

8 Collective Expertise behind the Urban Planning of Munkkiniemi and Haaga, Helsinki (c. 1915)

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Munkkiniemi-Haaga and Greater Helsinki. Studies and proposals concerning the planning of the area. Under this title Eliel Saarinen issued a notable book, the first work published in Finland dealing with the urban planning. [...] Who could have thought that an architect in our poor country would have found money enough for creating this kind of a project for realizing the beautiful future visions revealed for the artist, when he for the first time dreamed about drawing a whole city!¹

This is how the Finnish architect Bertel Jung (1872–1946) begins his book review in September's issue of the trade journal for Finnish architects, called *Arkitekten—Tidskrift för arkitektur och dekorativ konst*, in 1915. The book under review, *Munkkiniemi and Haaga plan* (1915), was published in the same month together with the grand opening of a related exhibition held in Helsinki. Both the book and the exhibition, funded by M. G. Stenius Corporation Ltd, functioned as advertisements for the newly planned neighborhood, Munkkiniemi and Haaga, located outside the City of Helsinki's borders.

The 165-page-long publication was, though, more than a book. It not only contained the guidelines and detailed plans for the future development of a specific area, Munkkiniemi and Haaga, but also a broader context on the essence of the planning. The ideas were presented in various forms: texts, pictures, photographs, charts, and maps. The book was published under the name of the Finnish architect Eliel Saarinen (1873–1950), who had already achieved international fame with his plans for capital cities Canberra, Australia (1912), and Tallinn, Estonia (1913).² The roots of his reputation can be traced back to the year 1900, when Eliel Saarinen and his colleagues were celebrated for designing the Finnish Pavilion for the World Exhibition in Paris.

Despite their geographical remoteness from the core areas of Europe and although few in number, the architects in Finland, the autonomous Grand Duchy of the Russian Empire, were strong participants in the assembling of the new concept of urban planning. Even though Helsinki, the capital of Finland, was still a small city with approximately 100,000 inhabitants in 1910, it was gladly compared with other capitals. This was partly due to the exponential

population growth. During the previous 40 years, Helsinki had tripled its population, and almost in the same period the population of whole Finland had increased from 2 to 3 million, thus accelerating the recently begun urbanization. The problems other growing capitals had faced, especially the metropolises, were seen as plausible problems for the future Greater Helsinki.³

As Finland was a centrally governed part of the Russian Empire until the end of 1917, the right to make urban plans was monopolized. However, a gradual shift transferring the planning from the central power to the local level occurred at the beginning of the twentieth century, thus allowing the development of the former bureaucratic planning toward a more modern European structure.⁴ Internationally, the era before the First World War was the time when urban planning reasserted itself as a profession, being characterized by the collaboration of specialized experts who had a mutual aim: to manage the city as a whole.⁵ This era also marked the beginning of a formation phase of a new discipline: Urban planning is an excellent example demonstrating how a new discipline can start as a multidisciplinary project of three established disciplines: architecture, engineering, and surveying.⁶

Premises for the Study

Collaboration as an integral part of planning is especially highlighted by the researchers concentrating on urban planning and design in present-day settings.⁷ The older research tradition on planning history concentrated more on individuals, mostly an architect or an engineer, as the core of the research.⁸ The newer tradition recognizes the need for diverse expertise in urban planning, but it is, nevertheless, only rarely included as an explicit part of the research.

The Munkkiniemi and Haaga plan (1915) has been referred to in several studies, especially when the research concerned the architect Eliel Saarinen or the planning history of the City of Helsinki.⁹ Even though the planning of Munkkiniemi and Haaga was only one project among several contemporary planning initiatives in the Greater Helsinki area around the time, it was even then very special because of its size. It was estimated that the population of the area would exceed 169,000 inhabitants over the following 30 years, thus multiplying the current population of Helsinki.¹⁰

However, the actors behind this grand plan have not previously been broadly, or explicitly, researched. Hence, by having *The Munkkiniemi and Haaga plan* as its focus, this chapter addresses the need to acknowledge the diverse expertise behind urban planning during its formative period, before World War I. The aim of this chapter is not to neglect the importance of Eliel Saarinen as a planner, but to discover who the other actors behind the planning of Munkkiniemi and Haaga were, and an overall understanding of how each of their work contributions was connected.

The need to understand expertise as something more than an individual property and to bring the actual work practices into the focus of the

research are the main features of the theoretical concept of *collective expertise*. This concept is used loosely as a tool to explore *The Munkkiniemi and Haaga plan* and to reach a deeper understanding of expertise behind it. In this article, I use management researcher Niina Koivunen's definition of the concept. According to her, collective expertise is "an ongoing processual ability to function together with other experts and create new knowledge."¹¹ How then can we recognize these experts and interactions behind a historical, published plan?

The key is to move the focus from acts to action, in other words, from *plans* to *planning*. The understanding of planning as a social process is highlighted, in contemporary settings, by urban planning researcher Orly Linovski. She notes how urban "[d]esign can be understood as a fundamentally social process, formed by interactions between actors—not only other designers, but also planners, politicians, clients, the public, and other participants—that create, modify, and refine design ideas."¹² Hence, this chapter addresses the need to unravel the published and printed *Munkkiniemi and Haaga plan* into planning as a process. By doing so, the many experts and the encounters between them become visible. Instead of being a product of a planner, the plan was, in reality, the result of collective action, as the American architect Frederick Law Olmsted Jr. had already emphasized in 1911.¹³

The main source material for the chapter is the published *Munkkiniemi and Haaga plan* (1915), as we may call the work. Even though the book was published with the architect Eliel Saarinen's name on the cover, it was not written solely by him. In addition to the chapters concerning the planning of the area and written by Saarinen, the publication includes writings of three other individuals, namely judge Johan Rafael Ugglä; the director of the Stenius Corporation, Sigurd Stenius; and the architect Gustaf Strengell.¹⁴ Even though *The Munkkiniemi and Haaga plan* broadly presents the various aspects of planning, it does not explicate the processes behind it.

Thus, to reveal the social nature of planning, the source material is broadened from the mere published *Munkkiniemi and Haaga plan* by including archival material. The archive of the M. G. Stenius Corporation, the company that financed the planning, contains, for example, correspondence and the annual reports of the corporation. As these materials are, nevertheless, fragmented, a complete history of the planning as a process cannot be reconstructed. The picture is also extended by the use of contemporary journals, mainly the Finnish trade journal for architects, *Arkitekten*. The latest news on international urban planning was very quickly reported in *Arkitekten*. In addition, the most recent foreign trade journals were available in Finnish bookstores.¹⁵

Because of the restrictions caused by the source material and the breadth of the concept of collective expertise, it is not possible to entirely cover either the project or the concept. Thus, this article will focus on demonstrating the existence of specific experts—architects, engineers, and businessmen—and their participation in the planning process of Munkkiniemi and Haaga.¹⁶

The participation in planning may be understood broadly. As researchers Kai Hakkarainen, Jiri Lallimo, and Seppo Toikka note, the concept of collective expertise allows the recognition of several kinds of connections and encounters, such as concrete collaborations, as well as participation in a specific expertise culture, or in networks of knowledge.¹⁷ Even though the experts might not have met each other in person, being part of the same network of knowledge brought them together. These encounters might also span time, for example, in the form of literature: A book or an article might function as a fellow-expert.

Hence, in this article, the diverse sides of collective expertise behind the planning of Munkkiniemi and Haaga are approached by taking a closer look at three intertwined moments. The article is divided into three parts following a specific aspect of the planning process. The first part briefly presents the premises for the planning, most importantly why the area of Munkkiniemi and Haaga was acquired by the Stenius Corporation. The second part highlights the preparation of the acquired land for the next steps to be taken in the process; the topic being especially approached from the point of view of technical expertise. The third section attempts a closer study of the different types of plans and architectural expertise used in making the plans. Last, the conclusion provides some comments on the collective expertise behind urban planning.

Acquiring the Land

The areas under discussion in the publication, Munkkiniemi and Haaga, were situated next to each other just beyond the limits of the City of Helsinki, in the future Greater Helsinki area. In the fall of 1910, both of these land areas were bought by a Helsinki-based company, M. G. Stenius Corporation. The company, initially established as a gardening business in the 1870s, had slowly broadened its field and had increasingly become involved in the property business. The company had bought numerous areas outside the city to develop them as new suburbs, following the national and also the European trend at that time.

Helsinki had faced a boom in private land corporations in the early twentieth century; in 1911, eight land companies had housing projects underway in the surrounding areas of Helsinki.¹⁸ This expansion of land companies was mainly due to inexpensive land, inadequate legislation, and, according to contemporaries, the inaction of the city.¹⁹ The models for the land companies were from international examples. For example, in Britain and Germany, the private corporations had built suburbs and communities since the 1870s. In Britain, this had caused substantial problems; the great land owners had speculated by buying the land at a low price and building expensive apartments, leaving a large number of people homeless.²⁰

In Britain, the garden city ideology was one of the most famous responses to the speculative private land corporations.²¹ The ideology was presented

in a pamphlet written by an English parliamentary record keeper and later social reformer Ebenezer Howard (1850–1928) in 1898. As all the problems faced in cities, he stated, were based on the mass movement from the countryside to the cities, the solution was to invert the movement: From now on people should migrate from cities back to the land, to garden cities combining the best sides of both cities and the countryside.²²

Howard's visions did not materialize in their original form, but as garden suburbs, which in Europe became a widely used application of Howard's original idea of independent garden cities.²³ The difference between these two, as for example, the architect Gustaf Strengell (1878–1937) noticed, is crucial: While the garden cities were to be independent entities, garden suburbs were always related to a larger city.²⁴ As the name of the publication (*Munkkiniemi-Haaga and Greater Helsinki. Studies and proposals concerning the planning of the area* (1915)) already reveals, the areas of Munkkiniemi and Haaga were not planned as separate entities, but as a part of a future Greater Helsinki area.

The prefix *Greater* could, according to Eliel Saarinen, be applied, when a metropolis was developing together with its surrounding areas, as was often the tendency.²⁵ This gradual move from planning smaller areas toward an understanding of the city and its surroundings as a regional entity was distinctive for early twentieth-century urban planning. One of the earliest and most reputed examples is the competition to make a plan for Greater Berlin, dating back to 1905. The results were presented in the international Berlin exhibition for urban planning five years later.²⁶ The exhibition was visited by numerous international guests, including Finnish members, interested in planning questions.

The idea of planning regional entities was popular at the time with demands being made for the planning of, for example, Greater Boston and Greater New York.²⁷ Nevertheless, planning such large entities and defining the relationship between the parent city and the surrounding residential areas or municipals was not easy. This can also be seen in *The Munkkiniemi and Haaga plan* which includes a chapter written by Sigurd Stenius (1879–1969), the Director of the Stenius Corporation. His chapter is dealing with various communal questions and also raising concerns about the relationship of Munkkiniemi and Haaga to the City of Helsinki. According to Stenius, the aim was that Munkkiniemi and Haaga would form an independent rural municipality, nevertheless, collaborating closely with the City of Helsinki.²⁸

As a consequence of the rapid boom in the development of the surrounding areas of the cities, the laws did not always resolve the newly arisen problems. In contrast to Sweden, where the planning activities were guided by new laws, the laws in Finland were outdated. The only act guiding the building of towns in Finland dated from 1856 and mainly concerned fire safety and building inside the towns.²⁹ The newer, international laws did not only guide the building practices, but they had also an effect on who could plan and build. Great Britain passed its first town planning act in 1909; the act shifted urban planning away from private operators in order to become a local

governmental function. This was also the case in Sweden, which had already passed a new law two years ago. However, in Finland and in Germany and in the United States, the situation remained different: In several cases, it was the businessmen who had the initiative in the planning processes, with inadequate legislation allowing private operators to operate outside cities.³⁰ This was also the case in the planning project of Munkkiniemi and Haaga, which was led by the Stenius Corporation, headed by the businessmen Leopold Lerche (1877–1927), Sigurd Stenius, and Julius Tallberg (1857–1921).

The aim of the company was to make a profit by selling plots from the areas it owned. Hence, choosing the area to be developed was crucial for the company's success and thus preceded the planning and hiring of Eliel Saarinen in the fall 1910. According to the Stenius Corporation, the opening of a new railway from Helsinki to Karjaa in 1903 was a crucial moment for the company's future. The railway passed by areas already owned by the corporation, areas which were originally bought for gardening, the main function of the company before it was turned into corporation in the late 1890s. From then on, the corporation became increasingly involved in the field of land business, and the areas of Haaga and Munkkiniemi, situated near the railway, were bought.³¹

Following the situation in German cities especially, the architect Bertel Jung noted in 1911, how the fast development of the railways had removed the limits to the expansion of cities by changing the meaning of distance. A main factor in organizing the relationship between the parent city and the surrounding areas was formed by the connecting transportation from the new suburbs to the existing city center.³² The importance of this connection to the city center of Helsinki was understood by the Stenius Corporation even before the planning had begun, as the annual reports of the company indicate. After acquiring the land, the next phase was to map the terrain as quickly as possible. This was to be done in order to define the most suitable areas for building the new tram lines from Munkkiniemi and Haaga to Helsinki.³³

Mapping the Terrain

The areas of Munkkiniemi and Haaga, acquired by the Stenius Corporation, were mainly unbuilt areas, which was, according to Eliel Saarinen, the optimal situation for planning. The planners did not need to be concerned about existing structures and their possible demolition, in contrast to the opposite situation when planning the existing cities.³⁴ The situation was more reminiscent of the English garden cities, which one of *The Munkkiniemi and Haaga plan* writers, the architect Gustaf Strengell, described as “fully new cities, built according to accurate plans from the very start.”³⁵ Even though the areas were mostly unbuilt, the planning was not done on a blank canvas. Preinformation about the area was needed. Hence, this subchapter is concerned with what kind of expertise was needed to gain this information and by whom it was collected.

According to several texts of Eliel Saarinen, every city and each suburb needed to have its own character.³⁶ This character was to be determined by its function, such as being the capital city, but also by the location and the local conditions; the latter, according to Bertel Jung, also being highlighted in the competition rules for planning Greater Berlin in 1908.³⁷ In 1911, Saarinen had been invited as a planning expert to give his opinion on the future development of Budapest. In his statement for the planning of Budapest (1912), Saarinen described how “the city as a whole must develop itself according to the preconditions the terrain has set.”³⁸

The Scottish biologist and sociologist Patrick Geddes (1854–1932) is well known for his work on understanding the city in the context of its surrounding region. Geddes underlined the importance of surveying all the aspects concerning the past and the present of this regional entity before making plans for it.³⁹ The idea of making surveys before planning was used, for example, in the famous project for planning Chicago, as a planning memo by the head planner, architect Daniel Burnham (1846–1912) reveals. The plans were completed in 1909 and presented for Finnish readers three years later in *Arkitekten*.⁴⁰ As Saarinen noted in the description on the Greater Tallinn project, “the absence of precise cartographic and geodesic material” would forbid detailed planning of certain areas.⁴¹

Several kinds of surveys focusing on the ground were made in Munkkiniemi and Haaga areas during the planning project. These included, for example, surveys for finding groundwater and, more importantly for the planning, the topographic of the area needed to be mapped.⁴² In the Greater Helsinki area, this was particularly important because the height of the ground varied considerably. However, the topographic material concerning Helsinki and its surroundings was at the time very scattered and heterogeneous.⁴³

This was partly due to the fact that the measuring of height differences was still quite new at the turn of the century in Finland and also internationally, and was previously done mainly for military purposes.⁴⁴ As Finland was under the Russian regime, the only maps of the area extensively showing height differences were made for the Ministry of War of the Russian Empire, around 1870–1907. According to the architect Bertel Jung, these maps were, however, “in details extremely insufficient.”⁴⁵ It was also around this time, in 1892–1910, when the first nationwide leveling of the ground, that is, measuring of height differences, was conducted in Finland. However, it was too sparse for making maps accurate enough for practical needs.⁴⁶ As neither of the aforementioned mappings was detailed enough for the needs of making plans for the new suburb, new surveys were needed.

Traditionally, the leveling with relating tasks was done by land surveyors, who had for decades been educated in the same Polytechnical Institute with the architects and engineers in Helsinki. As the land companies began to buy and develop privately owned areas in the surroundings of Helsinki, the demand for surveys increased rapidly. In Finland, these jobs were often

done by the land surveying officials in their spare time; in 1911, there were only two full-time privately operating land surveyors working as consultants.⁴⁷ As the areas of Munkkiniemi and Haaga formed a large entity, in total 860 hectares, the leveling would take a considerable amount of time. It is possible that the company was, thus, obligated to hire other technicians rather than overemployed land surveyors for the job.

As the Haaga area had been bought by the Stenius Corporation before Munkkiniemi, the surveys and other preliminary works were carried out there earlier. The leveling of the Haaga area had already been started in 1908 by two master builders, Lindman and Staaff.⁴⁸ Concerning the leveling work, the Stenius Corporation also made inquiries of a possible cooperation with the City of Helsinki. According to the Stenius Corporation's Annual Report for 1909, the leveling was, at least, "done after the same method which the City of Helsinki uses for its areas."⁴⁹

The fall of 1910 was in many ways meaningful for the Stenius Corporation as from then on it concentrated its efforts mainly on the Munkkiniemi and Haaga project.⁵⁰ In addition to securing the whole of the Munkkiniemi area into the company's hands, the company hired two new experts: the architect Eliel Saarinen and the engineer Edvin Hedengren (1877–1937), the former was also the newest shareholder in the corporation. Edvin Hedengren, a former employee of the City of Helsinki's construction office, was appointed to the Stenius Corporation as its head of technical works.⁵¹ The first major work of Hedengren was to make the necessary surveys on the newly acquired Munkkiniemi area. The work to level Munkkiniemi began in January 1911 and continued for almost the whole year.⁵²

Making the surveys was not usually only a matter of measuring, but also converting the numeric knowledge into a more illustrative form. According to Patrick Geddes, the best way to display a myriad of information was by converting the knowledge into a map.⁵³ The data gathered in the field, using chains to measure the lengths and various kinds of precisions instruments to measure the vertical and horizontal angles, were taken to the drawing tables in the offices. Here, the surveyor with the possible help of assistants converted the data into maps and contour lines.⁵⁴ This was also the case in Munkkiniemi, which Edvin Hedengren had surveyed in great detail: The topographic variation of the area is presented in contour lines, each showing a meters elevation.⁵⁵

Converting the knowledge into a more illustrative form was important for the planning project as every expert participating in the project was not familiar with surveying. As architects, however, were educated in the same Polytechnical Institute with engineers and land surveyors in Finland, they shared several compulsory courses; thus, sharing the basic knowledge of each other's disciplines.⁵⁶ This was important for understanding their coworkers' tasks and efforts in the project: A person did not need to be an expert in every field but having an understanding of the knowledge and know-how of other disciplines helped the collaboration.⁵⁷

The topographic maps made by Hedengren, Lindman, and Staaff were used for years by Eliel Saarinen's architecture bureau.⁵⁸ They were used both as the bases for the plans and for creating a huge plastic model of the whole Munkkiniemi and Haaga area. The need for similar models was highlighted in several texts by Saarinen, as well as by Bertel Jung.⁵⁹ While visiting the urban planning exhibition in Berlin in 1910, Jung took notice on the many plastic models presented there.⁶⁰ Later Jung noted the models to be "the sign of the time, a proof that the studies and preliminary works" are done more thoroughly and seriously than before (Figure 8.1).⁶¹

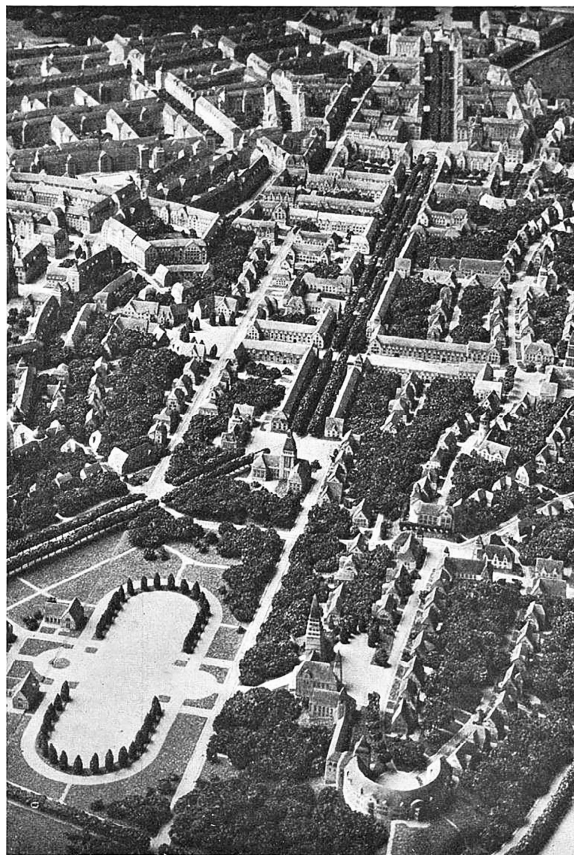


Figure 8.1 A detail of the Munkkiniemi and Haaga model. The model is a result of work done by several individuals. The artist Loja Saarinen, Eliel Saarinen's wife, made the base of the model according to the engineer Edwin Hedengren's surveys. The public buildings were made by Eliel Saarinen and the dwelling houses by the assisting architects working in Saarinen's bureau. The trees and other plantings were made by several of the aforementioned; the children of Saarinens, Eero and Pipsan, also helped.⁶²

According to Kai Hakkarainen and his coauthors, the material dimension of the collective expertise stands out especially when the social dimension, for example, concrete encounters with other experts, was not possible. As they note, even though “the engineers worked and negotiated face-to-face, a considerable part of their work focused on various knowledge artefacts, as drawings, plans, and other documents.”⁶³ This is true also in the historical context of Munkkiniemi and Haaga planning project. The experts working for the project did not meet daily, as the company did not even have its own office before June 1912.⁶⁴ Eliel Saarinen, for example, had his own architecture bureau in Kirkkonummi, an hour’s train journey from the center of Helsinki. In addition to the meetings of the Stenius Corporation, the experts were in contact with each other at least by mail, as the substantial correspondence of Sigurd Stenius indicates.

Even though the importance of the topographic information is not highlighted explicitly in *The Munkkiniemi and Haaga plan*, its significance for Eliel Saarinen’s work was crucial. The plans were based on these surveys, and thus the understanding and knowledge of the topographic of the area could be read from the completed plan maps. The topographic maps and the model functioned as conveying artifacts, retaining and furthering the gained knowledge of the topographical variations in the Munkkiniemi and Haaga area. Even though the actual leveling work was only in a few hands, its success demanded understanding and support from the company. The work would not have been done if it had not been understood as crucial for the following phases of the planning process. As the annual report of the Stenius Corporation reveals, the company understood very well the importance of topographic surveys. The next step, the planning of the road network, could not be taken before the surveys and maps based on them were ready.⁶⁵

Planning the Area

When the topographic surveys were ready, the baton was passed on more firmly to Eliel Saarinen and his architecture bureau. An interesting and visionary plan for developing the area induced people to invest in the land and move to the area, thus providing proceeds for the land company originally owning the areas.⁶⁶ It was not a coincidence that the Stenius Corporation hired Eliel Saarinen for the job, as the great businessmen Leopold Lerche and Julius Tallberg were both personally acquainted with Saarinen and his previous work.⁶⁷ The aim of this subchapter is to show how the necessary knowledge for making the plans was gained collectively and how the concrete planning was the collective action of various individuals.

Even though the land surveyors and engineers had produced the knowledge about Munkkiniemi and Haaga area in the form of topography maps, the work to convert this knowledge into a road network was executed by the architects. Arguing for architectural expertise in urban planning was strongly intertwined with the prevailing situation in the whole planning field at the turn of the twentieth century in Europe.⁶⁸ During the nineteenth

century, the responsibility for planning had altered from one profession to another in Finland, and being seen as a job for land surveyors, engineers, or architects. However, after the 1870s, the planning mostly became the responsibility of the surveyors and engineers.⁶⁹ The reason the architects regained their position in planning in Finland as well as internationally is often seen to be thanks to the Austrian architect Camillo Sitte (1843–1903) who criticized, in the late nineteenth century, the current planners for building cities with only a straight ruler. According to Bertel Jung, it was the task of architects to bring an understanding of aesthetics into planning.⁷⁰

From then on, aesthetics was not seen only as a beautification, something glued onto the city, but it was also an important element in defining the structure of the city. According to Saarinen, it was the road network which formed this structure, a sort of a framework, on which the rest of the area's plan should be based on.⁷¹ Even though the architects had taken their place in the field of planning by arguing for their expertise in aesthetics, this view was soon seen as too narrow. It was understood that not only the aesthetics of the city's form was important but, above all, the contents and the meaning of that form.⁷²

The Munkkiniemi and Haaga plan (1915) begins with a long introduction to the histories of cities and urban planning, thus placing the plan as a part of a centuries-long history of an international, mainly European, planning tradition. Making grand overviews for the development of urban planning was characteristic for the contemporary planning field as the aim was to show the deep roots of this new profession.⁷³ This introductory part is written by a friend of Eliel Saarinen, the architect Gustaf Strengell, a keen follower of British urban planning. In his introduction to the historical and contemporary urban planning section, considerable attention is paid to various kinds of plans, which Strengell divides according to the shape their road networks form: geometrical or organic.⁷⁴

Strengell gives the latest, rivaling examples of both of these: straight and wide boulevards versus narrow, twisty roads. Even though they had a centuries-long history, the boulevards are attributed most often to the prefect Georges-Eugène Haussmann, who was the leader of the Paris renovations in 1853–1870.⁷⁵ This was also the case in *The Munkkiniemi and Haaga plan*, in which these Parisian boulevards were pictured as examples of successful aesthetics.⁷⁶ However, opposite opinions also existed. These are most often accredited to the architect Camillo Sitte, who criticized Paris for the standardization and regularity it represented, emphasizing the importance of diversity and irregularity in cityscapes.⁷⁷

In *The Munkkiniemi and Haaga plan*, Gustaf Strengell criticized the planners, who had followed the ideas of either Haussmann or Sitte without an understanding of scale. According to him, the character of the planned area should be noted: Grand boulevards are more suitable for metropolises than serpentine alleys and picturesque views. According to Strengell, the English planner Raymond Unwin (1863–1940) had most successfully combined

these two in his plans.⁷⁸ Strengell had visited Hampstead Garden Suburb, planned by Unwin, in 1910; only a year after Unwin had published his famous book *Town Planning in Practice*. Several drawings and a map from this book were also printed in *The Munkkiniemi and Haaga plan*.

Moreover, in the road plan of Munkkiniemi and Haaga, both of these elements were used: Picturesque narrow alleys were planned between the dwelling houses and straight boulevards for vehicles. Indeed, according to Saarinen, sharing an opinion of Unwin's, the shape of the roads was determined, firstly, by their function: The main roads were to carry the majority of the traffic, and hence were planned to be wide and straight.⁷⁹ On the secondary roads, the traffic would be lower, thus allowing the roads to be formed in a more variable ways. As German architect Joseph Stübben (1845–1936) saw the case, the needs were different; the traffic needed safety and straight roads while the walkers needed interesting views.⁸⁰

Second, the form of a road was dependent on the topography of the area. Camillo Sitte had criticized the surveyors for making plans that did not take into account the variation of the terrain.⁸¹ As Strengell notes, Sitte's ideas had an important practical application especially when planning an area with high topographical variation: Serpentine alleys fit much better into uneven terrain than straight roads.⁸² The importance of topography particularly for the planning of the road network is illustrated by the fact that the only map explicating the topography of Munkkiniemi and Haaga also shows the road network. The aim of the map is to argue that the chosen structure is based on facts gained from the surveys, as Geddes also underlined (Figure 8.2).⁸³

When the traffic plan prepared by Saarinen's bureau was completed, and thus the structure of the area defined, the making of the master plan covering the whole area could start. The primacy of the traffic plan was also an idea emphasized, for example, by the German urban planner Theodor Goecke (1850–1919), who had established the internationally recognized planning journal *Der Städtebau* in 1904.⁸⁴ As the surveys on the topographic features functioned as the ground work for the planning of the road network, they together now formed an important, firm foundation for the master plan. The master plan for Munkkiniemi and Haaga was prepared by Saarinen's architecture bureau. The first proposal was finished in 1912.⁸⁵ The master plan filled in the gaps left by the road network. The areas demarcated by the roads were converted into housing areas, parks, gardens, and areas for public buildings. The aim of the master plan was similar to Saarinen's description of the aim of the whole *Munkkiniemi and Haaga plan*: The aim was to present the guidelines for the future development of the area.⁸⁶

The final version of the master plan was years in the making, as the letters of Otto-Iivari Meurman (1890–1994), an assisting architect in Saarinen's bureau, verify. According to Meurman, the master plan was in constant change, which caused problems for the assisting architects drawing the bird's-eye view, a popular illustration of the contemporary planning projects, and the details for the publication concerning the area.⁸⁷ When something was changed in

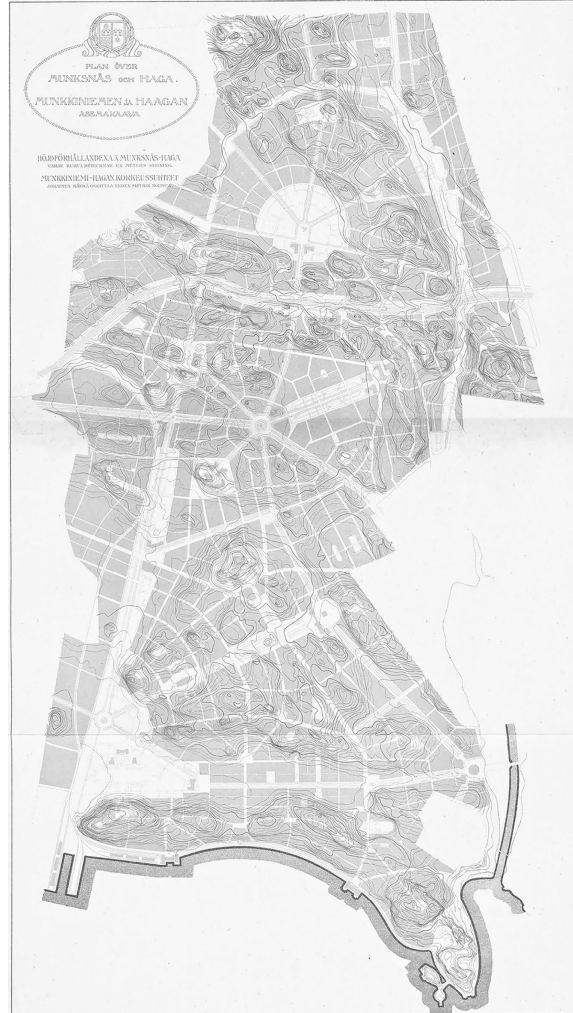


Figure 8.2 A detail of one of the many plan maps in *The Munkkiniemi and Haaga plan* (1915). The map shows the topographical variation of the area and the road network based on it. The topography of the area was important not only for traffic plans but also for building massing. The most important official buildings were placed on the highest hills, thus creating a “crown” for the area.

the plan map, similar changes also needed to be done in the illustrative pictures based on the map.

The changes were made according to comments presented by external experts, such as the architect Gustaf Strengell, who visited Saarinen’s bureau in September 1914, in order to obtain background information for writing his

chapters in *The Munkkiniemi and Haaga plan*. He did, however, also offer to contribute amendments concerning the master plan.⁸⁸ Notions as to which elements were actually to be drawn on the final plan were given by Sigurd Stenius.⁸⁹ Thus, the planning did not proceed straightforwardly but required multiple repetitions. According to Niina Koivunen, acquiring comments on the work and repeating a part of the process according to those comments is not only a way to use feedback but also a way to acquire new knowledge.⁹⁰

Thus, what needs to be remembered is that the plans were made for future needs using contemporary knowledge. How could the plan, therefore, fulfil the needs an area might have 15 years after the plan was made? In *The Munkkiniemi and Haaga plan*, this was solved by having different types of plans in a hierarchical relation to each other, as explained by John Uggla (1870–1954), a judge hired by the Stenius Corporation.⁹¹ The idea presented in the publication soon awoke interest also in Sweden, when a local architect Olof Holmberg described it in a Swedish architecture journal:

Exactly this separation of a master plan, to be ratified by the city officials, from detailed plans is definitely a good proposal, because this conduct gives the city plan the possibility to always meet the needs and desires of the time.⁹²

Hence, such detailed planning allowed the newest knowledge of the time to be acquired and acknowledged.

Thus, the planning of the area did not end when the publication was finished in the fall of 1915. The idea was that the planning would then move on to a more concrete level, a detailed planning, following the guidelines set in the master plan. The detailed plans were to be carried out in a dialogue with both the framework the master plan had set as well as with the current society. These detailed plans were not necessarily made in Eliel Saarinen's bureau or even by an architect. Hence, the master plan functioned as a knowledge artifact, conveying the information from Eliel Saarinen's architecture bureau to the other possible planners. The knowledge was no longer confined to Saarinen's head, but could be used by other planners to carry on with the planning of the same area.

Agreeing with Swedish architect Hakon Ahlberg, Bertel Jung noted later in the 1910s, that the master planning should be a visionary work done by the planner-architects, then the more practical detailed plans, based on the guidelines given in the master plan, could be done by the engineers and surveyors.⁹³ This was also the case in the detailed planning of the areas of Munkkiniemi and Haaga during the next decades: The detailed plans were made by various experts including engineer Edvin Hedengren and the City of Helsinki's assisting planner-architect Berndt H. Aminoff (1886–1972), who had worked in Saarinen's bureau during the master planning of the area.⁹⁴

Nevertheless, at the time the issue was not only about arguing for architectural expertise in urban planning, but also for a change of view in the

understanding of the essence of planning. According to Saarinen, the problem was that the city had not been developed as a whole but rather piece by piece. These pieces, that is, city blocks or districts, did not necessarily work together practically or aesthetically.⁹⁵ The turn of the twentieth century was a time when the city as a whole came under close scrutiny, and the need to redefine the meaning of urban planning intensified.⁹⁶ Architect Otto-Iivari Meurman described the multilayered understanding of planning in 1917:

A city plan should not only be a road network for the needs of traffic, nor should it be a structure chart made according to the principles of land surveying, neither only an artistic problem; instead, it should be a sum of this all and even more.⁹⁷

Conclusions

The planning of the Munkkiniemi and Haaga areas was, from the very start, a part of a larger business plan of the Stenius Corporation. As is noted in the Stenius Corporation's Annual Report for 1915, the publication was only the end of the preparatory work. Hence, it should be remembered that the planning of the area was not the aim of the Stenius Corporation, their aim was the implementation of these plans, as Eliel Saarinen also noted in the preface of the published plan.⁹⁸ The planning of Munkkiniemi and Haaga was, therefore, something more than solely Eliel Saarinen's plan. It was first and foremost a part of a decade-long project of the Stenius Corporation.

Being successful in managing such a huge project needed a sense of priorities, as Niina Koivunen notes and continues, "an understanding of what needs to be accomplished before something else can be done."⁹⁹ As planning projects of this large scale were something very new in Finland, there was no certainty as regards the process and its progress; therefore, the knowledge needed was gathered and formed together from pieces to form the whole. The knowledge was gathered from Finnish and also transnational expert networks. Hence, it is not surprising that the planning process is reminiscent, in outline, of the Chicago planning project, finished six years earlier in 1909. According to the architect Daniel Burnham, the general studies for the leveling should be done before the master plan. The details would follow in a later phase, and "finally, the whole thing should be printed with complete illustrations."¹⁰⁰ With *The Munkkiniemi and Haaga plan*, the planning of Greater Helsinki aroused interest among contemporary European and North American urban planning and also awakened a broad interest globally.

Art historian Juhana Lahti has studied the professional roles of Post-World War II Finnish architects also including the notion of the profession as teamwork. According to him, the period is characterized by architects broadening their aesthetically focused expert roles toward comprehensive planning conducted in collaboration with various expertise groups.¹⁰¹ As this chapter has shown, the roots for this cooperation were deeper at the

turn of the twentieth century. As the Finnish architect Birger Brunila noted in 1910, architects had several simultaneous roles such as artists, constructors, thinkers, developer's technical and juridical assistants, and businessmen.¹⁰² These roles also overlapped as Eliel Saarinen demonstrates, he participated in the planning project simultaneously as a planner, as an architect, and as a shareholder. Each of the individuals participating in the process had their own strong areas, which were not necessarily restricted by their educational background.¹⁰³ Sigurd Stenius, for instance, had expertise in communal questions, groundwater surveys, and running a business. The understanding of the area and its future was formed layer by layer, as a result of collective actions.

According to Niina Koivunen's definition, collective expertise is "an ongoing processual ability to function together with other experts and create new knowledge."¹⁰⁴ As urban planning was something new for all the individuals participating in the planning process, the required knowledge needed to be both gathered individually and formed together, not forgetting the transnational expert networks.¹⁰⁵ This need of specific knowledge also shaped the experts, and gradually, the profession of urban planning differed from architecture, engineering, and surveying.¹⁰⁶ In the first decades of the twentieth century, the profession of urban planner was formatted in similar, collective planning projects around the world.¹⁰⁷ Urban planning was seen as a universal concern, requiring boundary crossing dialogue and teamwork.¹⁰⁸ As the Finnish architect Sigurd Frosterus noted in 1909, "new ideas do not arise in a single brain. [...] Accomplishments in various fields complete each other."¹⁰⁹

Acknowledgments

This chapter is a part of my Doctoral thesis concerning more broadly the questions of urban planning as a profession of early twentieth C. Finnish architects. In my M.A. thesis, I had already studied *The Munkkiniemi and Haaga plan*; see Emilia Karppinen, "Harmonisia rivitaloja ja väestödiagrammeja. Munkkiniemi-Haagan suunnitelma osana ylijärjestyksellistä eurooppalaista kaupunkisuunnittelukenttää" (M.A. thesis, University of Turku, 2013). For the help to formulate this chapter, I want to thank my supervisors, Taina Syrjämaa and Leila Koivunen. I also want to thank my colleague Mari T. Tanninen and the reviewers of this chapter for their insightful and encouraging comments. The biggest thanks to the two editors of this book.

Notes

- 1 Bertel Jung, "Munksnäs-Haga och Stor-Helsingfors. I.," *Arkitekten. Tidskrift för arkitektur och dekorativ konst (ARK)* 13 (1915): 73.
- 2 For the planning competition for Canberra, Australia, see, for example, Wolfgang Sonne, *Representing the State. Capital City Planning in the Early Twentieth Century* (Munich, Berlin, London, New York: Prestel, 2003), 149–188; for the

- planning of Tallinn, Estonia, see Karin Hallas-Murula, *Greater Tallinn. Eliel Saarinen's Greater-Tallinn 1913* (Tallinn: Museum of Estonian Architecture & Finnish Embassy in Estonia, 2005).
- 3 According to Nikula, the problems of metropolises were carefully analyzed especially in Germany. As a result, all the Nordic capitals started to prepare for, for example, slums, even though such problems were not yet present in these small capitals, Riitta Nikula, "Bertel Jung modernin kaupunkisuunnittelun käynnistäjänä," in *Bertel Jung suurkaupungin hahmottajana*, eds. Mikal Sundman and Mona Schalin (Helsinki: Helsingin kaupunkisuunnitteluvirasto, 1988), 9–41, 27; Kolbe, in turn, sees that when the population of Helsinki exceeded 100 000 inhabitants, Helsinki was joined to the metropolis category, Laura Kolbe, "Helsinki. From Provincial to National Centre," in *Planning Twentieth Century Capital Cities*, ed. David L. A. Gordon (London, New York: Routledge, 2006), 73–86, 76.
 - 4 Kolbe, "Provincial to National," 73–75.
 - 5 Helen Meller, "Philanthropy and public enterprise: international exhibitions and the modern town planning movement, 1889–1913," *Planning Perspectives* 10 (1995): 295–310, 295–296; Stephen V. Ward, *Planning the Twentieth-Century City. The Advanced Capitalist World* (Chichester: John Wiley & Sons, 2002), 51.
 - 6 Simin Davoudi and John Pendlebury, "The evolution of planning as an academic discipline," *Town Planning Review* 81 (2010): 613–645, 618.
 - 7 See, for example, Lieselot Vandenbussche, Jurian Edelenbos, and Jasper Eshuis, "Pathways of stakeholders' relations and frames in collaborative planning practices: A framework to analyse relating and framing dynamics," *Planning Theory* 16, 3 (2017): 233–254, 233–234.
 - 8 The tradition of "a hero planner" is long, but often criticized; see especially Stephen V. Ward, Robert Freestone, and Christopher Silver, "The 'new' planning history: Reflections, issues and directions," *Town Planning Review* 82 (2011): 231–261, 246.
 - 9 For Eliel Saarinen as a planner in Finland, see especially Kirmo Mikkola, "Eliel Saarinen ja kaupunkisuunnittelu," in *Eliel Saarinen, Suomen aika*, eds. Marika Hausen, Kirmo Mikkola, Anna-Liisa Amberg, and Tytti Valto. (Helsinki: Otava, 1984), 187–220; for Eliel Saarinen as a planner in the United States, see especially Minna Chudoba, *Kaupunkia etsimässä. Eliel Saarinen Amerikassa 1923–1950* (Tampere: Tampere University of Technology, 2011). For research on planning Helsinki and its environs, see, for example, Laura Kolbe, *Kulosaari. Unelma paremmasta tulevaisuudesta* (Helsinki: Kulosaaren kotiseuturahaston säätiö, 1988); Kolbe, "Provincial to National"; Riitta Nikula, *Yhtenäisen kaupunkikuva 1900–1930. Suomalaisen kaupunkirakentamisen ihanteista ja päämääristä, esimerkkinä Helsingin Etu-Töölö ja Uusi Vallila* (Helsinki: Societas Scientiarum Fennica, 1981); Riitta Nikula, *Focus on Finnish 20th century architecture and town planning* (Helsinki: Helsinki University Press, 2006); Mikael Sundman, "Urban Planning in Finland after 1850," in *Planning and Urban Growth in the Nordic Countries*, ed. Thomas Hall (London: Chapman & Hall, 1991), 60–115.
 - 10 Tytti Valto, "Työluettelo – Arkkitehtuuri ja kaupunkisuunnittelu," in *Eliel Saarinen*, 157.
 - 11 Niina Koivunen, "Collective expertise: Ways of organizing expert work in collective settings," *Journal of Management & Organization* 13 (2007): 258–276, 259 and passim. The concept is used mainly in studies researching working in teams. Besides Koivunen's managerial view, the concept is approached also, for example, from the viewpoints of educational and behavioral sciences; see especially Kai Hakkarainen, Jiri Lallimo, Seppo Toikka, "Kollektiivinen asiantuntijuus ja jaetut tietokäytännöt," *Aikuiskasvatus* 32 (2012): 246–256.
 - 12 Orly Linovski, "Politics of Expertise: Constructing Professional Design Knowledge in the Public and Private Sectors," *Journal of Planning Education and*

- Research* (publ. online before print, Dec. 2015): 451–464, 2, accessed April 26, 2016, doi: 10.1177/0739456X15620656. See also Ernest R. Alexander, “There is no planning – only planning practices: Notes for spatial planning theories,” *Planning Theory* 15 (2016): 91–103; Dana Cuff, *Architecture: The Story of Practice* (Cambridge: MIT Press, 1991); Vandenbussche et al., “Collaborative planning practices,” 4. Alexander’s ideas concerning *co-construction of knowledge* comes close to Koivunen’s definition of *collective expertise*; see especially Alexander, “Spatial planning theories,” 95.
- 13 Jon A. Peterson, “The Birth of Organized City Planning in the United States, 1909–1910,” *Journal of the American Planning Association* 75 (2009): 123–133, 127, 131.
 - 14 The book under discussion was published only in Finnish and Swedish. In this article, I have used the Finnish version, *Munkkiniemi-Haaga ja Suur-Helsinki. Tutkimuksia ja ehdotuksia kaupunkijärjestelyn alalta*, ed. Eliel Saarinen (Helsinki: Oy M. G. Stenius, 1915). In the main body of the text, the publication will be called *Munkkiniemi and Haaga plan*, and in the endnotes abbreviation *MHS* will be used.
 - 15 Every citation from *Arkitekten. Tidskrift för arkitektur och dekorativ konst* translated by the author. In the endnotes, an abbreviation *ARK* will be used.
 - 16 According to Stephen V. Ward et al., the roles of business networks in planning history have been studied in much lesser extent than those of political networks, Ward et al., “New planning history,” 247. Partly thus, this chapter focuses on the persons most actively working for Stenius Corporation. The role of politics has been, nevertheless, important, for example, for the implementation of the made plans and would thus be an interesting topic for further studies.
 - 17 Hakkarainen et al., “Kollektiivinen asiantuntijuus,” 246–247.
 - 18 Sigurd Stenius, “Byggnadsverksamhetens ordnande enligt N. Förordningen av den 15 juni 1898 angående ordnande i särskilda fall av samhällen på landsbygden med sammanträngd befolkning,” *ARK* 9 (1911): 12. For the land corporations operating outside Helsinki, see especially Kolbe, *Kulosaari*.
 - 19 Also Saarinen blamed the city for its inactions, Eliel Saarinen, “Helsingin kehitys,” in Saarinen, *MHS*, 48, 55. It is to be noted, though, that this was also a way to argue for the importance of Corporation’s actions.
 - 20 Even though Helsinki had faced a shortage of affordable housing the situation could not be compared with the problems, for example, London had. As Kolbe notes, the land surrounding Helsinki was extremely sensitive to economic fluctuations, which made it a risky investment, see, for example, Kolbe, *Kulosaari*, 34–35, Liza Picard, *Victorian London. The Life of a City 1840–1870* (London: Weidenfeld & Nicolson, 2005), 50.
 - 21 John R. Short, *The Humane City. Cities as if People Matter* (Oxford, New York: Basil Blackwell, 1989), 46.
 - 22 Ebenezer Howard, *Garden Cities of To-Morrow* (London: Swan Sonnenschein & Co, 1902), 12–19.
 - 23 Ward, *Capitalist World*, 45–46, 48.
 - 24 Gustaf Strengell, “Kaupungin järjestelytaide. Historiallinen katsaus,” in Saarinen, *MHS*, 15. Jung had emphasized the importance of similar suburban areas already in 1901, following especially a German tradition, Ritva Wäre, “Bertel Jungin näkemys kaupungista,” in *Bertel Jung, suurkaupungin hahmottaja*, eds. Mikael Sundman and Mona Schalin (Helsinki: Helsingin kaupunkisuunnitteluvirasto, 1988), 43–73, 58–59.
 - 25 Saarinen, “Helsingin kehitys,” 41. This was an idea presented already four years earlier by Bertel Jung in his article “Greater Helsinki,” Bertel Jung, “Stor-Helsingfors,” *ARK* 9 (1911), 90–100.
 - 26 Ward, *Capitalist World*, 56; Christiane Crasemann Collins, *Werner Hegemann and the Search for Universal Urbanism* (London, New York: W. W. Norton & Company, 2005), 32–34.

- 27 Christiane Crasemann Collins, "City Planning Exhibitions and Civic Museums: Werner Hegemann and Others," in *The City after Patrick Geddes*, eds. Volker M. Welter and James Lawson (Oxford, Bern, Berlin, Bruxelles, Frankfurt am Main, New York, Wien: Peter Lang, 2000), 113–132, 119–120; Peterson, "Planning in US," 125.
- 28 Sigurd Stenius, "Munkkiniemen ja Haagan kunnallisia kysymyksiä," in Saarinen, *MHS*, 118.
- 29 Peter Lundevall, *Den planerade staden* (Stockholm: Carlsson, 2006, 101); Nikula, *Yhtenäinen kaupunkikuva*, 150–151.
- 30 Crasemann Collins, *Universal Urbanism*, 34; Eva Eriksson, *Den moderna staden tar form. Arkitektur och debatt 1910–1935* (Stockholm: Ordfront, 2001), 256–258; Michael Honhart, "Company Housing as Urban Planning in Germany, 1870–1940," *Central European History* 23 (1990): 3–21, 4; Stephen Ward, *Planning and Urban Change* (London: Sage, 2004), 29.
- 31 Annual Report of Stenius Corporation for 1915, attached to the Minute of General Meeting in March 1916, Ca:22, M. G. Stenius OY, City Archives of Helsinki, Finland (Stenius/CAH). The nature of this report as a memoir, looking back for the 20-years long history of the corporation, needs to be noted.
- 32 Jung, "Stor-Helsingfors," 94. The role of Jung for organizing the connecting transportation between Munkkiniemi-Haaga and Helsinki has been important, Eliel Saarinen, "[Preface]," in Saarinen, *MHS*, [i].
- 33 Annual Report of Stenius Corporation for 1909, attached to the Minute of General Meeting in March 1910, Ca:16/Stenius/CAH.
- 34 Only a smaller part of the areas under planning was already built. According to Saarinen, it had caused some difficulties in planning, and compromises were done, Eliel Saarinen, "Munkkiniemi-Haaga," in Saarinen, *MHS*, 77.
- 35 Strengell, "Kaupungin järjestelytaide," 14.
- 36 See, for example, international competition for design of Federal Capital. Report accompanying design submitted by Eliel Saarinen, 1912, Series CP487/6 (personal papers of Mr. C. S. Daley referring to the development of Canberra), Item 16, National Archives of Australia (NAA), Canberra, 2–3, 14; Saarinen, "Budapest," 79.
- 37 Jung, "Stor-Helsingfors," 99.
- 38 Saarinen, "Budapest," 79; Albert Christ-Janer, *Eliel Saarinen* (Helsinki: Otava, 1951), 153; Mikkola, "Eliel Saarinen," 196. Christ-Janer's biography on Saarinen published also in English, but it differs by its contents, Albert Christ-Janer, *Eliel Saarinen. Finnish-American architect and educator* (Chicago, London: The University of Chicago Press, 1948/1979).
- 39 Ward, *Capitalist World*, 51; for regional survey, see especially Helen Meller, *Patrick Geddes. Social evolutionist and city planner* (London: Routledge, 1990), 292–299.
- 40 Carl Smith, *The Plan of Chicago. Daniel Burnham and the Remaking of the American City* (Chicago, London: The University of Chicago Press, 2006), 69; Birger Brunila, "Den nya stadsplanen för Chicago," in *ARK* 10 (1912): 151–155.
- 41 Eliel Saarinen, "Description of the Greater-Tallinn Project," in Hallas-Murula, *Greater-Tallinn*, 152. Orig. German version in *Deutsche Bauzeitung*, 1921.
- 42 Annual Report of Stenius Corporation for 1911, attached to the Minute of General Meeting in April 1912, Ca:18/Stenius/CAH.
- 43 Gustaf Nyström, "Bostadsfrågan och Helsingfors stadsplan," *ARK* 4 (1906), 5.
- 44 Mikko Huhtamies, *Maanmittauslaitos. Maanmittauksen historia Suomessa 1633–2008* (Helsinki: Maanmittauslaitos & Edita Publishing Oy, 2008), 262, 289–290.
- 45 Bertel Jung, "*Suur-Helsingin*" *asemakaavan ehdotus* (Helsinki: Pro Helsingfors-säätiö, 1918), 18.
- 46 Matti Jaakkola, "Valtakunnalliset runkomittaukset," in *Maanmittaus Suomessa 1633–1983* (Helsinki: Maanmittaushallitus, 1983), 400–427, 420–421.

- 47 Huhtamies, *Maanmittaus*, 346; Panu Nykänen, *Kortteli sataman laidalla. Suomen Teknillinen Korkeakoulu 1908–1941* (Helsinki: WSOY, 2007, 147); Jaakko Ollila, “Maanmittausalan konsulttitoimi,” in *Maanmittaus Suomessa*, 691. For the education of land surveyors in Finland, see Jutta Julkunen, *Sadan vuoden mitat. Maanmittauksen ylin opetus Suomessa 1861–2008* (Espoo: TKK, 2008).
- 48 Letter from Leopold Lerche to Bertel Jung, November 18, 1910, Da:1/Stenius/CAH; letter from Sigurd Stenius to Eliel Saarinen, March 7, 1916, Fe:6/Stenius/CAH.
- 49 Letter from Stenius Corporation to Bertel Jung, December 2, 1908, Da:1/Stenius/CAH; Annual Report of Stenius Corporation for 1909, attached to the Minute of General Meeting in March 1910, Ca:16/Stenius/CAH.
- 50 Annual Report of Stenius Corporation for 1911, attached to the Minute of General Meeting in April 1912, Ca:18/Stenius/CAH.
- 51 When Saarinen exactly was hired, is not certain. However, Tallberg had sold a few shares to Saarinen, who participated for the first time as a shareholder in a board meeting of the Stenius Corporation on October 17, 1910, see Cb:7/Stenius/CAH. In March 1913, Saarinen participated for the first time in the general meetings as a board member, see: Ca:19/Stenius/CAH. For hiring Hedengren, see Annual Report of Stenius Corporation for 1910, attached to the Minute of General Meeting in March 1911, Ca:16/Stenius/CAH.
- 52 Annual Report of Stenius Corporation for 1911, attached to the Minute of General Meeting in April 1912, Ca:18/Stenius/CAH; Nyström, *Munkkiniemen vaiheita*, 89.
- 53 Helen Meller, “Cities and evolution: Patrick Geddes as an international prophet of town planning before 1914,” in *The Rise of Modern Urban Planning 1800–1914*, ed. Anthony Sutcliffe (London: Mansell, 1980), 199–223, 208.
- 54 Huhtamies, *Maanmittaus*, 289–291.
- 55 See a map showing the contour lines, “Munkkiniemi-Hagan korkeussuhteet” in Saarinen, MHS, [76B].
- 56 See the syllabi of the Finnish Polytechnic School, for example, *Polytekniska institutet i Finland. Program för läsåret 1884–1885* (Helsinki, 1884), 36–40 and passim.
- 57 On this topic in present-day urban planning, see Daniel Pinson, “Urban planning: an ‘undisciplined’ discipline?” *Futures* 36 (2004): 503–513, 507. Kohlrausch and Trischler note that the idea of an academically trained engineer being able “to think about the broader picture was an essential” in French engineering education around the turn of the twentieth century, Martin Kohlrausch and Helmuth Trischler, *Building Europe on Expertise. Innovators, Organizers, Networkers* (Basingstoke: Palgrave Macmillan, 2014), 50.
- 58 Letter from Sigurd Stenius to Eliel Saarinen, March 7, 1916, Fe:6/Stenius/CAH.
- 59 Saarinen, “Budapest,” 79–80. Saarinen, *International competition* (NAA), 15–16.
- 60 Bertel Jung, “Allgemeine Städtebau-Ausstellung in Berlin 1910,” *ARK* 8 (1910): 91. For the diverse benefits of the models, see Saarinen, “Greater Tallinn,” 159.
- 61 Birger Brunila, “II Finska arkitekturställningen,” *ARK* XII (1914), 46–47.
- 62 Picture of the model in Saarinen, MHS, 116.
- 63 Hakkarainen et al., “Kollektiivinen asiantuntijuus,” 255.
- 64 A Minute of General Meeting April 30, 1912, Ca:18/Stenius/CAH.
- 65 Annual Report of Stenius Corporation for 1911, attached to the Minute of General Meeting in April 1912, Ca:18/Stenius/CAH.
- 66 According to Saarinen, people’s interest on the area was crucial for its development, Saarinen, “[Preface],” [ii]. Similar ideas presented by Burnham on the importance of a concrete plan while planning Chicago, Rebecca Ross, “Picturing the Profession: The View from Above and the Civic Imaginary in Burnham’s Plans,” *Journal of Planning History* 12 (2013): 269–281, 272–273.

- 67 Saarinen had planned several buildings for Tallberg, the first one already in 1898 together with his colleagues architects Herman Gesellius and Armas Lindgren. Leopold Lerche visited Saarinen's home and bureau often, as his relatives were living next to Saarinen in Kirkkonummi.
- 68 The roots for this are deeper in the change of the whole technical field. According to Kohlman and Trischler, "growing scientification and specialization of engineering separated engineering, construction and architecture into distinctive fields," leading to a "sibling rivalry" of engineers and architects extending "far beyond the question of which profession should be in charge of" what, Kohlrausch and Trischler, *Building Europe*, 47 & passim. For the long roots of the "sibling rivalry," see especially Andrew Saint, *Architect and Engineer. A Study in Sibling rivalry* (New Haven, London: Yale University Press, 2007).
- 69 Henrik Lilius, "Kaupunkirakennustaide 1800-luvun jälkipuoliskolla," in *Suomen kaupunkirakentamisen historia II*, eds. Henrik Lilius and Pekka Kärki (Helsinki: SKS, 2014), 307–341, 308.
- 70 Nikula, *Yhtenäinen kaupunkikuva*, 92–94; Nikula, *Bertel Jung*, 10. More for Sitte and his importance on planning, see especially George R. Collins, Christiane Crasemann Collins, *Camillo Sitte: The Births of Modern City Planning* (New York: Rizzoli, 1986).
- 71 Saarinen, "Munkkiniemi-Haaga," 80, 82.
- 72 Ritva Wäre, "Bertel Jungin näkemys kaupungista," in Sundman and Schalin, *Bertel Jung*, 43.
- 73 Ward, *Capitalist World*, 11.
- 74 See Strengell, "Kaupungin järjestelytaide." Strengell wrote also another chapter for the plan, dealing with the past development of Helsinki. The importance of making the surveys on the past was very Geddesian idea, Meller, "Cities and evolution," 203.
- 75 For example, Henry W. Lawrence, "The greening of the squares of London: Transformation of urban landscapes and ideals," *Annals of Association of American Geographers* 83 (1993), 91, 113–114. According to Ward, there was no master plan behind the renovations, but Haussmann improvised the street lines while building, Ward, *Capitalist World*, 15.
- 76 See, for example, Ruoe de Rivoli, Saarinen, "Munkkiniemi-Haaga," 101.
- 77 Ward, *Capitalist World*, 29; Sitte (1889) *Der Städtebau nach seinen künstlerischen Grundsätzen*. The first English-version of Sitte's book was published as late as in 1945. Eliel Saarinen, who had lived now 20 years in the United States, wrote the preface on the book, *City Planning According to Artistic Principles*.
- 78 Strengell, "Kaupungin järjestelytaide," 23–24. As also Mikkola notes, as a result of misunderstanding and taking Sitte too literally, several inappropriate plans were made for Finnish towns, Mikkola, "Eliel Saarinen," 190–191.
- 79 Saarinen, "Munkkiniemi-Haaga," 80, 82; Unwin 1909, 97–98, 104, 235–236. The primacy of traffic and planning squares, see, for example, Hallas-Murula, *Greater Tallinn*, 55.
- 80 Hallas-Murula, *Greater Tallinn*, 23; Saarinen, "Munkkiniemi-Haaga," 81. The traffic safety concerned also Saarinen. As different vehicles had different speed, they were to be separated, see Saarinen, "Munkkiniemi-Haaga," 78. An idea emphasized also by French architect and engineer Eugène Hénard, see Ward, *Capitalist World*, 62.
- 81 Collins and Collins, *Camillo Sitte*, 35–36.
- 82 Strengell, "Kaupungin järjestelytaide," 24. Also Jung emphasized, how there were no models for road networks and underlined the understanding of the area and its needs, Wäre, "Bertel Jung," 56.

- 83 Meller, "Cities and evolution," 208.
- 84 Crasemann Collins, *Universal Urbanism*, 63; Hallas-Murula, *Greater Tallinn*, 26.
- 85 Annual Report of Stenius Corporation for 1912, attached to the Minute of General Meeting in March 1913, Ca:19/Stenius/CAH.913
- 86 Saarinen, "[Preface]," [ii].
- 87 Otto-Iivari Meurman's letter to his parents September 13, 1914, The Archives of Otto-Iivari Meurman (Otto and Aina Meurman, letters from the children 1913–1922, box 24), The Finnish National Archives, Helsinki, Finland. For planning, Chicago and how the bird's-eye view constructed the profession of planners, see Ross, "Picturing the Profession."
- 88 Meurman's letter to his parents September 13 1914/NARC.
- 89 Letter from Sigurd Stenius to Eleil Saarinen October 27, 1916, Fe:6/Stenius/CAH.
- 90 Koivunen, "Collective expertise," 266.
- 91 Uggla, "Rakennusjärjestys," 105.
- 92 Olof Holmberg, "Munksnäs-Haga och Stor-Helsingfors. Stadsplanestudier och förslag. Av Eliel Saarinen," *Arkitektur* (1916), 60.
- 93 Hakon Ahlberg, "Våra Stockholmsgators vanprydande," *Arkitektur* (1917), 50–54; Emilia Karppinen, "Satamakysymys ja sadan vuoden takainen haave Turusta kansainvälisen kaupan keskuksena," in *Research Briefings* (Turku: The City of Turku Administration, 2015), 6.
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