool for landscape architects to effectively delineate the way in which their designs could be based on the physiognomy of a region.²²

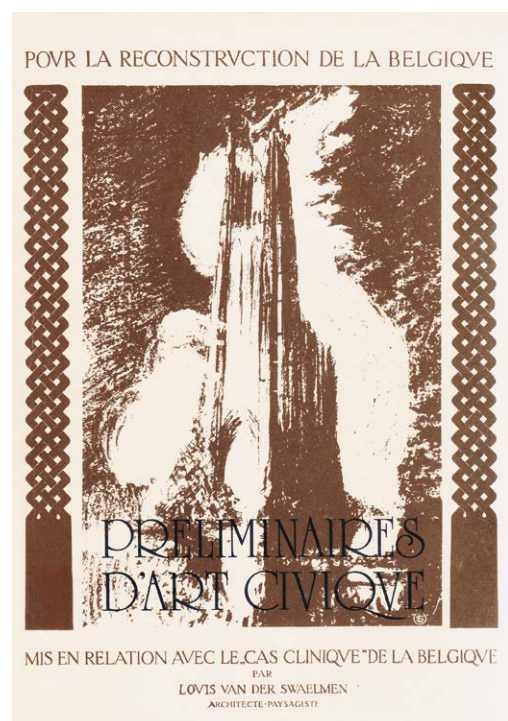


Figure 1 Cover of *Préliminaires d'Art Civique*.

After the start of the First World War, Van der Swaelmen fled to the Netherlands. During this exile period, he wrote *Préliminaires d'Art Civique*, *mis en relation avec le cas clinique de la Belgique* (Preliminaries of civic art, in relation to the clinical case of Belgium), in which he developed a theory of urbanism that could serve as a handbook for a future planning policy (Fig. 1). The 'clinical case' referred both to the dire situation in his devastated country, as well as the problem of urbanism and urbanization ignited by the Industrial Revolution. In *Préliminaires* he used the H.V. Lancaster survey method—derived from the work of Patrick Geddes—as a practical blueprint to analyse the Belgian territory and formulate an agenda for future planning policy.²³

Building a framework to understand the growth of the city was the central goal of this book: 'We believe that we have realized our task if... we succeeded in defining... the notion of the *biology* of the city.'²⁴ He referred to evolutionary theory by citing Charles Darwin, Jean-Baptiste Lamarck and Hugo De Vries and their ideas about transformism and mutations, stating that everything evolved into an 'ideal' state in the 'etymological sense of the word', stressing the fact that evolution tended towards a most suitable, fit state rather than a utopia.²⁵ The observations in the book were literally 'biological': the notion of the city was dissected anatomically and physiologically. He even developed a diagram of an 'organism-city', delineating the different functional elements of its 'organs' (Fig. 2).²⁶ The road and railway system functioned as veins constituting a vast circulatory system, assuring communication between the centre and the other parts of the organism, while open spaces were the 'lungs' of the city.²⁷ The concept of the 'organism-city' was extended by a reflection of the influence of geographical factors on the growth of that city. He stated that the fundamental organizing principal was the 'horizontalité of the terrain', the 'water regime', and the 'draining system of the soil'. The 'geographical status' would put it's

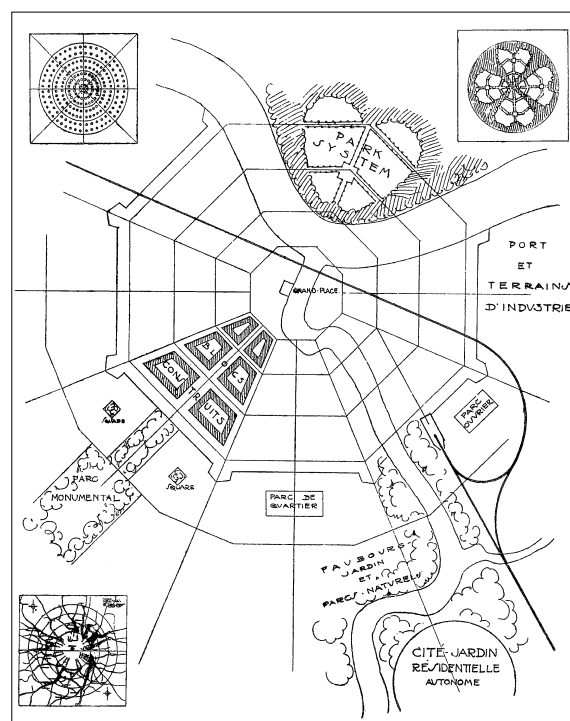


Figure 2 The concentric city as an organism in *Préliminaires d'Art Civique*.

'indelible imprint on the future physiognomy of the city' and 'inevitably determine the internal law of its future development'.²⁸ Therefore, the conditioning of the urban fabric made Van der Swaelmen believe in a sort of 'absolute determinism' of the laws of nature.²⁹ The origins of these ideas are not explicitly mentioned in *Préliminaires*, but in some notes on urbanism in his archive he linked this absolute determinism to Félix Le Dantec, whose 'biological theorem... should be applied to the city'.³⁰ André De Ridder, a friend of Van der Swaelmen, even wrote that Van der Swaelmen 'loved and followed Le Dantec with much conviction'.³¹ Le Dantec was a philosopher of science who favoured a distinctively mechanical comprehension of natural processes.³² His world view assumed that the environment was the key influencer in biological evolution theory: the organism was a 'a passive object modelled from the outside'.³³ The individual could therefore never be understood outside of his or her milieu, ideas that resonate in Van der Swaelmen's book.³⁴ Besides this biological concept of urban growth and the environmental determinism on the layout of the city, Van der Swaelmen again used the work of ethologist and geobotanist Jean Massart in *Préliminaires* to detect the content of the 'physionomical character' of the territory (Fig. 3).³⁵

The biological and geographical framework appeared in conjunction with ideas on society and mankind. Although Van der Swaelmen was not directly politically active, he did have strong opinions on some major societal issues and tried to shape Belgium's housing policy; he was also well connected with the socialist politicians who were responsible for it. A crucial moment in the development of his ideas on the relationship between form and function, as well as design and society, was the influence of Hendrik Petrus Berlage, just before and during his exile in the Netherlands.³⁶ The ideas about a reconnection of art with society central to Berlage's discourse can indeed be coupled to Van der Swaelmen's earlier ideas about the useful and the beautiful.³⁷ Architecture, following Berlage, has always been



Figure 3 The geobotanical map of Belgium, by Jean Massart in *Esquisse de la géographie botanique de la Belgique*

a 'translation' of society's structure, and this meant that the proletarian dominance at the turn of the century should be translated into design. Van der Swaelmen transposed Berlage's discourse into his view on urbanism, expressing his hope for the rise of 'a new democratic society of tomorrow' that would see the ascent of a 'new era of urbanisation' after the disappearance of the 'pseudo-democratic society' that had manifested itself in the 'horror of contemporary capitals'.³⁸ Despite this rhetoric, Van der Swaelmen was a reformist rather than a political revolutionary, an attitude that was common among urban designers in Belgian planning history.³⁹ He did not believe in complete equality in the city and highlighted the fact that developed cities would always have social zoning.⁴⁰ In his schemes for an 'organism-city', the *parcs ouvriers* (workers' parks) grew alongside monumental parks, and with this growth people moved from unhealthy city centres towards 'luxurious, bourgeois, popular and workers' neighborhoods', thus naturalizing social segregation in the city.⁴¹ Van der Swaelmen, however, also saw the urban environment as a generator of public services: he stated that everyone should benefit from the fruits of the functioning of the city and its—'often gigantic and expensive'—collective arrangements.⁴²

Van der Swaelmen's discourse on a democratic society and collective arrangements show an interest in defining a new urban project that borrowed from landscape practice and architecture theory, while also mobilizing a biological framework. But these biological influences also caused a naturalization of social differences, perhaps unwittingly defending the capitalist nature of urbanization. Most notably, however, through his engagement in national conferences in the post-war period, he actively contributed to the emergence of housing policy that focused on the support of cooperatives in creating dwellings through the design of garden cities as a solution for the housing crisis, actively challenging private homeownership.⁴³

'Nature's offensive':

The practice of the garden suburbs of Le Logis and Floréal

The end of the First World War gave Van der Swaelmen the opportunity to put his sociobiological theory into practice by designing the urban plans for some garden cities near Brussels.⁴⁴ This translation from theory into practice proved to be an ambiguous endeavour, resulting in design solutions that remain a hybrid between biological discourses and organic shapes, formal landscape design and social structure.

The construction of different garden cities in the Belgian context was institutionally supported by the Société Nationale des Habitations à Bon Marché (National Society for Cheap Housing), which was founded in 1919 to alleviate the post-war housing crisis.⁴⁵ The establishment of the National Society was a policy move by the Belgian government of 'national union', consisting of catholic, liberal and socialist parties. Due to the influence of modernist architects in this socialist-led organization, the policy would be geared towards the construction of housing in collective ownership rather than private property.⁴⁶ The garden city became the National Society's preferred urban typology with which to build collective housing projects.⁴⁷ In *Préliminaires*, Van der Swaelmen had already defined what a garden city would be in the Belgian context: a 'garden-suburb' as an 'ultra-modern and rational peripheral housing suburb' that was connected to a city through open spaces and parks.⁴⁸ His idea of the garden city was different from the English prototype, because it was not an autonomous city, as it would be connected to existing urban centres. The garden suburb, therefore, was an ideal vehicle for the growth of the city, rather than a complete replanning of the existing historical centres.⁴⁹

The National Society heavily subsidized cooperatives by giving them cheap loans and covering parts of the costs, therefore making it very attractive for citizens to establish cooperatives and collectively build their own housing.⁵⁰ It is in the context of these favourable conditions that on 3 October 1921 the cooperative society Le Logis was founded by employees of the

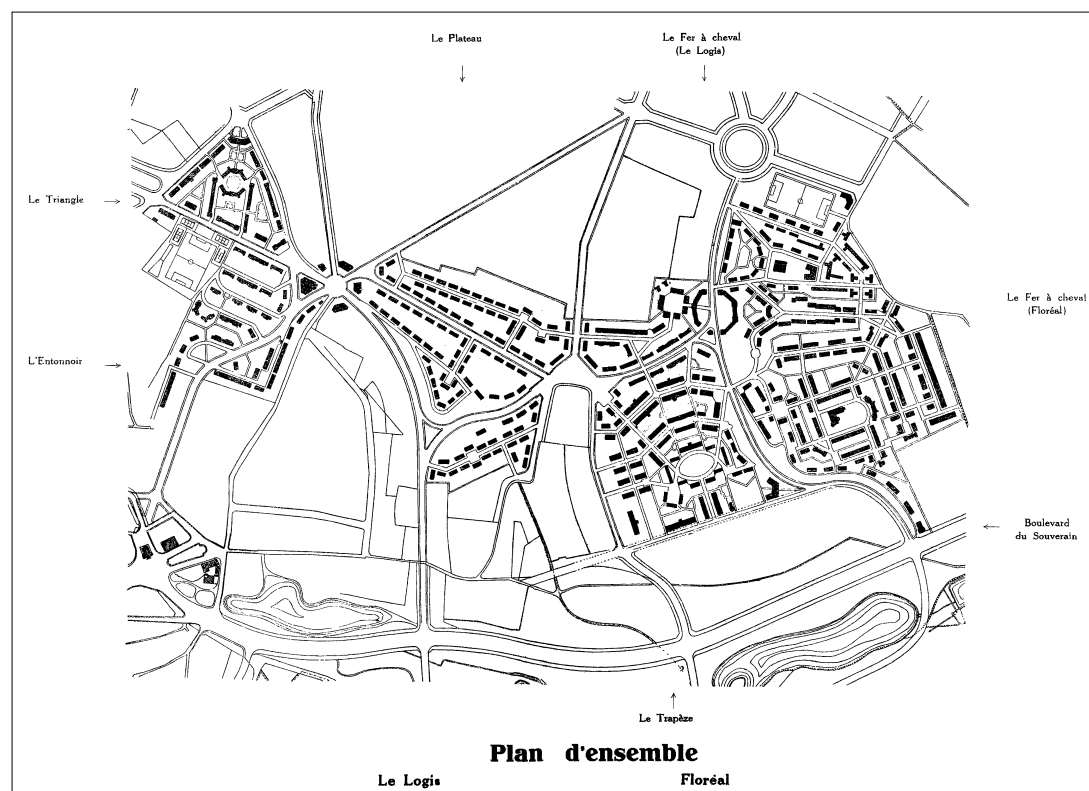


Figure 4 Map of Le Logis and Floréal, by Louis Van der Swaelmen.

Caisse d'Épargne, a savings bank. On 30 March 1922, workers from the newspaper *Le Peuple* founded Floréal, another cooperative society.⁵¹ Both cooperatives asked Jean-Jules Eggericx—an architect who lived in England during the First World War and was inspired by the English garden cities—to be the head architect of their soon-to-be neighbourhoods, as he was connected to the National Society for Cheap Housing. Eggericx asked Louis Van der Swaelmen to be the leading planner and landscape architect for both projects.⁵²

Both Le Logis and Floréal bought pieces of land on the plateau of Watermael-Boitsfort, to the southeast of Brussels, situated on the slopes of the Woluwe River and the Watermael Brook, with a view of the nearby Sonian Forest. This natural landscape was the ideal place for Van der Swaelmen to start testing his urban theories, although he also remained attached to the rules of his landscape practice by alternating organic forms with formal (straight) lines in the road pattern (Fig. 4). The Le Logis and Floréal sites were adjacent to each other, so the urban layout drawn out by Van der Swaelmen was conceptualized as a single project.⁵³ His working method was unusual: he thought that the activity of the planner should be 'principally carried out on the terrain', rather than at the drawing table so he 'walked over the terrain in all directions', trying to physically get a grip on the environment.⁵⁴ The 'physiognomy' of the terrain was a key concept in this design exercise, despite the fact that the 'commanding' determinism of geographical factors was more flexible than one would expect from his theoretical writings: Van der Swaelmen stated that the pronounced topography of Floréal restricted all 'fantasy' for the designer, 'dictating' the road network, giving a negative connotation to a situation in which he couldn't act freely as a designer.⁵⁵ The sinuous relief of Le Logis lent itself better to

test his sociobiological designs, and was therefore more geometric in style. The more pronounced topography of Floréal, on the other hand, resulted in a road network that had a 'spontaneous, picturesque' appearance (Figs. 7 & 8).⁵⁶ Sociobiological urbanism in practice seemed to be a mix of environmental determinism and the formalist intentions of the designer. Van der Swaelmen accentuated the terrain using 'gravity centres', central points (crossings, squares) that were chosen by their topographical location and landscape views.⁵⁷ The most telling of these central nodes is underscored with a building called the Fer-a-Cheval, a symmetrical housing block that can easily be recognized from afar, which creates a sort of unity and gives a monumentality to the whole neighbourhood (Fig. 5). Both the accentuation of the terrain by introducing monumentality and the embedding of the suburb in the landscape are strategies corresponding with Van der Swaelmen's quest to stage a new kind of collectivist city, while also answering his belief in a science-based, biologically grown and geographically inspired design language.

The ambiguity of Van der Swaelmen's biological determinism can also be discerned in his use of vegetation, which was an important tool to create his garden suburbs. His interest in vegetation was compatible with his ideas about geobotany. However, he also considered vegetation to be a formal element with which to give a sense of communality and unity to the whole suburb. Planting therefore had both a functional and aesthetic role: it embedded the suburbs in the landscape, while also giving it a sense of unity, legibility and structure.⁵⁸ By choosing different plants for different kind of roads, vegetation set up a hierarchy for the road network. Large trees would take key positions at the entrances of both Le Logis and Floréal, and smaller trees aligned the lanes (Fig. 6). Italian poplars were used along the



Figure 5 The Fer-à-Cheval.

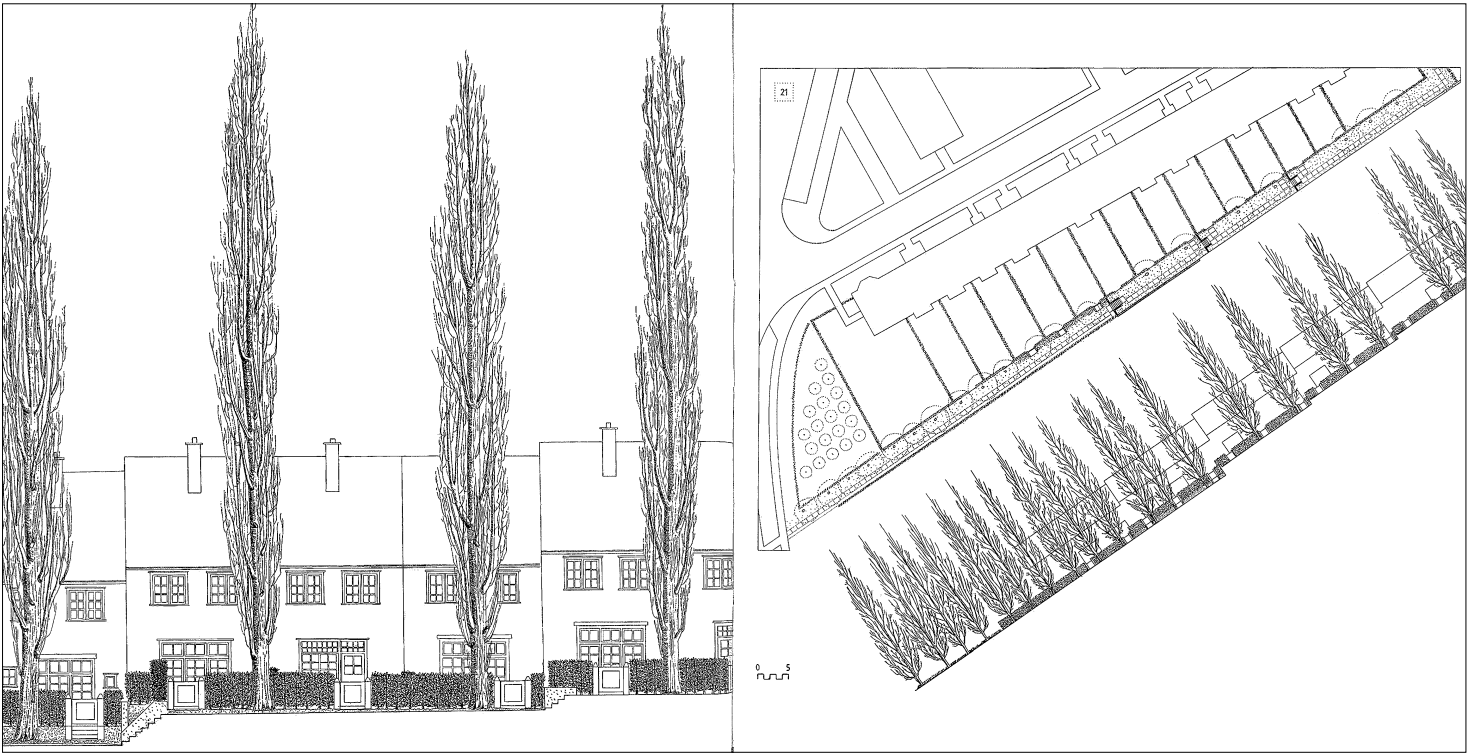


Figure 6 Cedars delineating the borders of Le Logis. Drawings by students.
Le Jardin dans la Cité, Questions, 1993



Figure 7 View of Floréal, embedded in the downward slope.

pedestrian alleyways.⁵⁹ This vegetal structure made the garden suburbs a transition area between the city and the Sonian Forest. In a study on the vegetation in both garden cities done in 2003, Jean-Mary Bailly and Christian Duchâteau pointed out that this structure was also mobilized to avoid any ruptures in the landscape. Vegetation was used to even out or accentuate the topography.⁶⁰ In the front gardens, the use of unified vegetation would smooth away any clear sign of privatized housing. The rear gardens were delineated by green hedges, but again the uniformity of these hedges gives the gardens a uniform look. Van der Swaelmen thus actively used vegetation to 'unify and homogenise' the suburb, emanating the solidarity among the inhabitants and translating socialist ideology into the built environment. In a notice on the 'principles' of Le Logis, Eggericx summarized the logics that Van der Swaelmen and he used in the design of both suburbs: the leading principles were 'unity, simplicity and serenity'. The healthy marriage between vegetation and architecture meant that the characteristics of the region would be retained: a 'new landscape' was created by 'integration in the framework of the Sonian forest'. He further added that the suburb should 'not hurt, but base' itself in the landscape.⁶¹ Native trees were preferably used, except for trees that have a beautiful 'effect in early spring', again indicating the freedom of the designer.

The garden suburb of the Woluwe: Large-scale 'organical' urbanization

In addition to these specificities of urban form and vegetation in the garden suburbs, Van der Swaelmen also situated their development in a more regional approach, based on an extensive system of greened infrastructure. On some maps found in his archive, he envisioned a green structure of garden cities around Brussels, interconnected with rail- and parkways. Geoffrey Grulois demonstrated how Van der Swaelmen, who during the war foregrounded the perfect radio-concentric urbanization form of Dutch cities like Amsterdam, made his peace with the 'tentacular' urbanization process in Belgium.⁶² He saw his designs as a 'methodical extension of the city, an organical urbanisation' that would create a real 'park-system' connected by planted lanes.⁶³ This interrelated and continuous landscape city was connected to its mother city via a public transport system of trains and trams, which he considered to be the 'physiological skeleton' of suburbs.⁶⁴ The wide lanes that were established on the territory of Le Logis-Floréal before the garden suburbs were built were ideal for the establishment of these 'organic communications' between the central nodes of the area, as there the width was sufficient to install roads or tracks.⁶⁵ On some maps, the 'garden-suburb of the Woluwe' was interconnected via lanes and connected to the inner city of Brussels by a district railway (Fig. 9).⁶⁶ The Woluwe valley, where Le Logis-Floréal and many other garden cities designed by Van der Swaelmen were situated, therefore served as the 'embryo' of Van der Swaelmen's urbanization programme, in which the biological growth of the urban fabric based on his sociobiological approach would unroll itself.⁶⁷



Figure 8
View of Floréal.

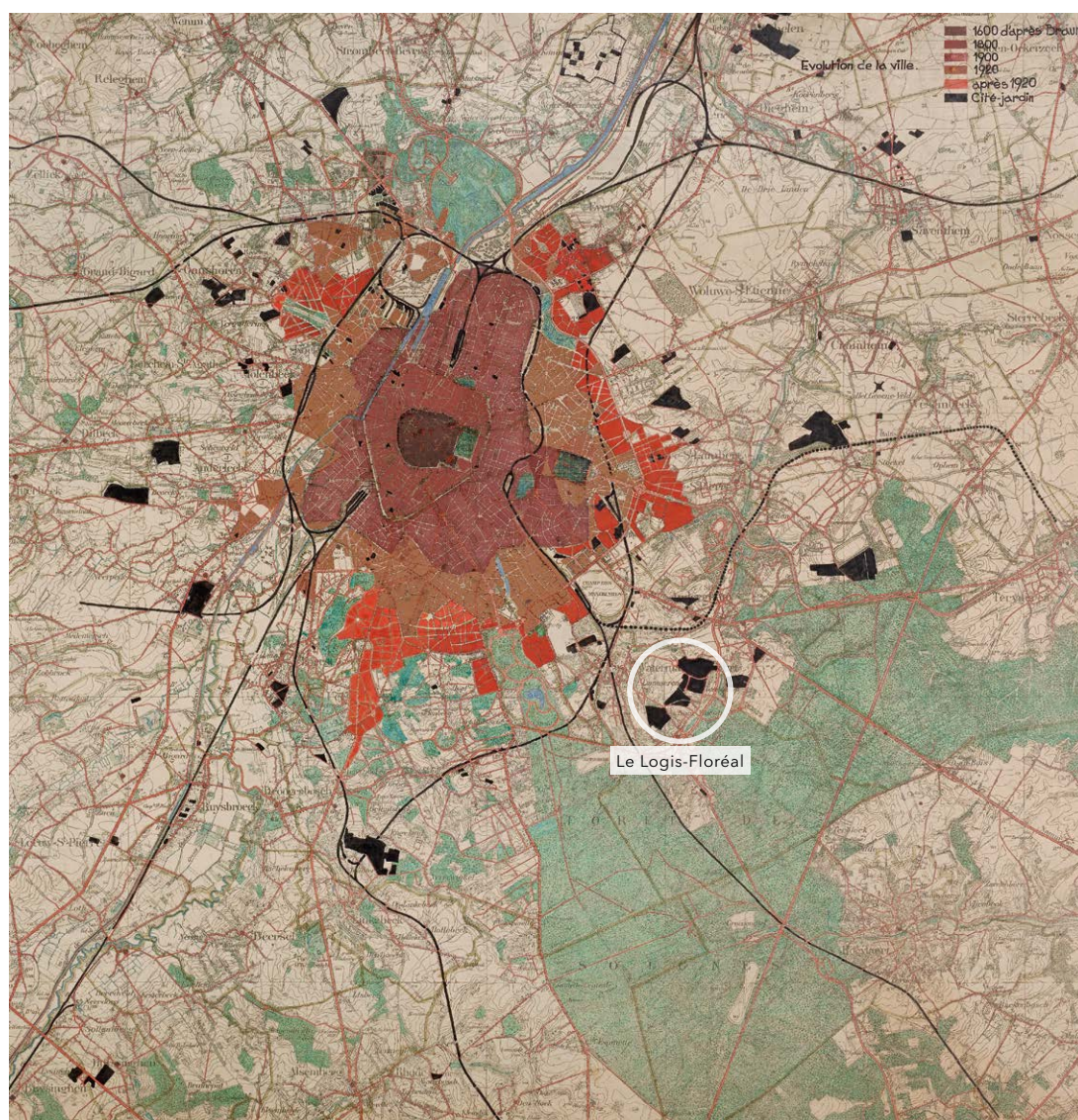


Figure 9 Map of Brussels and the garden cities in its vicinity, with railway connections between the inner city and its periphery (1929). Highlighting by the author.



Figure 10 Le Logis from the Fer-à-Cheval

The ambiguous trajectory of sociobiological design: Housing, vegetation and infrastructure

From this concise reading of the work of Van der Swaelmen, a rather ambiguous mix of ideas about biological determinism and sociopolitical questions can be discerned. In his theoretical work, geographical factors are seen as an essential normative influence on the built fabric: 'It is the geology, conditioning the geobotany, that determines the physiognomical aspects of a region' which explains the 'large diversity in character ... of the cities of this country'.⁶⁸ This determinism is transposed into his design for garden cities in the post-First World War period, where he based his design on the geography and topography and imbedded the built environment into the landscape by structuring it with vegetation. However, in practice, sociobiological design operated as an aesthetic as much as an ecologically determined practice. The fact that certain topographical settings lent themselves better than others, as Van der Swaelmen acknowledged, underlines this fact and indicates a non-stringent mobilization of the so-called absolute determinism of the laws of nature.⁶⁹

On a political level, Van der Swaelmen did not question the social segregation in urban development, although he did aspire to a more egalitarian society by trying to emancipate the worker by providing him with a dignified space in the city and challenging private homeownership with cooperative housing. Serving both as an advocate and a negotiator for the cooperatives, his role was also much broader than merely that of a designer. From 1922 onwards the new government, now without the socialist party, countered the cooperative housing projects of the National Society by retracting the earlier financial stimuli, turning towards legislation that favoured private housing ownership.⁷⁰ The fear of conservative parties of the creation of a 'red belt' around the capital is cited in literature as one of the main reasons for the retraction of this short-lived policy, of which Le Logis-Floréal is one of the best-known survivors.⁷¹ The correspondence between Van der Swaelmen and the cooperative society of Le Logis, however, indicates a continuous engagement with the garden city as a socio-political project: letters show how he was active as a negotiator in conflicts with political authorities as well as in arranging practicalities in the construction, often stating that he believed in the 'success of the garden cities', lamenting the 'new orientation' in the 'construction of cities' after 1922.⁷²

In analysing Van der Swaelmen's work, we can discern both the many-faceted nature of environmental determinism in urbanism and urban

design. Although he tries to combine biological theory and sociopolitics, sociobiological design does not melt these into a one-on-one relationship. His work related to biology can be read as an at times troubling belief in environmental factors guiding the urban project and a 'naturalization' of social segregation—isolating workers as much as empowering them, while his ideas about cooperative garden cities illustrate an emancipatory and political interpretation of urbanism. Van der Swaelmen took stock of a naturalized environment fully determined by notions developed in the natural sciences, yet used this landscape as a starting point, opening it up to a future that was guided by his own desires and beliefs. Michiel Dehaene's contribution to the historiography of the Geddesian survey may illuminate this crux in Van der Swaelmen's story: when referring to Geddes and his notion of Survey, he stated that urbanism and planning 'assumed its full modern ambiguity as it was split down the middle between hard facts and full goals, between a fully determined past and an open future'.⁷³

Acknowledgments

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NOTES

1 See: Marcel Smets, *De ontwikkeling van de tuinwijkgedachte in België: een overzicht van de Belgische volkswoningbouw in de periode van 1830 tot 1930* (Brussels: Mardaga, 1977).

2 Van der Swaelmen used the word 'sociobiology' to formulate a definition of urbanism, which was a 'synthetical doctrine of a sociobiology of cities'. See: Louis Van der Swaelmen, 'Concordances', *La Cité* 1/2 (1919), 21.

3 Pierre Bourgeois, *Hommage de la Société belge des urbanistes et architectes modernistes à son fondateur l'architecte-paysagiste et urbaniste Louis Van der Swaelmen 1883–1929, sèmeur d'idées, traceur d'espaces* (Brussels: Art et technique, 1960), 31.

- 4 Louis Van der Swaelmen, *Préliminaires d'Art Civique: mis en relation avec le 'cas clinique' de la Belgique* (Leyde: AW Sijthoff, 1916), 9.
- 5 Ross Exo Adams, 'Natura Urbans, Natura Urbanata: Ecological Urbanism, Circulation, and the Immunization of Nature', *Environment and Planning D: Society and Space* 32/1 (2014), 26.
- 6 Greet De Block, 'Ecological Infrastructure in a Critical-Historical Perspective: From Engineering "Social" Territory to Encoding "Natural" Topography', *Environment and Planning A* 48/2 (2016), 382.
- 7 On Van der Swaelmen, see: Herman Stynen, *Stedebouw en Gemeenschap: Louis Van Der Swaelmen (1883-1929), Bezieler van de Moderne Beweging in België* (Brussels: Mardaga, 1979).
- 8 Most notably, Marcel Smets and Pieter Uyttenhove introduced the theme in international scientific journals. See, for example: Marcel Smets, 'Belgian Reconstruction after World War I: A Transition from Civic Art to Urban Planning', *Planning Perspectives* 2/1 (1987), 1-26; Pieter Uyttenhove, 'The Garden City Education of Belgian Planners around the First World War', *Planning Perspectives* 5/3 (1990), 271-83; Smets, *De ontwikkeling van de tuinwijkgedachte*, op. cit. (note 1).
- 9 David Garland, 'What is a "history of the present"? On Foucault's genealogies and their critical preconditions', *Punishment & Society* 16/4 (2014), 365-384. Examples of such 'histories of the present' are: De Block, 'Ecological Infrastructure', op. cit. (note 6); Adams, 'Natura Urbans, Natura Urbanata', op. cit. (note 5).
- 10 See chapter 'Human Sociobiology', in: Kevin Laland and Gillian Brown, *Sense and Nonsense: Evolutionary Perspectives on Human Behaviour* (Oxford/New York: Oxford University Press, 2011).
- 11 Raf De Bont, 'Organisms in Their Milieu: Alfred Giard, His Pupils, and Early Ethology, 1870-1930', *Isis* 101/1 (2010): 1.
- 12 Van der Swaelmen, *Préliminaires*, op. cit. (note 4), XI.
- 13 Bruno Notteboom, 'Le Nouveau Jardin Pittoresque: Ethics, Aesthetics and Garden Design in Belgium (1913-1940)', *Journal of Landscape Architecture* 7/2 (2012), 22-27.
- 14 Ibid., 22.
- 15 Bruno Notteboom, 'Ouvrons Les Yeux!': *Stedenbouw en Beeldvorming van het Landschap in België 1890-1940* (Unpublished PhD: Ghent University, 2009), 447.
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- 23 See Appendix I in: Van der Swaelmen, *Préliminaires*, op. cit. (note 4), 139-163. On Geddes and the invention of survey, see: Michiel Dehaene, 'Survey and the Assimilation of a Modernist Narrative in Urbanism', *The Journal of Architecture* 7/1 (2002), 33-55.
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- 37 See: Hendrik Petrus Berlage and Iain Boyd Whyte, *Hendrik Petrus Berlage: Thoughts on Style, 1886-1909* (Santa Monica: The Getty Center for the History of Art, 1996).
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- 39 Pieter Uyttenhove, *Stadland België: Hoofdstukken uit de geschiedenis van de stedenbouw in België* (Gent: A&S/Books, 2011), 17-20.
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- 45 Smets, *De ontwikkeling van de tuinwijkgedachte*, op. cit. (note 1), 100.
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- 69 Van der Swaelmen, 'L'Urbanisation', op. cit. (note 53), 224.
- 70 Smets, *De ontwikkeling van de tuinwijkgedachte*, op. cit. (note 1), 144.
- 71 Ibid., 142.
- 72 Correspondence between Louis Van der Swaelmen and the secretary for the Société coopérative de locataires Le Logis, (private collection), letter 12 January 1924.
- 73 Dehaene, 'Survey', op. cit. (note 23), 50. The highlights are my own.

BIOGRAPHICAL NOTE

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