



The Birth of the Theory of Urban Green Systems in Britain and Hungary. Correspondence between Thomas H. Mawson and Béla Rerrich concerning Urban Design Principles

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Abstract: Architectural and urban design connections between England and Hungary were particularly significant in the 19th and early 20th centuries. These connections are evident in Hungarian landscape architecture as well as in the evolution of the architecture of the capital, Budapest.

Despite these well-known correspondences, little academic attention has been given to the relationship between the English civic designer Thomas H. Mawson and Béla Rerrich, a key figure of Hungarian urban design theory.

This paper will argue that Mawson's seminal role in English urban design was also strongly influential on Rerrich's theory, informing the Hungarian urban landscape at the beginning of the 20th century.

Keywords: town planning, history, theory, park systems

1. Introduction

The turn of the 19th century marks a significant point in European urban design history. In response to industrialisation, the role of green spaces in the urban environment gained significance changing the urban fabric both spatially and theoretically. Questions originally associated with landscape architecture transformed with the city renewal movement post 1860 into core theories of urban renewal and town planning. As Steenbergen states, the role of the park altered from being an "island of landscape in a sea of houses" to becoming an essential component of the urban structure [1].

As a result of this process, the definition of autonomous professions such as urban design, town planning and landscape architecture changed. One of the most important results was the formation of professional institutions, educational systems, professional journals and public debates about the topic. The first theoretical publications on town planning and urban green systems were published at the beginning of the 20th century all across Europe [2], [3], [4], [5]. These essential books from different European countries had various basic ideas, and yet influenced each other. This paper will examine how the different ideas were used and put in a new context in Mawson's seminal work, *Civic Art* [6].

This immensely influential time (early 20th century) was the period when the Hungarian architect Béla Rerrich went on a study tour to Western Europe and, unusually for Hungarian architects at the time, worked in Thomas Mawson's landscape architectural office from 1907 to 1908. The connections between the two countries had begun a century earlier, when the first travellers (mostly with aristocratic origins) went on their 'grand-tours', and visited the United Kingdom. Their publications and diaries about London and its parks are extremely significant resources in terms of the English influence on Hungarian landscape architecture and urban design. However, it was not usual that a professional, who trained and studied in Hungary, went to work in England. This connection between Rerrich and Mawson, the first hand experience of the Hungarian architect about the theory of the English professional will be investigated in this paper, through the comparative analysis of their main theoretical writings [6] [7] [8] [9].

2. Materials and Methods

This paper is based on the detailed analysis of primary sources: theoretical writings, reports, journal articles and drawings written and designed by the major theorists of town planning at the turn of the 20th century.

In order to identify the forerunners and precedents that supported the changing role of urban green spaces the plans and writings of Georges-Eugènes Haussmann, Jean-Charles Adolphe Alphand, and Frederick Law Olmsted will be briefly investigated [10], [11].

To examine the contemporary town planning context of the era when Mawson and Rerrich worked, different urban design theories will be compared, to point out the main developments and differences in the various European countries. An analysis of the writings of Camillo Sitte, Joseph Stübben, Jean-Claude Nicolas Forestier, and Thomas Mawson will shed light on the seminal role of Mawson in English town planning history, and the originality of his writings [12].

The effect of Mawson's theory and designs in the case of Hungary will be examined principally through Rerrich's theoretical writings [13].

3. Results and discussions

A. Precedents and forerunners

To understand the main novelties that evolved in town planning theory at the beginning of the 20th century, three seminal urban design programs have to be mentioned. Regent's Park and Regent's street, designed by John Nash in 1811, was the first attempt to create a connection between a newly built park and housing area and St James' park, through the existing city areas (Figure 1). Nash's layout consisted of two types of urban open spaces, which were exemplary. These were squares and crescents. Although in the design of Regent's street these had decorative roles, and were not open to the public, they became precedents for open green spaces and small recreational areas across Europe.

The urban reconstructions of Paris and Vienna are the most influential town planning examples of the second half of the 19th century (Figure 2-3). These precedents served as basis for the theorists in the following decades, and drew attention to the relation between parks and green spaces as single entities, and urban structures as a whole.

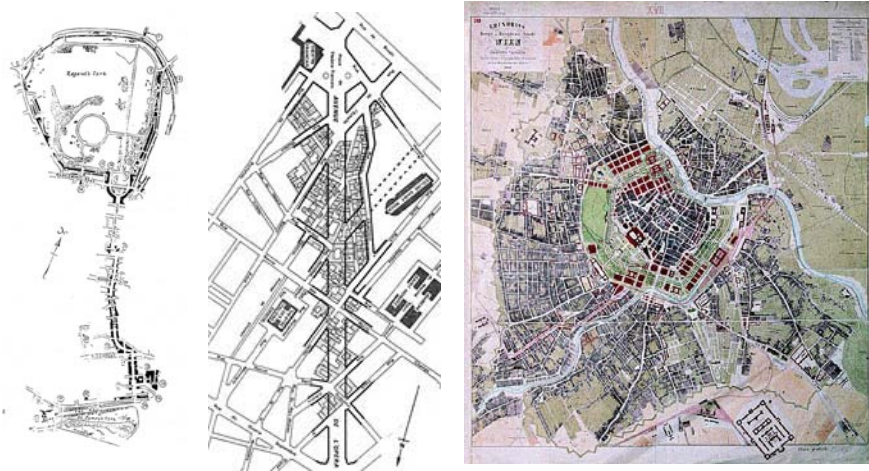


Figure 1-3: Regent's Park and Regent's street London, John Nash, 1811; Renovation of Paris, Eugène Haussmann 1852-1871; Ringstraße, Vienna, 1857

(http://www.ecfs.org/bome/units/unit2_docs/RegentStreet.gif;

http://www.conservapedia.com/images/b/b2/Haussmann_Plan_de_Paris_1851-1870.jpg,

<http://www.wien.gv.at/kultur/archiv/geschichte/ueberblick/images/ringstrasse.jpg>)

The reconstruction of Paris between 1852 and 1871, directed by Eugène Haussmann, was the first example in European urban history, when parks and green spaces became an integrated part of city planning [14]. In the case of Paris, the structure of urban green spaces was based on a general and comprehensive plan parallel to the planned street system, which made it possible to arrange the elements of this system in every part of the city according to a hierarchical structure. At the top of the hierarchy were the publicly accessible royal woodlands, the Bois de Boulogne and the Bois de Vincennes, which were at the outskirts of Paris. The second level consisted of the smaller public parks, within the structure of the city, namely the Parc Buttes-Chaumont, Parc Monceau and Parc Montsouris. Small urban spaces – designed after squares and crescents in London, but contrastingly open to everyone – served as everyday recreational facilities in densely built areas. The fourth hierarchical place of the system was the chain of connecting Boulevards. This coherent system, with its diverse levels served as a basis for the different urban spatial typologies in the theoretical writings of the 20th century.

The case of the *Ringstraße* in Vienna differs from the Paris example, though it is equally important. After removal of the disused fortification around the inner part of the city, a planning competition for the extension-plan was announced in 1857. Although no winner was declared, and a new committee incorporated the best proposals into the official extension plan, the international competition directed attention to the questions of town planning, and was simultaneously a symbol of the political and social changes taking part in Austria. It remained as the most well-known example of circular green systems until the 20th century [15]. The ring determined the physical development of the city, and instead of connecting different parts of the city, it divided the baroque city centre from the outskirts of the town [16]. At the end of the 19th century, a second green ring was proposed by German architects, Joseph Stübben and Otto Wagner. The *Gürtelstraße* remains an important recreational area for the citizens of Vienna.

Before investigating changes in the theoretical writings, another new aspect of urban design needs to be analysed. This is the idea of the *Parkway*, created by American landscape architect, Frederick Law Olmsted. Olmsted first wrote about his idea of creating connections between green spaces in 1868, when he was planning Prospect Park in Brooklyn [17]. The special significance of this article is apparent through the presentation of the works that influenced him when designing his parkways. When comparing and analysing European city structures and street systems he had been most impressed by Sir Christopher Wren's London plan, the Avenue of the Empress in Paris, and the *Unter den Linden* Avenue in Berlin, which he visited during his travels in Europe. A deep insight into these layouts, and many

other European examples helped him synthesize his knowledge to work out this unique solution.

His Park and Parkway systems, which characterise the cities he worked on, even today, were the first steps to planning integral greenway systems in the cities. His aim, to create “*routes of approach to and extension from the Park, through the suburbs*” foreshadowed park system plans of the 20th century. One of Olmsted’s most well-known parkways is the Emerald Necklace in the city of Boston, a string of connected parks, parkways and waterways (Figure 4).

Olmsted’s effect on town planning is undeniable, evident also in European and American examples. In Boston, his parkway precedent served as a basis for the Metropolitan Park system, designed by Charles Eliot, who was an apprentice of, and became the leader of Olmsted’s design firm in 1893. The extended system improved undeveloped and polluted land, into a system of interconnected green spaces. The example of the two scales of green systems in Boston spread across Europe, and became a major example for developments.

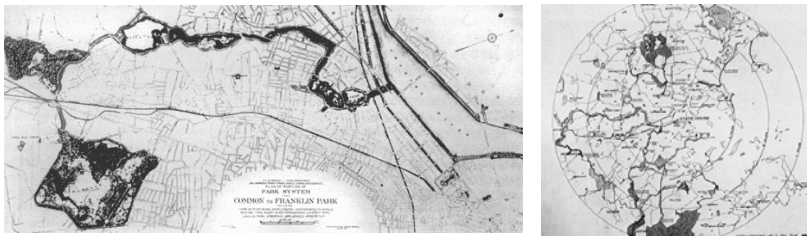


Figure 4-5: Boston, Emerald Necklace, Frederick Law Olmsted, from 1878, Boston, Charles Eliot’s diagram for the Metropolitan Park System 1899

(<http://excitablemedia.com/tcs/tcsbostonmpls2.gif>;

http://www.columbia.edu/itc/architecture/wright/6769_2002/images/week4/iv05.jpg)

B. Town planning theory at the end of the 19th and beginning of the 20th century

The significance of these urban renovations was enormous. Not only in the case of other city competitions, but also on the emerging new profession of town planning. Different regions in Europe and in America responded with different solutions to the new questions of industrialization and the growth of the cities.

The first decisive theoretical book was written in Vienna by the architect Camillo Sitte in 1889 [18]. For Sitte, urban design was the main artistic part of architecture, and aesthetics played a major role in his way of thinking. He dealt with the psychological and physical perception of space and with the connection and relation between urban spaces, buildings and monuments [19]. In terms of the urban green spaces, artistic and aesthetic aspects are the basis for his judgements. He directed his attention to the importance of geometrical layouts instead of the

informal, 'landscape' style design. His aim, to create harmony between the style of the built environment and open spaces, became the main aim within the garden and park-reform movements at the beginning of the 20th century.

Besides this aesthetic change, another (from the point of view of town planning theory) more important aspect of his writings should be mentioned. In one of his other publications, *Grossstadtgrün*, in 1900, Sitte divided two main types of urban green spaces. The separation of decorative and 'hygienic green' space in cities became one of the most often referred to typologies in the following decades [20]. The function of the latter became the starting point of the social planning movement during the modernist period in urban design.

In Germany, publications and plans by Joseph Stübben shaped the formative years of the theory of town planning. Stübben's book *Städtebau* was the most complex architectural and town planning encyclopedia of the period [21]. In contrast with Sitte's mainly aesthetic and design standpoint, the German architect dealt with technological and engineering aspects of town planning. Stübben devised a hierarchy of urban open spaces, including streets, squares and parks, and classified these according to their function. The main advantage of his research was to summarise the results of landscape architecture within urban environments. Besides German cases, he also analysed and published English, French and Danish examples. Although he compared the function and styles of different types of urban green spaces, he did not locate these elements within a coherent system. Stübben defined the minimum average requirements of different types of open spaces in cities. As he stated, the total ratio of the city to green space has to be 1:10. For 100 ha of city, 30 ha of streets and squares and 10 ha of green spaces and 60 ha of built area has to be laid out. Stübben's effect on European city planning is easily traceable, his scales and minimum sizes of open areas appeared in many publications after the publication of his book.

The reconstruction of Paris under the direction of Haussmann was a major example in the second half of the 19th century. Parks and gardens, designed by Alphand, and the accessible squares and open spaces were also seminal, both in Europe and in the United States of America. The following generation of landscape architects in France had also made an important contribution to the evolution of the theory of town planning. The landscape architect Edouard André worked with Alphand on the plans of Paris parks, and later won the competition for designing Sefton Park in Liverpool with Lewis Hornblower. At a very early date, in 1879, after returning from the United States of America, he published his book, *L'art des jardins: Traité générale de la composition des parcs et jardins*, in which he praised American town planning, urban parks and parkways [22]. Jean-Claude Nicolas Forestier (another assistant of Alphand at the Service des Promenades et

Plantations de Paris) published his book *Grandes villes et systèmes de parcs* in 1906 [23]. Forestier was hugely influenced by the urban green system of Paris, but he also cited American examples, e.g. the park systems of Boston, New York and Chicago and other European city reconstructions and green systems, like Letchworth, Vienna, Cologne and London. Besides analysing these examples, Forestier also proposed the creation of new park systems, not just at local, but also at a regional level, and stated that these should be an objective of general plans for cities and regions.

During the formative years of the town planning profession, a number of different influences merged in different theoretical writings. Sitte and Stübben were architects, André and Forestier were landscape architects. Sitte's aesthetic view was basically different from Stübben's more engineering-based approach, or French professional's landscape architectural approach. Their aims and objectives were different in accordance with their professional background. That is why Thomas Mawson's book, *Civic Art* is unique, and needs to be investigated more deeply.

C. Key elements of Mawson's theory.

Thomas Hayton Mawson (1861-1933), was already a successful landscape architect (and author of the seminal book, *The Art and Craft of Garden Making*) when he turned his attention away from designing private gardens to the creation of public parks. According to his autobiography, in 1908 – when the Hungarian architect Béla Rerrich worked for him – he decided to summarize his knowledge about urban green spaces in his book, *Civic Art* [24]. His original aim was to write about public parks, but he realised, that it is inseparable from questions regarding city structure as a whole [25]. His seminal role in the development of English urban design was to integrate landscape architecture into town planning.

Mawson's publication can be assessed as a summary of all the theoretical frameworks which preceded him. He used, referred to and drew conclusions from examples of the aforementioned city renovations, parkways and park systems in his book, and also adapted the theoretical writings of his contemporaries. The innovation of *Civic Art*, is that he dealt with questions of urban green spaces from the theoretical basics through to questions of construction. In his complex writings, he defined – first in England – the term 'park system', and created a coherent, hierarchical typology for the elements of urban green systems. Besides these pivotal results, he also classified types of open spaces and public places. To examine his effect on Hungarian theory, the details of his systems and typology need to be investigated.

Mawson defined the park system as “*a chain of parks, gardens and open spaces connected by boulevards or parkways, or a grouping of common lands and treeplanted and open spaces, parks, or gardens, **arranged according to a comprehensive plan**, and extending from the city into the open country*” [26]. In terms of the arrangement of these green areas in the city he identified two main types; the radial and the encircling. It should be mentioned, that in this case Mawson referred to the contemporary Berlin plan, designed by Eberstadt, and also made reference to his diagrams about the two systems [27]. Only a decade later Rerrich published the same diagrams in his seminal theoretical publication about urban green systems (Figure 6).

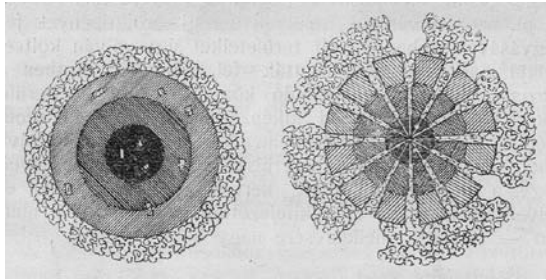


Figure 6: Possible arrangements of green spaces in cities. The diagram appeared both in Mawson's and Rerrich's publications (Rerrich, Béla (1919a): op.cit. 12.)

Urban green systems consist of five main elements according to Mawson's book. These are: 1. *quadrangle and circus for magnificence and grandeur* (town squares), 2. *small recreation parks and playgrounds*, 3. *public parks*, 4. *reservations*, 5. *connecting parkways, drives and boulevards* [28]. The first two categories are more important in the inner parts of the cities, while the public parks and reservations are usually situated on the outskirts of the towns. According to this arrangement, Mawson suggested different stylistic solutions for the four types. Whilst near densely built surroundings, a more geometrical layout is adequate, in the case of large green spaces, the imitation of natural landscapes are possible. As Ponte points out: “as nature enters into the city it is gradually constrained within rigid schemes to the point of its complete petrification in the monumental square” [29].

For open spaces near town centres Mawson suggested the use of a completely ‘architectural’ and ‘formal’ style, in the case of various parks, the use of ‘English landscape’ and ‘Natural’ style is proposed. The role of the formal elements in the designs decrease as one leaves the densely built areas of the city. While in the case of the English landscape style (what Ponte calls composite), a combination of

formal and informal elements is required, e.g. formal recreation grounds need to be associated with the preservation of natural scenes, in the parks laid out in the Natural style, informal elements are the only solution, and these need to be influenced by the surrounding and traditional English landscape [30].

As Cherry states, “Mawson saw civic art as representing the aesthetics of town planning, or the comprehensive, artistic design of the cities” [x]. In contrast to his contemporaries, like Raymond Unwin or Patrick Geddes, “he did not approach city planning through social reform” [31]. His role in the formation of the English town planning is undeniable. His complex views on the city and the role of green systems in cities were a step towards contemporary urban design thinking.

D. The English influence in Hungarian theory - The theoretical writings of Béla Rerrich

Béla Rerrich (1881-1932) was trained as an architect and was working as a teaching assistant on the architectural course at the Technical University in Budapest, when he went on a two year study tour in Europe, to be taught and work as a landscape architect in Paris and England [32]. Between 1907 and 1908 he stayed in England, and worked for Mawson. Mawson described this time in his autobiography, as “one of the most interesting period[s]” of his life [33]. He was working on the plans for Marine Park and Lord Street Gardens in Southport, and was beginning work on his Civic Art book. The layout of Lord Street Gardens is one of the best examples of what he called architectural or formal style. This style informed Rerrich’s career as a landscape architect.

After his return to Budapest, Rerrich became the first teacher of garden design at the Royal Horticultural School of Hungary. His theoretical writings and his designs for public spaces across the country, meant that he was very influential in developing Hungarian urban design theory.

In 1919 he published two articles about the role of landscape architecture in the field of town planning [34]. In these publications he began to use the specialist nomenclature which is still used now, and comes from his extensive knowledge of international town planning and landscape architectural theoretical writings. He cited the two main categories of urban green spaces by Sitte, the minimum average of green spaces per cities by Stübben, and also wrote about park systems, and the typology of open spaces. In the two latter cases, the effect of Mawson is undeniable. In Rerrich’s writings the typology consists of the same five elements as in Mawson’s system. However, although Rerrich used the typology of Mawson, in terms of styles, and design questions, he did not agree with the composite style Mawson used in his public parks. As Jámor states, Rerrich was the founder of the formal style in Hungary, and the parks and open spaces designed by him are evidence of this [35] (Figure 7-8).



Figure 7-8: Public parks designed by Rerrich in his formal or architectural style (www.profila.hu)

Apart from the stylistic questions, there is another, theoretically more important difference between the goals of the two designers. As the title of Rerrich's publications shows, the main aim of his publication was to draw readers' and professionals' attention to the social role and importance of urban green spaces. As he emphasized, the decorative green category by Sitte should be removed from the cities, to be overtaken by the importance of hygienic green. Thus he enhanced the importance of accessible playgrounds, and parks designed for all societal group. The social movement in landscape architecture originated in the United States of America, in the reform park movement, and was adapted by the German theoreticians such as Leberecht Migge and Martin Wagner. The latter, in his pivotal publication introduced the term 'use value' in relation to urban green spaces [36]. Rerrich in his publication cited American park systems, as well as German theory [37].

4. Conclusion

The aim of my research was to determine the extent to which European and American theoretical writings and urban renewals influenced Thomas Mawson. I also aimed to see how he adapted these into his writings, and to trace and show the effects of Mawson's theory in the principles of designing urban green space in Hungary at the beginning of the 20th century. To this end, my method was to turn to primary sources – theoretical writings, contemporary articles and plans – and examine the connections between European and Hungarian theoretical writings.

My findings reveal that different European city renewals and theoretical writings, which had different aims and guidelines, influenced each other, and served as models. For example, the Paris reconstruction directed by Haussmann influenced not just Olmsted's parkways, but also the French theoretical writings, by Forestier. Forestier was also affected by Olmsted's park-system plans.

The theoretical writings by Thomas Mawson are especially interesting because he not only used Paris (the importance of the systematic urban space planning), Vienna (the circular green systems), and the American cities (the parkways and the importance of coherent plans) as examples, but also incorporated different findings of his contemporaries into his work (e.g. the minimum average of open space by Stübben, the importance of city aesthetic by Sitte). His book is outstanding because he wrote the most thorough book in England, using different continental and American examples, and dealt with all the questions of urban green spaces from the planning stage up to questions of construction. The major criticism of the following generation was that he did not put a special emphasis on the social role of town planning.

As Cherry states, Mawson was Olmsted for England [38]. Rerrich had the same role in Hungary. His writings directed professionals' attention to the importance of urban green spaces and the need for general, comprehensive plans for city green systems. He introduced terms, like *park-system*, or *open space* to Hungarian professional terminology. Rerrich's writings were hugely influenced by Mawson's Civic Art. He used the same definition for park-systems, and the same typology for urban open spaces. The main area where he exceeded Mawson was that for him, one of the most important points of urban green space was its social role. With this idea he made a step forward, towards the town planning goals of the modern movement, which determined town planning theory in Hungary over the next few decades.

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