

Namihei Odaira's Aspiration

Creating a Comfortable Place to Live

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Urban Development in Paris

In 1801, a certain person was born in Krefeld, Germany, the town where Hitachi High-Tech Europe GmbH is based. That person, who founded the Hermès fashion brand that has charmed people around the world, was named Thierry Hermès. As a young man, Thierry spent a long time in Paris working as a harness maker. His well-made saddlery earned a strong reputation, with one of his saddles being selected for a silver medal from among a large number of other exhibits at the 1867 Expositions Universelles de Paris. This led Thierry to become a purveyor to Emperor Napoleon III and other European royalty and nobility. Speaking of the 1867 Paris Expo, a young pioneering social entrepreneur in Japan, Eiichi Shibusawa, also attended the Expo as part of a delegation from the Edo Shogunate and it may be that he saw Thierry's saddles for himself.

The use of horse-drawn carriages in Paris was at its height when Thierry established his workshop there around 1837. This was also the time when railroad construction first got underway. The person responsible for updating the medieval streets of Paris and establishing an urban transportation system that combined railways and horse-drawn carriages was Georges-Eugène Haussmann, the Prefect of Seine appointed to this role by Napoleon III. Haussmann's great renovation of Paris, as it came to be called, began in 1853. While the Industrial Revolution was increasingly transforming Paris into a large city, its streets were narrow and the lack of sewers and other infrastructure made for insanitary conditions, creating

slums inhabited by the poor as depicted in *Les Misérables* by Victor-Marie Hugo. Baron Haussmann incorporated the idea of sanitation into urban development, building water supply and sewage systems, widening roads, and clearing the slums of narrow streets. Grand boulevards linked the railway stations around the edge of Paris to create a seamless transportation system of railways and horse-drawn carriages. Baron Haussmann approached urban development in a way that sought to provide residents with a pleasant environment. As well as widening the roads, he also planted trees alongside them and enforced a uniformity in building facades to give the place a well-balanced appearance, also establishing numerous parks.

The workshop of Thierry Hermès was passed on to his son Charles-Émile, and it was a saddle made by the son that would win a gold medal at the subsequent 1878 Paris Expo. It was as a result of the great renovation that a year later, in 1879, the Hermès Saddle Workshop relocated to 24 Rue du Faubourg Saint-Honoré where it went on to flourish, and which remains its flagship store.

Meanwhile, the generation of Émile-Maurice Hermès, Thierry's grandchild, found themselves confronted with a crisis as horse-drawn carriages began to be supplanted by greater use of motor vehicles. Contrasting photographs of Fifth Avenue, New York taken in 1900 and 1913 respectively are frequently used to illustrate the speed of this transition from horse to car [1].

The spread of motor vehicles and the greater comfort they offered also affected people's behavior with regard to going out. It was in 1900 that French tire manufacturer Michelin first

[1] Fifth Avenue New York in 1900 (left) and 1913 (right)



Source (left): National Archives and Records Administration,
Records of the Bureau of Public Roads

published its restaurant guide. The increased opportunities that people had to get out of the house also heightened their interest in how they looked.

Perhaps because Emile was a childhood friend of Louis Renault, a founder of the car maker Renault, he was intensely aware of the shift from horses to cars.

Having taken stock of the knowledge and resources of Hermès and identified the source of its excellence, Emile set out to make the transition from a saddlery workshop to a fashion house. Along with the production of saddles and harnesses, Hermès also had experience in the manufacture of horse-riding accessories and the expertise in leatherwork that it had acquired through this work. Drawing on these skills, it embarked on the production of bags and other leather goods. Management studies uses the term “dynamic capability” for this ability for a company to recognize how the world is changing and, based on this, to take stock of the knowledge and other resources available to it to establish new businesses better suited to the new circumstances. It is a new research trend. What Hermès employed in drawing on its existing know-how to make the transition from saddlery workshop to fashion house is none other than dynamic capability.

Various Forms of Urban Development

The period when Baron Haussmann was embarking on his great renovation of Paris was also one when the Industrial Revolution was spreading across Europe, with towns that dated back to the Middle Ages starting to experience overcrowding [2]. Indeed,

[2] Paris Before the Great Renovation
(Narrow Side Street on the Isle de la Cite)



Paris was only one of many cities undertaking redevelopment aimed at improving living conditions. Along with the rise of the social improvement movement, there was a call for rational approaches to urban planning. A notable example is the concept of the garden city proposed by businessman Ebenezer Howard in his book, *To-Morrow: A Peaceful Path to Real Reform* (1898). Howard's idea of garden cities sought to combine the best of cities and gardens, giving cities a radial ring layout with public facilities such as parks and city administration at the center; housing, schools, churches, etc. located farther out; factories and railways farther out still; and farmland making up the outermost ring [3]. His idea envisaged these garden cities having a population of 32,000 people, with any growth to be accommodated not by expansion, but by the construction of new garden cities that would be linked by railways and roads.

Howard's concept of the garden city influenced urban planning around the world. A Garden City Association was established in France in 1911, with garden cities being developed around Paris and other parts of northern France during the 1930s. The Regional Planning Association of America established in the USA in 1923 was another initiative that promoted the spread of garden cities.

Eiichi Shibusawa, too, was influenced by these ideas. In 1918, Shibusawa founded the Den-en-toshi Company (Garden City Company), a forerunner to today's Tokyu Corporation, that engaged in residential development and subdivision around

[3] Diagram of Howard's Garden City Network



Source: *Garden Cities of To-Morrow* by Ebenezer Howard

the Den-en-chofu district of Tokyo. In his efforts to develop a Japanese style of garden city, Shibusawa also built railway lines to improve convenience for residents (Meguro-Kamata Electric Railway Company, another forerunner to Tokyu Corporation).

The idea of garden cities also influenced the many new urban development plans embarked upon around the world after the end of the Second World War. By the 1960s, however, some had emerged who objected to new urban developments with their pursuit of functionality and rationality inspired by the garden city concept. One person who has had a major impact on modern thinking with regard to urban development is Jane Jacobs. In her well-known book, *The Death and Life of Great American Cities*, she argued that cities are living entities and criticized Howard's ideas for ignoring the complex and multifaceted cultural life of cities. Jacobs in turn had her critics, and from the 1970s the main issues facing cities Europe and America shifted to things like urban decay and the hollowing out of city centers, sapping enthusiasm for the functionalist ideas behind the garden city.

Moving on to the 1990s, however, the idea of building ideal cities as exemplified by the garden city made a return to the limelight. This included the New Urbanism movement in the USA and the ideas of urban villages in the UK and compact cities in Europe. The notion of compact cities merges a number of different concepts, including mobility as a service (MaaS) and the smart city, and has continued to evolve to this day.

Hitachi's Urban Development

Eiichi Shibusawa had a nephew, Motoji Shibusawa, whose accomplishments included serving as President of Nagoya Imperial University. Motoji was a close friend of Hitachi, Ltd. founder Namihei Odaira going back to their school days [4]. Odaira, who had a position of responsibility as an electrical engineer at a major electricity company, quit this job in 1906 to go and work at the new Hitachi Mine, speaking enthusiastically to Motoji about his passion and aspirations for making things. Through their mutual connection to Motoji, it may be that Odaira's belief in contributing to society through superior and original technologies was influenced indirectly by the trailblazing social entrepreneur Eiichi Shibusawa.

At the time when Odaira was bringing his lofty ambitions to his new job at Hitachi Mine, the town of Hitachi was just another impoverished village. This village, however, was destined to expand rapidly along with the rapid growth of both Hitachi Mine and Hitachi the company. Odaira and mine

[4] Motoji Shibusawa and Namihei Odaira



owner Fusanosuke Kuhara not only focused on their own respective businesses, they also took up the task of providing infrastructure to accommodate the growth of the village. The work that Odaira undertook at the mine encompassed all of its electrical, mechanical, and civil engineering work, including the power plant, construction of the refinery, building the mine railway line, and the construction of company housing.

Odaira continued his work on the provision of infrastructure after founding Hitachi, Ltd. A rapid increase in staff numbers made the provision of housing an urgent issue. In 1935, company housing was constructed on a site of approximately 26 ha adjacent to Kaigan Plant [5]. The Ose residential area was designed with living conditions in mind, the company houses being complemented by facilities that included a staff dormitory, a baseball field, and a gymnasium. The person responsible for this design was Yoshikazu Uchida, a professor at Tokyo Imperial University who had also designed the university's Yasuda Auditorium. That Odaira chose such an architectural authority to build his company housing shows just how much importance he placed on it. His enthusiasm for manufacturing

[5] Ose Company Housing (Hitachi City, Ibaraki Prefecture)



Image sourced from *Town Planning for Company Towns – Corporate Strategies of Noda, Kurashiki, and Hitachi* by Shigeo Nakano

and his provision of good living conditions are two sides of the same coin.

Along with the building of company housing, Odaira established railway and bus companies for transportation infrastructure, while for the health of staff and other local residents he built gymnasiums and ran a hospital. He also did not overlook investing in education. Along with the Apprenticeship Training School for staff training, his numerous contributions also included helping to fund the construction of local elementary schools. Particularly noteworthy was his involvement in the establishment of the Taga Technical High School (now the College of Engineering, Ibaraki University). While the government in 1940 had plans to spend JPY44 million to establish 11 technical high school and expand seven existing schools, the ultimate budget proved much smaller, providing JPY4.72 million to fund the construction of seven high schools. In the case of Taga, Odaira succeeded in attracting one of the technical high schools by making a donation of JPY3.0 million to the Ibaraki governor.

Meanwhile, the towns of Sukegawa and Hitachi kept expanding along with the growth in Hitachi's business, leading to their merger to form Hitachi City in 1939. At this time, Hitachi embarked on a Hitachi civil engineering and construction project, donating a JPY1 million to provide infrastructure to the newly created Hitachi City.

Odaira's aspiration of contributing to society through superior technology showed itself in the field of urban development as well as in manufacturing.

New Urban Development: Era of Smart Cities

Demonstration projects and other smart city developments are currently underway in various parts of the world. One such example is Denmark, a country that regularly tops international rankings for the happiness of its people. Through the Horizon 2020 program, European nations are embarking on projects that address seven challenges identified as facing mature societies, including wellbeing and transportation. Underpinned by the spread of electronic government, Denmark in particular has set ambitious targets in areas such as reducing the burden on the environment and cutting medical costs. The country is also pressing ahead with smart city plans for the capital Copenhagen and other locations, including Aarhus and Odense, the second and third largest cities respectively.

What is of interest in Denmark's urban development is the

value it places on "*hygge*." This is a Danish word that combines a sense of the times and places where people mingle happily with family, neighbors, and friends. It is an extremely important consideration for Danish people. The question of how to live a life of *hygge* is part of the background to smart city development and town planning in Denmark.

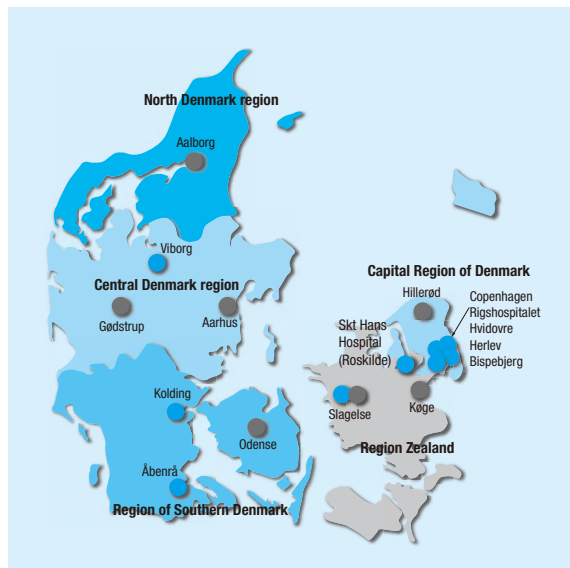
While Denmark in its Energy Strategy 2050 has set a target of 100% renewable energy by 2050, Copenhagen has set an even more ambitious target of becoming the world's first carbon-neutral capital city in 2025, announcing its CPH 2025 Climate Plan for achieving this in 2012. CPH 2025 has a target of 75% of travel in the city being by foot, bicycle, or public transportation, include an increase in bicycle use for commuting to work or study to 50% and an increase in the rate of public transportation use relative to 2009 of 20%.

While Copenhagen is already famous for the prevalence of cycling, among the factors behind the steady progress of this plan is a deeply rooted culture of user-driven innovation that is founded on a people-centric mindset underpinned by *hygge*. This led to the local population getting behind the plan from the outset. There is little resistance among local residents to trying new technologies in their daily lives, making it a good place to conduct demonstration projects and other initiatives based on progress by trial and error.

Recognizing this culture, Hitachi established the Big Data Research Laboratory in Copenhagen in November 2014. Through its involvement in joint initiatives between industry, government, and academia and user-participation trails in partnership with local institutions, the laboratory has been working to develop new services and business models in areas targeted by the Danish government, including energy and the environment, transportation, and healthcare.

In the healthcare sector, it has collaborated with work on the super hospital concept. This plan targets a 25% improvement in the efficiency of hospital management by consolidating 40 existing public hospitals into 16 "super hospitals" that provide advanced medical facilities [6]. Hitachi is participating in the plan, working since November 2014 on solution development through collaborative creation with Bispebjerg and Frederiksberg University Hospital. One example is a projected 12% reduction in the distance traveled by staff in emergency, inpatient, radiotherapy, and other wards that was identified by equipping them with wearable sensors (including the "business microscope") to analyze their movements. This result will be utilized in the layout design of new hospital buildings. Hitachi is also using collaborative creation to work with the hospital in various other areas, including on-site infection control.

[6] Denmark's Super Hospital Concept



Source: *Solution for Improving Hospital Management in Denmark* by S. Tani, et al.

Meanwhile, in the age of the data-driven society and Society 5.0, the smooth distribution of data is the key to urban and societal growth. Accordingly, Hitachi is also involved in the City Data Exchange (CDE) project run by the Municipality of Copenhagen. As part of this, Hitachi developed a data exchange that enables the sale, purchase, and sharing of data between different organizations and operates as a software-as-a-service (SaaS) to encourage the distribution of data among public and private businesses in the city. The data exchange entered service in Copenhagen in May 2016.

In the transportation sector, Hitachi has conducted a demonstration project for Dynamic Headway on the Copenhagen Metro, as described in a previous article. Dynamic Headway is a driverless signals and traffic management system that adjusts transportation capacity in real time in response to demand fluctuations. It should also help achieve the targets of CPH 2025.

Odaïra's Enduring Aspirations

The logo of the Hermès fashion brand discussed at the beginning of this article depicts a four-wheeled horse-drawn carriage along with its attendant, but with no sign of his master. It is said to reflect Hermès' customer-centric (people-centric) philosophy whereby the master is none other than the customer himself/herself, which is to say, the owner of the goods to which the logo is affixed. Now, having made the transition

from a saddlery workshop to a fashion brand, Hermès is still imbued with a corporate culture that goes back to Thierry.

The social environment in which Hitachi operates has changed enormously from 110 years ago when Namihei Odaïra founded the company. Hitachi has demonstrated adaptability and dynamic capability, undergoing a structural transformation to a Social Innovation Business that combines operational technology (OT), IT, and products. Its involvement in urban development has also changed considerably from when Odaïra was engaged in infrastructure development in the town of Hitachi. What has not changed at Hitachi is Odaïra's aspiration.

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