



The application of city planning theory to industrial development in Japan

– Another introduction process of garden city and neighborhood theory –

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The purpose of this paper is clearly the roots of garden city theory and neighborhood theory in Japanese company town, case study on Kurabo and Hitachi company housing plan. This paper is analyzing how housing measures devised by companies through the application of advanced city development theory should be positioned.

In conclusion, the historical positions of the two cases discussed in this paper in the overview of city planning history have been charted in this paper. The Kurashiki case indicates that Magosaburo Ohara developed a garden city theory from the concept of a company town like a workers' village expanded to a city as a whole. On the other hand, Yoshikazu Uchida, who introduced neighborhood theory to Katsuta. Although the two cases discussed in the paper were not authorized as official city plans, they are well established in the Japanese history of city planning as examples that involve garden city theory and neighborhood theory.

Keywords: Ohara Magosaburo, Uchida Yoshikazu, garden city, neighbourhood theory.

Introduction

“National wealth and military power” is the slogan under which Japan labored during the course of its efforts to become a modern nation. This journey started at the end of the First World War during the “special providence” period, during which Japan experienced an unprecedented economic boom—starting with the spinning industry and culminating in heavy industry—that propelled the nation down the road toward becoming an industrialized nation in the true sense of the word. Of particular note was the resulting phenomenon under which urban populations increased rapidly due to the influx of factory workers, an influx that created serious urban problems, especially in the six major cities of the time. In order to resolve these issues, the former City Planning Act was promulgated together with Urban Building Law on April 5, 1919. Along with these legal measures, Japan started implementing a housing policy that governed public housing and housing associations during the middle of the Taisho period (1912–1926) to prepare housing for factory workers. Although the City Planning Act and the housing policy intrinsically needed to proceed hand in hand, each was discussed and planned independently. As a result, Japanese city planning started without the vital issue of its fragile relationship with a government housing policy being resolved, which lead to housing shortages.

However, the companies that operated factories were forced to deal with city planning and the housing policy integrally because providing workers with dwellings was as indispensable as developing other parts of a city infrastructure such as developing premises for factories and constructing roads. In a company town, above all, the task of constructing a company town was a major undertaking because there were scarcely any private companies that supplied workers with the large number of houses needed. In the following sections, this paper describes the history of housing policies that were closely linked with the planning of industrial cities by discussing the case of Kurabo Industries Ltd. (hereafter referred to as “Kurabo”) as a representative example of the spinning industry, and that of Hitachi, Ltd. as a representative example of heavy industry.

The author has already published material detailing how Kurashiki, the home of Kurabo, innovatively introduced the garden city theory; and the case of Katsuta, where the Mito plant of Hitachi, Ltd. is located, that introduced the neighborhood theory progressively. This paper is intended to reorganize this information by adding newly unearthed facts and analyzing anew how housing measures devised by companies through the application of advanced city development theory should be positioned.

1. Garden city-type company housing constructed by Kurabo and Magosaburo Ohara

Kurabo Industries Ltd., founded on March 9, 1888, built the Kurashiki mill currently known as Kurashiki Ivy Square in 1889. The company employed female workers who lived in commutable suburban areas in its early days, but found itself suffering from a labor shortage as production increased. To remedy this, it acquired land adjacent to the mill and constructed dormitories to be used both for workplaces and living spaces in 1896. Each of the dormitories was designed to house a sizeable number of female workers in a large room. As depicted in the “Sad

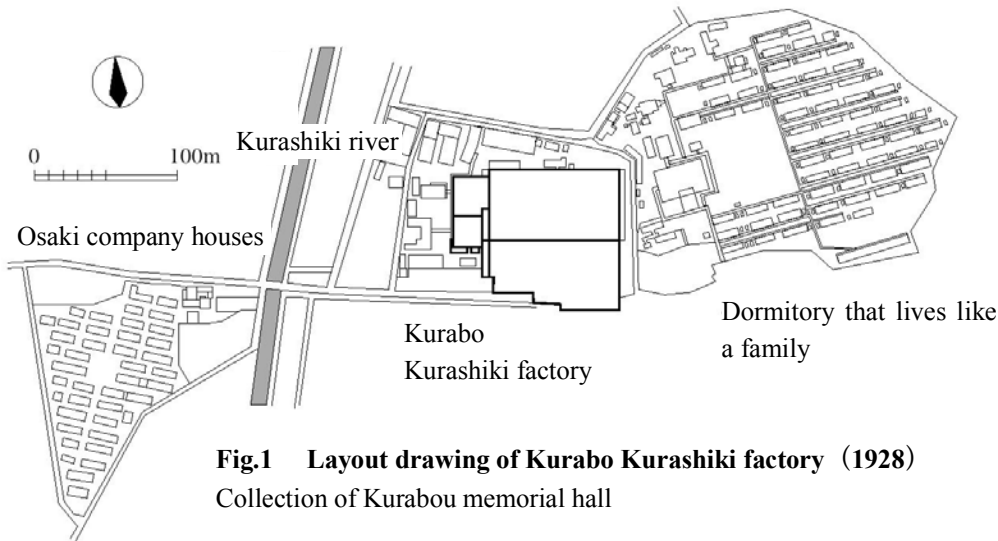


Fig.1 Layout drawing of Kurabo Kurashiki factory (1928)
Collection of Kurabou memorial hall

Story of a Girl Factory Worker” (a non-fictional novel written by Wakizo Hosoi in 1925), they were defective from a sanitary point of view and, to nobody’s surprise, these insanitary conditions led to an outbreak of typhoid fever in 1906, for which the first president of Kurabo, Koshiro Ohara, was forced to take responsibility by resigning.

This was the background to Magosaburo Ohara’s inauguration as the second president of the company. He initiated a thorough makeover of the dormitories and started the construction of 76 “family-like” dormitory buildings in 1908 (Fig.1). Each one of the 76 buildings was a small dormitory consisting of four rooms, and female workers lived in each room like a family. Each building was sited parallel to the next from the viewpoint of sanitation and receiving daylight, and flowerbeds was planted between the buildings so that the female workers could enjoy gardening. Ohara calculated that the improvements made to the dormitories would pay for themselves because they would enable female workers to work for a longer period of time and because they allowed his company to develop skilled workers, which would lead to higher production efficiency, although doing so required a high initial investment to cover the high construction costs.

Toward the end of the Meiji period (1868–1912), Ohara planned to construct the Masu mill (currently Mitsui Outlet Park Kurashiki) in order to expand the company. A vast area of land adjacent to the north side of Kurashiki Station was chosen for the easy access it would provide to railway transportation, and construction was completed in 1915. At the same time, Ohara set up a human resources study group and conducted research on methods of employing workers. In those days, it was general practice to employ migrant female workers in the spinning industry. Ohara’s research made it clear that constructing company houses where workers could live with their family members would permit them to work after getting married, and enable the company to develop many more skilled workers. Responding to the research results, a company town called “garden city company housing” was planned for the Masu mill. A garden city-type company house was a small one-story house with a floor space of about 10-tsubo (33 square meters), and 440 units in 110 buildings were completed by July 1915. Each house had a vegetable garden to let residents get friendly with the soil, and was the earliest example of company housing with a vegetable garden.

What is noteworthy is why the catchphrase “garden city,” often used for suburban housing, was used for company housing. As is well known, the concept of “garden city” was advocated by Ebenezer Howard. It is a famous planning theory that spread throughout the world together with the concept of “garden suburb.” However, Howard’s garden city concept—without any modifications—was not introduced to Japan until the end of the Meiji period. “Garden City,” published by volunteers of a local bureau of the Home Ministry in 1907, was the first Japanese book to introduce the concept of “garden city.” However, this book was written by summarizing not Howard’s original book “Garden City of To-Morrow” but “Garden Cities in Theory and Practice” written by Alfred Richard Sennett. What should be noted here is the fact that the garden city imagined in Sennett’s book was an industrial village like Bournville or Port Sunlight.

A recent survey has revealed that “Garden City” was in Ohara’s library, and it is not difficult to imagine Ohara thinking about industrial cities in foreign countries with this book in his hand. Ohara organized Sunday lectures to improve the civic culture of Kurashiki, and he invited Tokiyoshi Yokoi, a professor at Tokyo Imperial University, to the 58th lecture, which was held in August 1910, and Yokoi was quick to order a copy of Howard’s book. While Howard’s garden city theory is a “measure to make a city a rural area,” Yokoi thought that it was important to import the taste of the city into rural areas.” Kosuke Tomeoka, from Takahashi City in Okayama Prefecture, was invited to the 59th lecture. Although Tomeoka is now known as the pioneer of social welfare, he worked as a part-



time employee of a local bureau of the Home Ministry when “Garden City” was published. He was extremely interested in Sennett’s book, “Garden cities in Theory and Practice”, which was listed in the bibliography, and it was he who asked the Home Ministry to order a copy of Sennett’s book.

In the manner described above, Ohara became very interested in garden city theory through books and lectures, so it was a natural consequence for him to want to apply garden city theory to his company housing. In his book “Birth of City Planning,” Shunichi Watanabe points out that garden city theorists back in those days uniformly placed emphasis on improving agriculture, and this was a very attractive planning theory for Ohara, who operated a business in the rural area of Kurashiki. Even although he mistook Sennett’s intended vision, the “garden city-type company housing” constructed together with the Masu mill is positioned as the first case in which garden city theory was materialized in Japan.

However, the policy of letting workers live in company houses with their family members was abandoned in the midst of excessive competition. In the

course of time, dormitories were repeatedly improved until they finally became very similar to standard apartments. Kazue Yakushiji, who was an architect and then an architectural adviser to Kurabo, visited young Charles Edouard Jeanneret-Gris abroad and collected information from him. Charles Edouard Jeanneret-Gris, commonly known as Le Corbusier, was a European architect and urban planner and one of the pioneers of what is now called “modern architecture.” (In fact, Yakushiji is reportedly the first Japanese to have met Corbusier.) While Ohara maintained his position of improving housing for female employees, he was not able to go against the current of the times.

Against this background, Ohara was forced to compromise on his philosophy of garden city-like company housing, but the author believes that the image created by the phrase “garden city” lived on in Kurashiki for the reasons listed below. Ohara, the person who introduced the garden city theory to Kurashiki, became involved in city planning for Kurashiki as a whole as part of the industrial development of Kurashiki during the latter half of the Taisho period (1912–1926). He was inaugurated as a member of the Road Committee and engaged in suburban development by founding his own company, and he then promoted road improvements and urban reform by donating a large sum of money. Ohara contacted Rintaro Naoki, who was then manager of the City Planning Division of Osaka, and asked him to construct an industrial city centered on Kurashiki. Naoki went abroad immediately before he addressed Kurabo’s industrial city plan and visited the First Garden City, Letchworth, officially Letchworth Garden City, in Hertfordshire, England under Howard’s guidance and was impressed with it. Naoki was contacted by Ohara immediately after he returned to Japan. The whereabouts of the design for the road plan and the written statement that Naoki submitted to the Kurashiki Council in January 1923 remain unknown, but it can well be presumed that he tried to apply what he had seen in Letchworth to Kurashiki, which was to construct an industrial village that had space for both work and life with due consideration paid to Ohara’s wishes. What the author wishes to introduce as collateral evidence for this assumption is a section in “Reading of Garden City” that summarized the lectures given by Hideaki Ishikawa (Fig.3). Ishikawa visited Kurashiki in the early days of the Showa period (1926–1989) after the series of industrial developments planned by Ohara had been completed, and he made the following comments upon comparing Kurashiki and Letchworth:

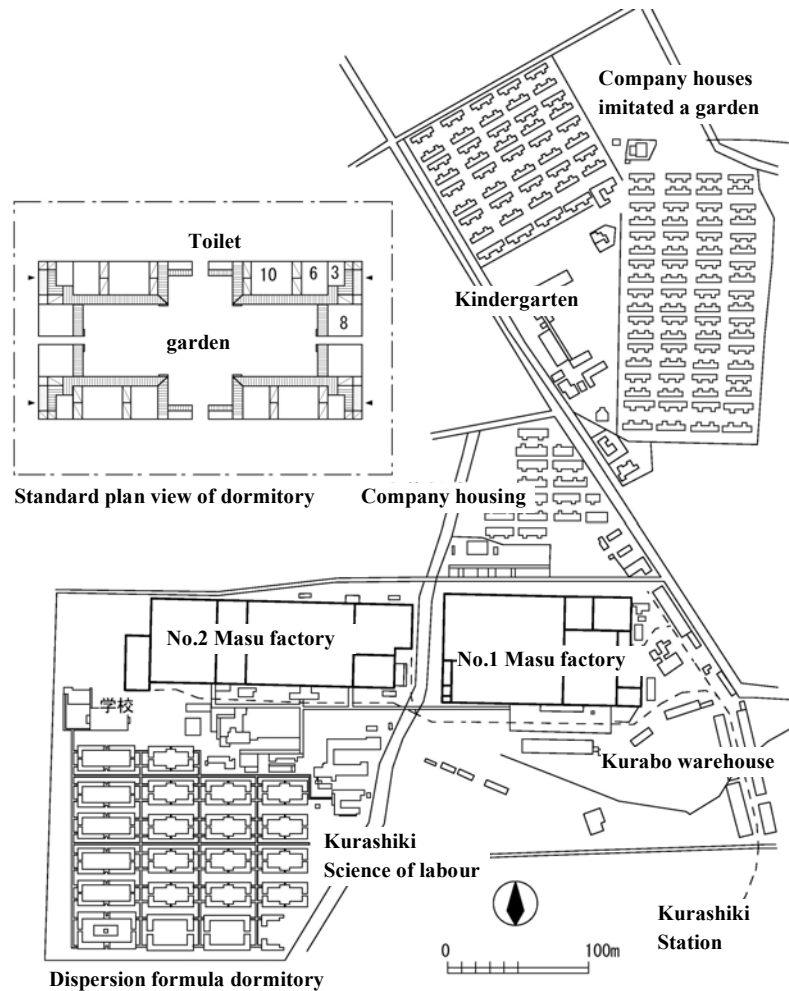


Fig.2 Layout drawing of Kurabo Masu factory (1928)
Collection of Kurabou memorial hall



“Probably, everyone involved in city planning in Japan presumed that Kurashiki should be the place to construct a garden city or city based on the garden city concept in Japan.”

“What is interesting is that Kurashiki adopted the radiation and circulation system for its road networks as Letchworth did (Actually the system in Kurashiki is better than the one in Letchworth in terms of height). Kurashiki’s city center had five radial lines that intersect each other, although it did not have 12 radial lines as Letchworth did.

Comparing the two cities solely by their maps indicates that Kurashiki’s organization is the spitting image of Letchworth, including the factory location.”

As described above, what impressed Hideaki Ishikawa—who actually visited Kurashiki and walked around the town—was the radiation- and circulation-type road network, which was similar to that in Letchworth.



Fig.3 Hideaki Ishikawa (1931) Reading of Garden city Collection of Kurashiki central library

2. Industrial development by Hitachi, Ltd. and the housing plan of Yoshikazu Uchida

Hitachi, Ltd., which became independent of Hitachi Mining in 1920, expanded its business in the northern part of Ibaraki Prefecture, starting at Hitachi and later embracing the towns of Katsuta and Takahagi, and built an industrial area referred to as the “Hitachi Kingdom” prior to the Second World War during the Showa period (1926–1989). What drove the expansion was the growing military demand during the war, and Hitachi’s industrial development was strongly promoted hand-in-hand with the national policy as represented by the new concept of industrial city planning.

Hitachi City, which is Hitachi’s home, did not place much importance on city planning prior to the war. Newspapers of the day lamented the situation that houses for workers were being constructed in a disorderly manner within the city and that road construction was one step behind. Hitachi made donations to promote civil engineering and help the construction industry remedy the lamentable infrastructure, but this failed to achieve the expected results by means of renovating the existing urban district. In light of this bitter experience in Hitachi City, Hitachi subsequently placed a stronger emphasis on city planning as a way to improve the industrial infrastructure. In 1939, a project to construct a new industrial city was planned as a national policy when the Taga plant (currently Hitachi City) was constructed anew, and a semicircular urban district was constructed thanks to a donation from Hitachi and a subsidy from the central government. Following the construction of Hitachi City, the construction of an industrial city was planned in Katsuta.

It was Yoshikazu Uchida, a professor of Tokyo Imperial University, who actually addressed the industrial city plan for Katsuta. Uchida had already drawn up several housing plans for Hitachi, Ltd. in partnership with his colleague Etsusaburo Ichimasu, and his students Eika Takayama and Yoshifumi Uchida. For Ouse and Hanayama, company districts were constructed basically as planned (Fig.4). Hitachi asked Uchida to devise a plan because it thought it was necessary to draw up an industrial plan that covered the neighborhood areas instead of a housing plan limited to company housing as it had done before.

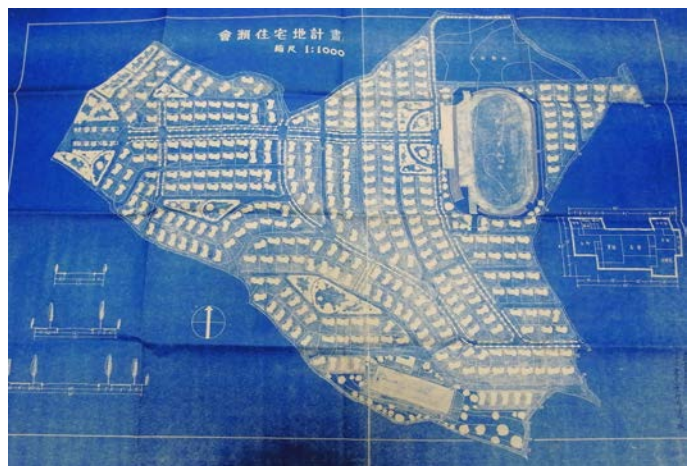


Fig.4 Ouse company houses, Hitachi Ltd. Collection of Tokyo Metropolitan Archives, Document of Uchida Yoshikazu



In November 1939, Uchida visited Katsuta with his son Yoshifumi and completed the initial plan the following year (Fig.6). With some modifications, the plan was finalized by March 1940 (Fig.7).

According to Uchida's recollection, he drew up the plan for Katsuta by making reference to Stadt des KdF-Wagens bei Fallersleben (currently Volkswagen's company town of Wolfsburg, as designed by Peter Koller)(Fig.5). Comparing Katsuta's industrial city planning with the plan drawing of KdF-Wagens reveals that these two plans share the same basic city organization, such as the arrangement of factories and stations and the double radial belt line. The design details show that planning units were set up to make it possible to construct housing areas in stages. The first housing area was designed to accommodate 10,000 people (having been increased from the original 8,000), with green areas to separate roadways from sidewalks. The plan for the arrangement of houses was partly based on a plan from Harvard University contained in "Samples of Division of Residential Lot in Foreign Countries," which was edited by Uchida and summarized by Takayama. In short, Katsuta's industrial city planning was created with reference to housing area planning in Western countries. In particular, in view of the fact that the idea of a planning unit and the separation of roadways and sidewalks were incorporated in the planning, it can well be imaged that Katsuta's plan was more or less affected by the "neighboring housing theory" as advocated by Clarence Perry.

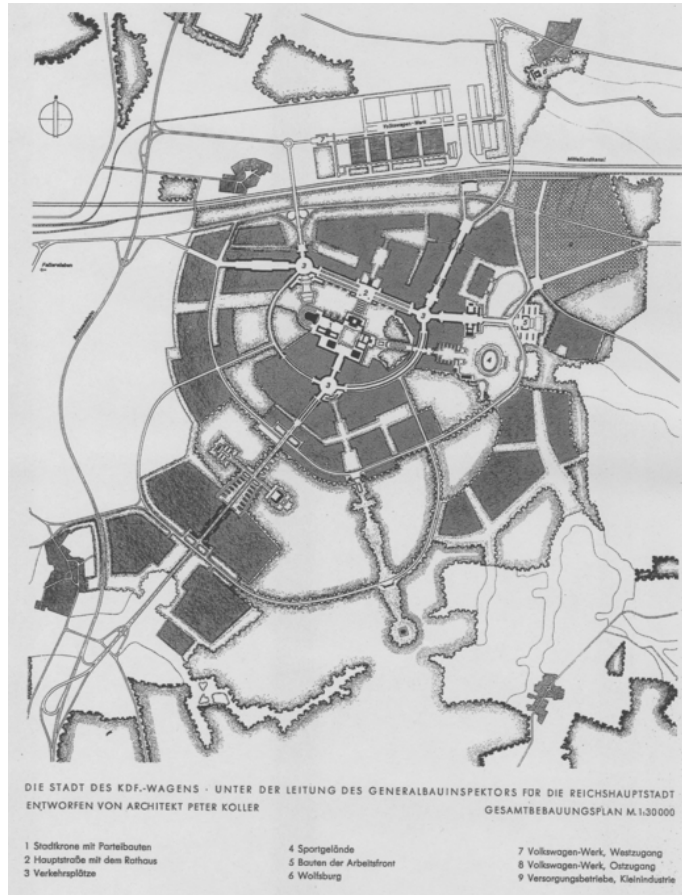


Fig.5 Peter Koller (1939) "Die Stadt des Kdf-Wagens", "Die Kunst im Dritten Reich" vol.3 Collection of Tokyo Metropolitan Archives, Document of Uchida yoshikazu

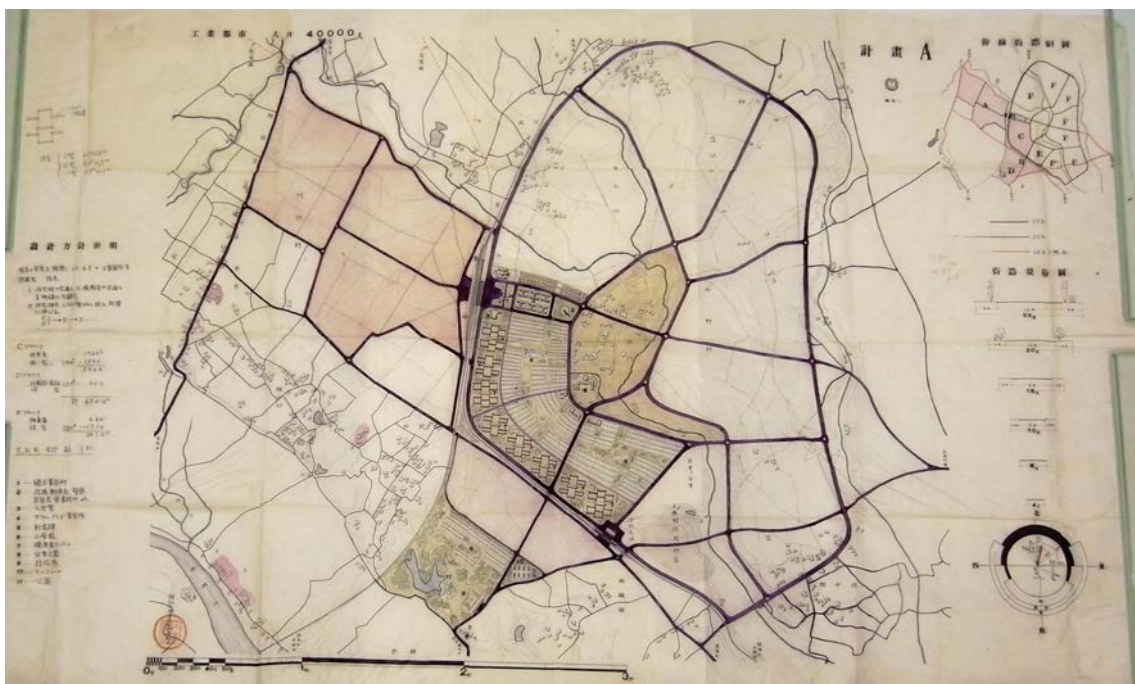


Fig.6 Katsuta Industrial city plan by Uchida Yoshikazu Collection of Tokyo Metropolitan Archives, Document of Uchida Yoshikazu

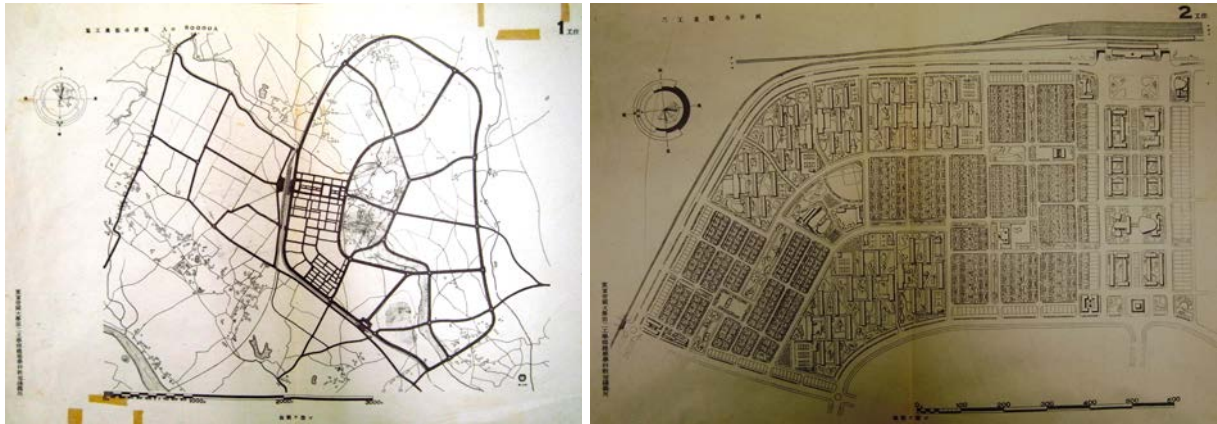


Fig.7 The final plan of Katsuta Industrial city designed by Uchida Yoshikazu
Collection of Tokyo Metropolitan Archives, Document of Uchida Yoshikazu



Fig.8 Katsuta legal city plan of land readjustment instituted by Ibaraki city planning council
Collection of Ibaraki Prefecture Archives

Here, the trends of Uchida in neighborhood theory are organized. As is well known, he created a magnificent city and village plan by applying neighborhood theory in Datong under the colonial regime in 1938, one year before he addressed the industrial city planning of Katsuta. As Uchida introduced the details himself in “Journal of Architecture and Building Science,” he applied the neighborhood planning of Detroit—included in “Samples of Divisions of Residential Lot in Foreign Countries”—to his housing arrangement plan that laid out the configuration of the planning units. He conducted a series of research and study projects for the Housing Problem Committee of the Architecture Institute of Japan beginning in June 1939 and the Architecture Division of the Japan Life and Culture Academic Society beginning in March 1942, and made proposals on planning units by bringing together outstanding members in the field of city planning for housing planning. The author presumes that these discussions were very important in the sense that they became the original models of planning standards for war-damage reconstruction and that they became the original model of neighborhood theory because they were applied to the theory of new town development. The industrial city planning for Katsuta was not released due to various



reasons, but it can be positioned as the first example of the implementation of a residential neighborhood in Japan apart from the innovative approaches made by the GHQ. However, Uchida's industrial city planning was not realized as originally planned, and only part of the company town was constructed in accordance with block planning.

The draft of the official city plan for Katsuta was concluded by the end of 1941, indicating that it was evaluated highly as a model case of industrial city planning, despite the fact that Katsuta was not designated as a new industrial city in the first collection of the "research report of housing conditions." In Katsuta, the project started with the construction of major city streets, but the base of new city construction was the land readjustment project that was planned and decided in November 1943.

The "Map of Lot Adjustment of Area Subject to City Planning in Katsuta" (Fig.8) shows that it obviously does not agree with the industrial city plan created by Uchida. However, it shows that green areas were laid out everywhere inside the area and that planning units were set up by encircling the residential area. This was explained in a discussion by the local Ibaraki committee of city planning with the comment, "Each area is regarded as a neighborhood unit for an elementary school zone for between 8,000 and 10,000 people," indicating that a school zone was used as a neighborhood unit. The residential neighborhood for a population between 8,000 and 10,000 people is exactly the same planning unit as used in residential neighborhoods today. In addition, the comment, "The plan was to construct a garden city by encircling it with a green area comprising paddy fields and mountain forests" indicates that the city planned to encircle the garden city with a green belt as a garden city does. Thus, a city-planning map that merges garden city theory and neighborhood theory can be said to be the goal in city planning prior to the Second World War.

In Katsuta, which secured wide parks and green areas in this way, the ratio of parks to lot area is set higher than 5% and that of green spaces to lot area is set higher than 15%. These two figures were much higher than the standards set by the Home Ministry in "Guidelines on the Construction of a New Industrial City" (each of the ratios of parks and green spaces is set higher than 5%). The guidelines clearly state that an urban district should be divided into lots, each of which is about 1 square kilometer, by a wide street, water channel, banking, railway, park, green area, etc., and an elementary school and a market should be constructed to establish a neighborhood unit for the daily lives of citizens. They are probably the planning standards in which the concept of a residential neighborhood appeared for the first time, and they were set at a higher level than the planning standards for land readjustment.

As discussed above, only a small part of Uchida's industrial city plan was incorporated in the arrangement plan for a company town, and it was not reflected directly in the official city planning. Nonetheless, it can be said that the series of plans in Katsuta during the war were basically devised under the influence of a neighborhood theory.

Conclusion

Garden city theory and neighborhood theory can be said to be theories known to everyone involved in city planning. The first cases discussed in the textbooks for those who specializes city planning are Den-en-Chofu for garden city theory and Senri New Town for neighborhood theory. Both garden city theory and neighborhood theory are already well established as planning theories indispensable to the development of new towns and residential suburbs. In contrast, the innovative approaches to garden city theory and neighborhood theory in industrial cities discussed in this paper are scarcely known. This is probably because mistaken visions were implemented without any change, and because the two approaches have not been particularly well documented, and were realized only in part. However, the fact remains that industrial development by a company is not particularly significant in the history of city planning as it is intrinsically classified as an academic field for the public because city planning as industrial development by a company is considered to be an investment by a private company. The construction of company housing is important in respect to the efforts that a company makes to develop an industry and in that it has been planned integrally with city planning as development of an industrial infrastructure. This contrasts with an official city plan implemented independently of a housing policy. It deserves special mention that industrial city planning by companies introduced advanced planning theory from abroad—ahead of public city planning—in the development process. Although the two cases discussed in the paper were not authorized as official city plans, they are well established in the Japanese history of city planning as examples that involve garden city theory and neighborhood theory.

In conclusion, the historical positions of the two cases discussed in this paper in the overview of city planning history have been charted in this paper. The Kurashiki case indicates that Magosaburo Ohara developed a garden city theory from the concept of a company town like a workers' village expanded to a city as a whole, although this is only a presumption based on collateral evidence. This agrees with the acceptance process of the garden city theory in Japan. The image of an industrial village when it spread to Japan during the end of the Meiji period (1868–1912) gradually prevailed as the planning theory for residential suburbs. It was Den-en-Chofu being constructed on a full scale that made the concept of a garden city widely known. Of course, it goes without saying that garden city theory was originally a planning theory for an entire city and should not have been applied only to the development of a residential suburb. Ohara's industrial city planning, aiming to construct a city for both



work and life during the middle of the Taisho period, was not intended to construct a garden city, but it has gone down in history as constructing a city to realize the idea of offering a site for work and life, and has been evaluated as being closest to the garden city envisaged by Hideaki Ishikawa. If so, Kurashiki should be regarded as the original garden city in Japan. However, the idea of developing an entire city into a garden city did not spread substantially in Japan, and the image of developing residential suburbs full of greenery was established as a catchphrase. As a result, Ohara's approach to garden city theory fell into oblivion as a barren flower.

On the other hand, Yoshikazu Uchida, who introduced neighborhood theory to Katsuta, discussed specific figures for a residential neighborhood in the Housing Problem Committee and the Japan Life and Culture Academic Society. Goro Ito, who was a member of Uchida's study group, promoted the construction of new industrial cities in the Home Ministry and presumably drafted "Guidelines on the Construction of a New Industrial City." As a result, the concept of a residential neighborhood was incorporated into planning standards. After the end of the Second World War, the Architectural Institute of Japan submitted "Proposal on City Planning and Housing Measures in the Post-War Period" to the prime minister and the War Damage Reconstruction Institute. The Proposal talked about the control of large cities and the industrialization of local areas, and wrote about "Organizing borders between living areas by setting up a residential neighborhood" as a specific proposal. This specific proposal was taken into account for war-damage reconstruction. It is clear that the specific planning standards of war-damage reconstruction was rooted in the research on residential neighborhoods that Uchida and his colleagues conducted during the war. That is, the planning unit of a residential neighborhood was recognized as the basic standard, while the postwar period inherited the contents of city planning developed during the war. Katsuta was merely a case of applying the cases of residential neighborhood implemented by Datong City Plan, but it can be positioned as the starting line from which neighborhood theory spread and became established substantially in postwar Japan.

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