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JOSEPH PAXTON'S APPROACH TO HISTORICAL CITY PARK DESIGN IN THE 21ST CENTURY

KONCEPCJA PARKÓW HISTORYCZNYCH JOSEPHA PAXTONA W PROJEKTOWANIU ZIELENI W XXI WIEKU

Abstract

It is necessary today to completely re-examine the public parks use, development and design to meet the challenges and claims of the 21st century. With emphasis not just on their heritage and conservation but their potential as well, public parks could contribute not only to the social and recreational life of our urban areas, but also to the enhancement of environmental sustainability and the enrichment of the biodiversity of urban areas. A new design approach would be desirable for the management of our historical green spaces and to encourage a wider range of people to return to them. This paper comments on park use studies, contemporary park use investigations and student design works for parks in the future, using Paxton's methods/approach/ideas for inspiration in the development of our historic city parks. And examines to what extent Paxton's design ideas are applicable in the 21st century.

Keywords: city park, public park, Joseph Paxton, landscape architecture, historic landscape, contemporary open space design

Streszczenie

Istnieje współcześnie potrzeba ponownego zbadania parków publicznych pod względem sposobu użytkowania, rozwoju i projektowania, aby sprostać wyzwaniom i potrzebom XXI wieku. Podkreślając nie tylko ich dziedzictwo i wartość konserwatorską, ale także potencjał, parki publiczne mogłyby służyć nie tylko potrzebom społecznym i rekreacji na obszarach zurbanizowanych, ale także poprawie równowagi ekologicznej i wzbogaceniu bioróżnorodności. Nowe podejście w projektowaniu znalazłoby zastosowanie w zarządzaniu historycznymi terenami zieleni i zachęcaniu większego grona ludzi do powrotu do tych obszarów. W artykule skomentowano wyniki badań dotyczących sposobu użytkowania parków, współczesnego wykorzystywania przestrzeni parkowych i znaczenia studenckich prac projektowych dla obszarów parkowych w przyszłości, przy zastosowaniu metody/podejścia/idei Paxtona, jako inspiracji w rozwoju historycznych parków miejskich. Zbadano także, w jaki sposób idee projektowe Paxtona są stosowane w XXI wieku.

Słowa kluczowe: park miejski, park publiczny, Joseph Paxton, architektura krajobrazu, historyczne krajobrazy, współczesne projektowanie otwartych przestrzeni

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1. Introduction, goals

Several attributes may be suitable for contemporary city park design except. The present paper does not aim – even in theory – to homogenize this diversity. The aim is to explore the background of the designer’s decisions. The results are the answers to questions about the evolution of today’s public park design principles and their application, and may help designers to more effectively execute their plans of ideal public parks. The theme came to be through the invitation of competitive ideas in honor of the English landscape architect Joseph Paxton. The competition was called by the Landscape Institute North West and the Manchester Metropolitan University on the 150th anniversary of the legendary designer’s death, in the summer of 2015. The aim of the project was to give professional justification for the changes, new expectations and demands in park use over the 20-21st centuries and to examine whether Paxton’s principles still apply to the shaping of public parks today.

Joseph Paxton was not accidentally an iconic figure of the competition. He was an outstanding artist of his age, whose innovative outlook and brave approach led him to solve routine tasks so that his parks and underlying principles of planning are still exemplary and valid today.

Starting out from the topic of competition, the paper examines Paxton’s principles of park design, comparing them with the decisions and priorities of contemporary Hungarian designers. The ultimate goal is to define how the principles of public park design have changed over the past one and a half centuries.

2. Paxton’s oeuvre

“Paxton was an English gardener, designer, writer and creator of one of the most famous buildings of Victoria’s reign, the Crystal Palace”¹.

Believed to be the forerunner of modern architecture and the reformer of public parks Paxton was born in England (Bedfordshire) on the 3rd of August 1803. He enjoyed gardening from a very early age in the Battlesden Park by Woburn owned by Sir Gregory Osborn Page-Turner. His career and oeuvre are indicative of the extraordinary scale of his interests.

a) Paxton, the head gardener

From 1823 he worked at Chiswick House for the duke of Devonshire, who recognized Paxton’s great talents and appointed him to the head gardener’s position in Chatsworth in 1826. He became the leading gardener and supervisor of one of the most elegant estates of the age, which deeply influenced his life and work². His first large and pivotal task was the reconsideration of the east wing of the mansion and the designing of the coniferous section (“pinetum”) of the garden attached to it. Further important installations are associated with him at Chatsworth such as the rock garden, various greenhouses, and a huge garden

¹ http://www.bbc.co.uk/history/historic_figures/paxton_joseph.shtm.

² http://www.bbc.co.uk/history/historic_figures/paxton_joseph.shtml.

fountain. He had great success with moving aged trees, essential to his subsequent work³. He owed much to the experience he had gained at Chatsworth. He received several assignments in this position which paved his way to becoming a path-setter in the landscape design and architecture of his age.

b) Paxton the special writer

From 1831 Paxton issued a periodical “The Horticultural Register”, later in 1834 launched the “Magazine of Botany”. Three other publications of the kind – “Pocket Botanical Dictionary”, “The Flower Garden” and “Calendar of Gardening Operations” – were also written by him. In 1841 he started “The Gardeners’ Chronicle”, another periodical with co-authors John Lindley, Charles Wentworth Dilke and William Bradbury⁴.

c) Paxton, the park designer

His park designing activity reached its apex in the 1840s. After Loudon’s death he became the greatest garden artist of the Isles. His first independent assignment was for the Prince’s Park in Liverpool⁵ in 1842. Also in the early 1840’s he designed Birkenhead Park, a milestone in the history of public parks in Britain as it was the first park created on public money. The basic conception is that it brings an idealized rural landscape into town for the townsfolk⁶. The plan included major surface grading, regulation of the brook, generous amount of plants, on highly innovative plans, several flat and sloping areas, large lawn surfaces (for ball games and other sports)⁷. Several smaller edifices of diverse form (with oriental, Alpine, rustic, romantic effects) were also inserted, providing variety and surprises for the strollers in the park (Ill. 1). The plan of Birkenhead Park influenced several fellow designers. His best known and most direct influence can be seen in Central Park, New York⁸.

Paxton was a prolific park designer, his works including the 5.5 hectare public park of Halifax in 1857, as well as Upton Park (Slough), Baxter Park (Dundee), Hesketh Park (Southport), etc.⁹

³ http://www.gracesguide.co.uk/Joseph_Paxton.

⁴ Chadwick George F., *The works of Sir Joseph Paxton 1803-1865*, London 1961.

⁵ http://www.liverpoolparks.org/red/docs/parks/princes_park/index.html.

⁶ <http://www.bheadtransportfest.com/history-of-birkenhead-park>.

⁷ Csepely-Knorr Luca, *Korai modern szabadtérépítészet* [Early modern landscape architecture], doctoral dissertation, BCE, 2011.

⁸ Frederic Law Olmsted sailed to England in 1850 and visited several private gardens and public parks, Birkenhead exerting the greatest influence on him. The diversity of the conception, the richness of the vegetation, the spatial compositions, the clarity infused with charm made him decide to create something similar for American townspeople In: Frederick Law Olmsted, *Walks and Talks of an American Farmer in England* (New York, George E. Putnam, 1852); http://friendsofbirkenheadpark.org.uk/history_the_park.html.

⁹ https://en.wikipedia.org/wiki/People%27s_Park,_Halifax cf. http://www.gardenvisit.com/biography/joseph_paxton.

d) Paxton, a specialist of greenhouses

Paxton designed the “Great Conservatory”, the greenhouse of the Chatsworth estate in 1838; the 227 foot long and 123 foot wide greenhouse was the largest glass edifice in the world at that time. It was too costly to maintain during World War I, so the plants perished and in 1920 it was demolished¹⁰. The still existent greenhouse called “Conservative Wall” with a length of 101 m and a width of 7 m was also built in Chatsworth (Ill. 2).

1850 was another turning point in Paxton’s career: the Crystal Palace was built for the World Fair of London: it was 33 m tall inside and 124 m long. For this incredible technical achievement Paxton was knighted after the inauguration of the building¹¹.

e) Paxton, the architect

The fame of the Crystal Palace spread among the English aristocrats who took him for a famous and acknowledged architect. He received a request from the Rotschild family to design a country house in Buckinghamshire. Later named “Mentmore Tower”, it was the largest weekend house of the Victorian era¹². The impressive mansion brought an assignment from the French line of the Rotschild family, to build a similar country house near Paris, in Ferrieres-en-Brie (Chateau de Ferrieres). Both buildings are in current use remain a sign of the versatility of their designer¹³.

f) Further activity

Paxton had an insatiable desire to disseminate and pass on knowledge, and also to constantly enlarge knowledge. In 1835-1839, for example, he organized “plant-hunting” expeditions. He toured West Europe, and visited Turkey and the Middle East. He set out for California, but a family tragedy foiled the trip¹⁴. Paxton also tried his hand at the border areas of landscape design: he planned the “London Road Cemetery” in Coventry in October 1845 where a memorial column was erected in his honor, although he was not buried there, but in his beloved town of Chatworth in 1865.

3. Joseph Paxton’s principles of park design

Sir Paxton was a polymath, a “renaissance” mind of his age, a designer of extraordinary talent. Already his early work reveals that the consideration of the existing vegetation was decisive in his planning work. Owing to his attraction to botany and gardening experience, he had broad knowledge of species and kinds.

¹⁰ Georg Kohlmaier et. al., *Houses of glass: a nineteenth-century building type* (Sambridge, MIT Press, 1991).

¹¹ https://hu.wikipedia.org/wiki/Londoni_krist%C3%A1lypalota.

¹² https://en.wikipedia.org/wiki/Mentmore_Towers.

¹³ <http://www.ferrieres-en-brie.fr/pat-chateau-parc.php>.

¹⁴ https://en.wikipedia.org/wiki/Joseph_Paxton.

Some of the central organizing principles of his plans include the hierarchy of paths, vertical limitation and marked spatial composition. He bravely launched major grading of the relief, particularly on the peripheries of the sites. His works are characterized by plant introduction well-adjusted to the local endowments and by water management regulated by the relief forms. He inserted the edifices subsequently, as a new stratum, as it were. Looking back from the 21st century we can still clearly discern the major principles of Paxton's public park design. They are schematized in the below illustration no 3.

4. Major trends in 19th century Public Park design¹⁵

The public park as an institution appeared in Europe in the first half of the 19th century. Since its appearance, the demand for public parks has only increased, but the customs of park use have partly changed. In the heroic age of public park design, the following were the main trends summed up in brief.

a. Heroic parks

In Hirschfeld's view, parks are not only venues of education and socializing, but also instruments of patriotic training. Accordingly, the statues, art works in a park should elaborate themes that convey the atmosphere of a nation and its history. Each park should have at least one edifice with busts, paintings of national heroes to reinforce the patriotic and esthetic sense¹⁶.

b. Romantic public parks

These parks are characterized by the mood of landscape gardens achieved by the design of the paths and peculiar space composing effects of plants: trees planted in clusters and in sets like natural woodland, lines of a romantic character, various atmospheric elements (forms, light-and-shade effects, masses) like in country house gardens¹⁷.

c. English public parks

In his *Encyclopaedia of Gardening* Loudon describes how a park goes into public property and serves the good of society. A public park was at first a garden for education, for the improvement of botanic knowledge providing free or cheap entertainment for the visitors, already with some sport function¹⁸. It is economical, easily maintained and also satisfies curiosity after several visits.

¹⁵ The trends are summed up on the basis of Csepely-Knorr Luca: *Korai modern szabadtérépítészet* [Early modern landscape architecture], doctoral dissertation, BCE, 2011.

¹⁶ Christian C. Hirschfeld (1785), *Theorie der Gartenkunst*.

¹⁷ Nebbien Heinrich (1816), *Ungarns Volksgarten der Koeniglichen Frey-Stadt Pest*.

¹⁸ Joshua Major (1852), *The Theory and practice of Landscape Gardening*.

d. Democratized parks

A perfectly open park (e.g. Central Park) for all citizens to use and enjoy its advantages irrespective of rank (earlier it was the privilege of the nobility)¹⁹. Further developed, a public park offers entertainment and recreation facilities for all age groups and all social strata.

e. Complex public park

Principles: healthy environment, possibility for recreation and entertainment, moral and esthetic improvement, enjoyment of the beauty of nature. It pays attention to details such as style of path design, location of quality edifices with regulated surroundings. The principle of using native plants lives on, with the use of exotic species at a few salient points of a garden. It alloys the planning principles of earlier decades and tries to use them in an ideal combination²⁰.

f. Park system

The principle of a park network was elaborated by John C. Loudon²¹ and F.L. Olmsted²²; they thought that park design must be part of a comprehensive plan of green surfaces at the scale of urban design, with ties to other aspects of a town plan. Their hierarchized radial road network within a green belt became integrated in major urban programs as a result of which a considerable part of great European cities have been fundamentally reorganized. Part of the unified conception is the set of large nature-imitating parks, the double alleys of trees linking them and the supplementary urban function which thus create a livable medium for the population of any town.

In his *ars poetica* Joseph Paxton, the representative figure of 19th century public park design, summed up the major principles of the main trends, highest priority of them being hierarchy (realized on varying scales in the great parks of Europe, the Isles and the States). Other principles like disseminating knowledge and adapting Nature can also be demonstrated in both Paxton's and other designers' work in the century.

5. Examination of what is expected of public parks today

The two fundamental laws of contemporary public park design are the preservation of the historic quality of the public parks and the integration of new social needs and expectations into the historical parks.

Three important analyses were carried out to map the current needs of park usage:

¹⁹ Olmsted Frederick Law (1851), *The People's Park at Birkenhead, near Liverpool*.

²⁰ Meyer Gustav (1873), *Lehrbuch der schönen Gartenkunst*.

²¹ Loudon John Claudius (1860), *Encyclopaedia of Gardening*.

²² Olmsted Frederick Law (1868), *The concept of the "Park Way"*.

- we analyzed all important and comprehensive surveys of Budapest’s large public parks of the recent past²³,
- we analyzed the submitted Hungarian works of the “Paxton Design Competition” (City Park, People’s Park, Margaret Island) in which all salient Paxtonian principles were present – following from the theme of the competition, too,
- we analyzed the functional-esthetic characteristics and use of the public parks/spaces of Budapest renewed (or created) in the past fifteen years (a total of 40 parks were analyzed; the categorized list of green surfaces is in ill. 5).

In light of this, the following important conclusions for research can be summed up concerning contemporary customs of park usage:

Demand for passive leisure is increasing. Since the majority of activities of recreation (playground, sports courts, communal spaces, catering, etc.) are not only carried out in public parks but in different public spaces, the attendance of parks is decreasing; the two major functions which people visit parks for is taking walks and contemplation.

The forms of active recreation are concentrated along the edges of the parks. When the plan of a park is studied, it is easy to see the spaces of active recreation near the entrances, in easily accessible places. It follows that the middle areas of large parks remain unexplored (with the logical consequence of lower public safety and level of park maintenance).

There is a growing demand for infrastructural development and services. There is strong demand for more catering units, services, elaborate information system, that is, a more urban character in parks; the lack of maintenance and facilities of daily use (benches, garbage cans, lights, parking lots, paving) all reinforce this need.

There is a growing need for image elements and communication. Contemporary park users ascribe signal importance to sight, to the visual aspect which is a basic clue for anyone creating a mental map; the broad-scale communication of the recreational-cultural potential of a park is necessary (the park must be “put on the map” together with its “brand”).

There is an uneven scatter of park users by age, the absence of children is conspicuous. Saliently overrepresented are the visitors aged 30-60, partly owing to the earlier described deficiencies. Functions attracting children and servicing units are missing; there are “only trees”.

There is a growing rate of park users arriving on foot or by public transport. Adequate gates have to be created so that pedestrians should not feel endangered by heavy automobile or public transport traffic.

There is a growing preference for public parks by residents in the close neighbourhood. It can generally be stated that the Budapest parks do not attract crowds from a far, their function as public parks of the city is weakening. Visitors of parks can be divided into three groups: transit visitors; those spending a short time (e.g. meeting); those spending lengthier time. Dominant is the transit function so catering for it requires great attention, but

²³ E.g. Studio Metropolitana Urbanisztikai Kutatóközpont Kht (2004), *Közterületek használata és megítélése Budapesten* [Use and evaluation of public spaces in Budapest]; Capital Research (2007), *Városliget, Népliget, Margitsziget – kutatási jelentés* [City Park, People’s Park, Margaret Island – research report]; Angyalzöld-Sonda Ipsos (2008), *Közparkok* [Public parks] – opinion poll among the population of the 13th district of Budapest.

with right planning efforts (assigning greater role to waiting, meeting and recreation) the rates of the other two groups can also be increased.

Table 1

List of 40 investigated open spaces/public parks

LIST OF INVESTIGATED PARKS		
no	name of the site	year of renewal/ execution
Historical Garden Reconstruction		
1	Gödöllő Royal Castle Garden	2010
2	Hatvan Széchenyi Hunting Museum	2014
3	Várkert Bazár Budapest	2014
4	Dég Dastle Garden	2015
5	Doba Castle Garden	2015
Historical Urban Space/Square Renewal		
6	Budapest Szent Gellért Square renewal	2008
7	Budapest Fővám Square renewal	2009
8	Budapest Március 15 Square renewal	2010
9	Pécs Main Square renewal	2012
10	Budapest Teleki Square renewal	2013
11	Budapest Kossuth Square renewal	2014
12	Budapest Bikás Park renewal	2014
13	Budapest Nyugati Square renewal	2015
Historical City Park Renewal		
14	Budapest Margaret Island partial rehabilitation	2010
15	Pécs Tettye City Park	2010
16	Veszprém Séd Patakparti Sétány renewal	2010
17	Budapest „Angyalzöld” Project	2013
18	Debrecen Nagyerdő Park renewal	2014
Historical Downtown Park/Furniture and Streetscape Renewal		
19	Budapest Főutca renewal	2009
20	Veszprém Kossuth Lajos street renewal	2011

21	Budapest Hollán Ernő utca	2011
22	Balatonfüred Historic Neoclassical Reform-Era Downtown	2012
23	Budapest Ditrói Mór utca	2013
24	Hódmezővásárhely Downtown renewal	2013
25	Budapest Ferenciek tere renewal	2014
New Public Park Development		
26	Budapest Milennáris Park	2000
27	Budapest Nemzeti Szanház Park	2009
28	Budapest Művészetek Palotája Park	2009
29	Budapest Kopaszi Gát Park	2009
30	Budapest Infopark	2010
31	Budapest Bajor Gizi Park	2010
32	Budapest Graphisoft Park	2010
33	Budapest Kinizsi utcai park	2011
34	Budapest Csarnok Square Park	2013
35	Budapest Rákóczi Square renewal	2013
36	Budapest Szent Gellért Square	2014
37	Budapest Etele tér-Kelenföld Railway Station	2014
38	Budapest II. János Pál pápa Square	2014
39	Budapest Baross Square	2014
40	Budapest Eiffel tér-Nyugati Railway Station	2014

The average time spent in parks is on the decline. The brief stay of crossing a park is the most typical use. Studied statistics reveal that the average visit in parks is typically 1-2 hours.

Values and needs. It is first of all the old tree stock, the historical atmosphere and the similarity to nature that justify the intangible significance and ecological role of the parks. It is therefore advisable to preserve as many old tree specimens, the ratio of green surfaces and the atmosphere that survive from the old parks. There is apparently less demand for the creation of new parks than for the maintenance and modernization of the old ones, with particular stress on the extension of sporting facilities; sports have become a fairly new pastime that requires its place in the program of the parks.

6. Conclusions

Concerning the topicality of Paxton's park designing principles summed up in chapter two, the following can be stated.

HIERARCHY

Today the park hierarchy refers to more than the different modes of traffic and routes. It is significant that in our contemporary parks the functions are not set side by side but the designer tries to arrange them in a hierarchic structure in accord with the imagined requirements of the users. The arrangement of space is subordinated to function, the main routes of communication are decisive from the first sketches on, since transit traffic is the primary function to be served by the park. The accents have shifted somewhat from Paxton's ideas, but the backbone of the theory is still valid.

SELF-SUBSISTENCE

With the spread of the idea of sustainable development more and more parks use renewable resources. The designs submitted to the Paxton competition reveal that the youngest generation of landscape architects perfectly identify with this attitude, each submission laying great stress on this principle. The solutions are diverse (sun collectors are more frequent in this regard, but in Margaret Island geothermal energy was considered, and in the People's Park a local nursery-garden would supply the plant replacements, etc.).

INNOVATIVE KNOWLEDGE

Like sustainability, this principle is also frequently observed in contemporary landscape design. Technological innovations are gladly applied to the parks. Parks are no longer the reservoir of botanic knowledge or natural scientific observations but through diverse media they may have a role in modifying mentality and culture. They may make people more environment-conscious, help them realize the importance of sustainable development, and contribute to knowledge of the historical past and to the dissemination of national values (e.g. Olympics Park, March 15th square). The technology, the manner of forwarding information has further improved: via telephone applications with the help of wireless internet visitors can get access to information and that may enhance the popularity of a park, too. These innovations signpost the future directions and the significance of this principle may further increase.

ADAPTED NATURE

This principle had a salient role in several planning sites. It had great emphasis in the Paxton competition, e.g. in the case of Margaret island the designers suggested more access to the water and emphasized the ecological role of the site. As for the People's Park project, one of the goals was to use plants of the Hungarian flora. Not only had the competitive designs reflected upon the principle of adapted nature. The realized park and public square designs also adopt this principle in the use of vegetation: for the sake of a more livable urban environment we need more biologically active surfaces and greater foliage-covered areas. In design, the needs of the plants to be used must also be taken into account.

SURFACE GRADING

This principle can be discerned in several parks, too: on the one hand, the situation of a park has changed compared to the 19th century, so its physical boundary is even more important to solve the conflicts with surrounding functions (noise and air pollution, visual pollution). In contemporary public parks in Budapest the surface of the park is often quite animated: there are elevated, tilted cassettes, sun dunes, spectacular grading solutions that are visually attractive and inspiring for the visitors.

EDIFICES

It is common to have several smaller edifices instead of a large dominant one in contemporary gardens. This is justified visually, ecologically and economically. Paxton did likewise.

7. Summing up

Our investigation has convinced us that Joseph Paxton's principles of public park design are largely identical with today's principles. The reason is that changes in the expectations of the public mean first of all the extension of expectations. The recreational function is emphatic today, too, complemented with educational, health and welfare components. And these needs can be satisfied on the basis of the principles utilized since the time-tested practice and traditions of the first public parks. Our research underlines that contemporary landscape architecture has somewhat reshaped the Paxtonian principles in line with its possibilities, technological endowments, and the advantages and disadvantages of urbanization, but uses them in every designing task adapted to contemporary needs.

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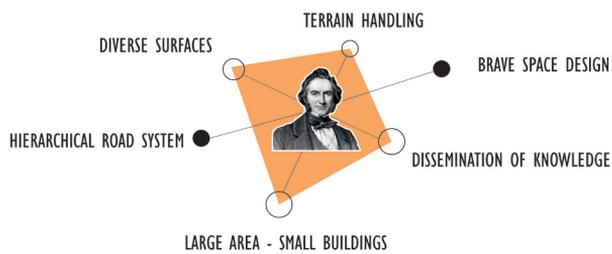
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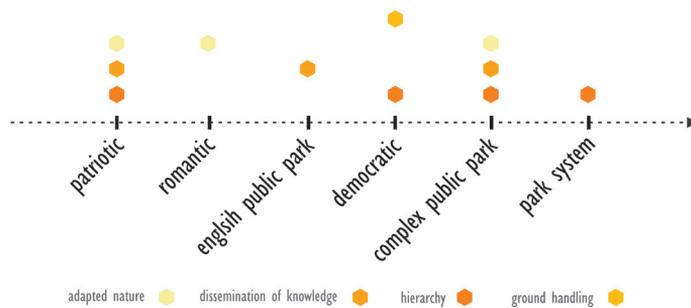
III. 1. The “Conservative Wall” from Chatsworth (photo by Albert Fekete, 2006)

II. 1. „Conservative Wall”, Chatsworth (fot. Albert Fekete, 2006)



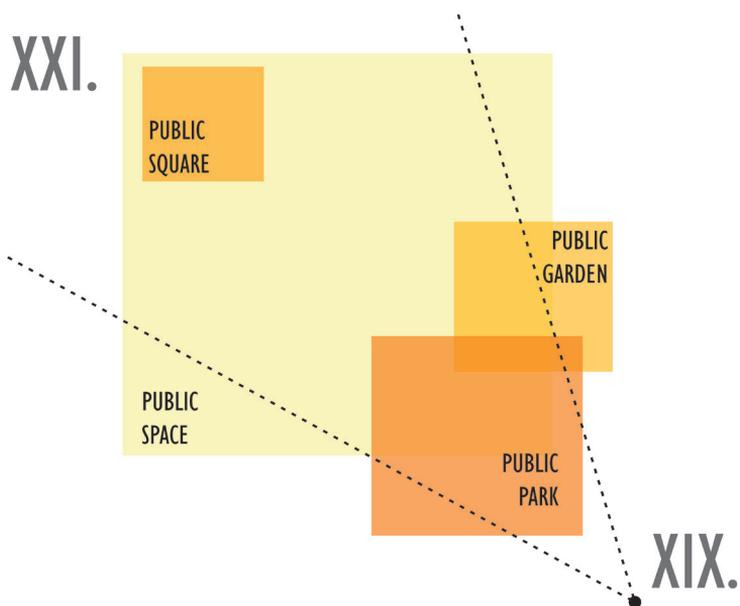
III. 2. Principles of Joseph Paxton’s public park design

II. 2. Zasady projektowania parków publicznych Josepha Paxtona



III. 3. Presence of Paxton’s principles in 19th century trends

II. 3. Obecność zasad Paxtona w tendencjach XIX w.



III. 4. The growing of importance of concept of „public park” in the last 150 years

II. 4. Wzrost znaczenia pojęcia „parku publicznego” w ciągu ostatnich 150 lat