Dominique Barjot et Patrick Fridenson (dir.)

# France-Japon, regards croisés
# France and Japan, a cross-analysis

## Mélanges en l'honneur de Terushi Hara
## In memoriam Terushi Hara

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Grand ami de la France, l'historien japonais Terushi Hara a ouvert d'importants chantiers scientifiques. Spécialiste de l'étude des ententes, des cartels et des politiques industrielles durant le XX^e siècle, une grande partie de son œuvre a été consacrée à l'histoire des chemins de fer, d'abord celle des chemins de fer algériens, mais aussi celles, comparées, du Shinkansen japonais et du TGV français. Partant des progrès de l'organisation scientifique du travail, intégrant les problématiques de l'américanisation, Terushi Hara s'est intéressé à la question des transferts de technologie et organisationnels. Son expertise de l'économie française, qu'il a fait connaître aux étudiants japonais, l'a imposé comme un grand historien des entreprises et des processus d'intégration internationaux, notamment de la stratégie des entreprises japonaises en France et en Europe.

Des historiens japonais et français, un historien suisse, un historien canadien et une économiste française offrent dans ce livre leurs contributions sur les thèmes qui ont été les siens, rendant possibles des regards croisés entre France et Japon à l'heure de la mondialisation.

Dominique Barjot est professeur d'histoire économique contemporaine à l'université Paris-Sorbonne (Paris IV) et directeur adjoint de l'UMR 8596 Centre Roland Mousnier. Il a été professeur invité à l'université de Tokyo.

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Terushi Hara (1943-2011) a fait ses études universitaires à Waseda, université privée la plus prestigieuse du Japon, puis en France avant de soutenir au Japon une thèse de doctorat remarquée. Proche de François Caron, il a été professeur d'histoire économique occidentale à la School of Commerce de l'université Waseda. Il est devenu le spécialiste de l'histoire industrielle et des politiques économiques de la France. À l'origine d'importants programmes internationaux (cartels et missions de productivité), il demeure l'un des meilleurs connaisseurs de l'histoire ferroviaire française et japonaise.

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## In memoriam Terushi Hara

*Actes de la journée d'hommages en l'honneur de Terushi Hara*
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DEUXIÈME PARTIE

# Terushi Hara, historien des transports

# CANALS AND TRANSPORT POLICIES IN 19TH CENTURY FRANCE: NEW LINKAGES OF WATERWAYS AND RAILWAYS AS INNOVATIONS BY DEMAND-SIDE INITIATIVES

*Fumihiko Ichikawa*

The aim of this article is to illuminate the modern transport innovations of new linkages of waterways and railways, which led to lower costs and greater accessibility in this realm.[1] It will, in addition, discuss the systematic reorganization of this age prior to the second industrialization period in France, at the end of the 19th century.[2] In the age of railway expansion, this article will analyze the functions and role of inland navigation networks as conventional transport systems in mid-19th century France. It will then focus on the behavior of local entrepreneur groups as transport service consumers, seeking positive ties with inland navigation network and the existing railway lines of mid-19th century and later with the enthusiasm for setting new connecting points of waterways and railways for the demand side-driven reorganization process of the transport system. Through an analysis of archives and proceedings of economic organizations, this article will discuss the additional function of "transport policy-making" and its institutionalization process, which was built-in to the main Chambers of Commerce, in addition to their conventional function of consolidating local entrepreneurs' opinions.

From the 1970s on, research in the areas of modern French transport history, railway business, or its management history saw steady progress. The innovative work of François Caron established the starting point for studies of modern railway history. Caron's pioneering work on the history of the Northern Railways





1 Special thanks to the comments of Professor Terutoshi Samura, Professor Motonobu Kajimoto, Professor Takao Shiba, Professor Satoshi Sasaki, Professor Hiroshi Nishikawa and Professor Takafumi Kurosawa at the discussion of the Kansai Monthly Workshop of the Business History Society (26th April 2008) and of the 6th National Convention, Entrepreneurial Study Forum (12th July 2008). And also thanks to comments of Professor François Caron, Professor Dominique Barjot, and Professor Toshikatsu Nakajima at the discussion of Professor Terushi Hara's Memorial Workshop in Paris (29th August 2012).

2 Alain Beltran and Pascal Griset, *L'Économie française, 1914-1945,* Paris, Armand Colin, 1994.

Company, one of the former Six Private Railways, is upheld to be the first business history of transport, and the first historical study of the railway industry entrepreneurs. Caron later organized the Railway History Association of France (Association pour l'histoire des chemins de fer en France) and edited the journal *Revue d'histoire des chemins de fer.* In addition, Caron published two volumes on the history of French railways from the 1740s to the present, which are now accepted as the standard text on this subject.[3]

The primary academic influence in French historical studies of transport centered on railways, and this trend carried over to studies in Japan. Firstly, Kensaku Tsugita tried to examine the establishment process of the French railways.[4] Terushi Hara studied and empirically analyzed the colonial railway business history in modern Algeria. Hara also discussed the creation of the French National Railways Company (SNCF).[5] Toshihiro Tanaka examined the establishment and deployment periods of the modern French railways industry.[6]



In the 1980s, Akira Hirota discussed railway construction in France through the lens of industrial development policy.[7] Yasuo Gonjo argued that the construction of railways relied heavily on public finance in the realm of public works policies in modern France.[8] Research on the history of French railways has been widely expanding in Japan since the 1990s, as is evident in Atsushi Yanagi's empirical examination of the role of railways in the sales channels for wine in southern France.[9] Similarly, Fumihiko Ichikawa and Jun Sakudo examined the relationship between French railway expansion and development of the modern distribution process.[10]

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3 François Caron, *Histoire des chemins de fer en France*, Paris, Fayard, t. 1, 1997, t. 2, 1999.

4 Kensaku Tsugita, "Railways Construction in the 19th Century France," (1) & (2), *Osaka Economic Papers*, vol. 22, no. 2, 1972, p. 58-87, and vol. 22, no. 3, 1973, p. 39-61; K. Tsugita, "Part 2-1: The Industrial Revolution in France," in Sakae Tsunoyama (ed.), *Lectures on Western Economic History II: Age of the industrial revolution*, Tokyo, Doubunkan, 1979.

5 Terushi Hara (ed.), *Business History of France*, Tokyo, Yuhikaku, 1980; Terushi Hara, *On French Capitalism: Establishment and Development*, Tokyo, Nipponkeizai Hyoronsha, 1986.

6 Toshihiro Tanaka, "The Interests on Railways Business in the July Monarchy," (1) & (2), *Reviews of Economics*, vol. 22, no. 2, 1977, p. 145-171 & no. 3, 1977, p. 263-299.

7 Akira Hirota, "The Saint-Simonian Movement of Railways Construction," in Teruaki Endo (ed.), *The State and Economy: Studies on French dirigisme*, Tokyo, University of Tokyo Press, 1982.

8 Yasuo Gonjo, "Le Plan Freycinet (1878-1882) and Fiscal Investment Policy," in Teruaki Endo (ed.), *The State and Economy*, *op. cit*.

9 Atsushi Yanagi, "Commercialization of Wine by the *négociants* in the End of 19th Century France: Expanding of Languedoc Wine Market," *Journal of Business History*, vol. 27, no. 1, 1992, p. 1-28.

10 Fumihiko Ichikawa, "The Establishment of Paris Central Market and the Modern Distribution System in France: From the Second Empire to the Beginning of 20th Century," *Journal of Market History*, no. 9, 1991, p. 49-64; Jun Sakudo, "Circulation Innovation and Physical Distribution in the Period from the 19th Century to the First World War in France," in Yasuhiro Mori (ed.), *History of Physical Distribution: Aspects in Pre-Modern & Modern Periods*, Tokyo, Ochanomizu shobo, 1995, p. 91-117.

Even with such diverse points of view on railway history studies as those described above, the main academic subject in this area remained railway history in studies of French transport history. The histories of waterways and road transportation were limited topics, only discussed in relation to railways.

Contrary to such study trends in Japan, Takashi Ueno tried to examine the progress of the comprehensive modern French transport project with multiple modes of transport including waterways, roads and railways.[11] The landmark study of Keiko Kurita also analyzed approaches to the modern transport system by the *Grand Corps* of Ponts et Chaussées Engineers group and their modern national transport plan and economic vision in the 19th century.[12]

In France, study groups focusing on the waterways were formed as the Association des Amis du Musée de la Batellerie at the Waterways Museum in the city of Conflans-Sainte-Honorine. The group also began to publish the *Cahiers de l'Association des Amis du Musée de la Batellerie* or a *Research Report.* With the accumulation of the recent research on modern French domestic waterways history, the base of study for railways history and waterways history gradually formed through combining research results of both sides of history and focusing on the relation between waterways and railways. Even though some research issues on the Modern Connecting Points for Waterways and Railways or the roles and commitments of regional entrepreneurs that this paper attempts to analyze are still left to remain critical topics to examine.[13]

Recently, in Japan, reflecting the research situation of waterways in France, Kanako Higashide has published studies on modern waterways in France.[14] Following the rich achievements of transport history of modern Japan in advance, Fumihiko Ichikawa's studies tried to fill in blanks on the research topics mentioned above.[15] In addition, Ichikawa had organized the 41st National

11 Takashi Ueno, "On Transport Issue of Michel Chevalier, Productive Force Economist," *Journal of Socio-Economic History*, vol. 46, no. 6, 1981, p. 625-647; Takashi Ueno, *Study on Michel Chevalier*, Tokyo, Bokutakusha, 1995.

12 Keiko Kurita, *Engineer Economists. Establishment of French Public Economics*, Tokyo, University of Tokyo Press, 1992.

13 Chandra Mukerji, *Impossible Engineering: Technology and Territoriality on the Canal du Midi*, Princeton/Oxford, Princeton University Press, 2009, is a study on pre-Modern waterways; Nicolas Neiertz, *La Coordination des transports en France de 1918 à nos jours*, Paris, Institut de la gestion publique et du développement économique, 1999, examined the relation of plural modes of transport in 20th century.

14 Kanako Higashide, "Ports, River Banks and Bridges of the First Half of 19th Century Paris," *Kansai University Journal of Western History*, no. 6, 2003, p. 51-68; "The Beginning of Passenger Ships in Paris," *Review of Human cultural studies*, no. 21, 2006, p. 27-37.

15 Fumihiko Ichikawa, "Perspective to Modern Age through 'Ways' – Modern Society of the Latter Half of 19th Century France," *Review of KwanGaku Western History,* no. 26, 2003, p. 11-20; Fumihiko Ichikawa, "Long Trends on Fairs in the Centre-Ouest Region of Modern France: From the end of 19th Century to mid-20th Century," *Journal of Economics, KGU*, vol. 58, no. 3, 2004, p. 667-675.

Convention of the Society for Market History which focused on the "relation between urban transport history and market history" from an international point of view, specifically through a comparison of French and Japanese cases with empirical studies of Toshio Ito, Tsugihiro Sekiya, Akira Tanezaki, and F. Ichikawa.[16] The theme of this paper is therefore reflective of the recent research trends in France and Japan.

## THE MODERN FRENCH-TYPE TRANSPORT REVOLUTION

The modern "French-type transport revolution" brought about a significant expansion of the transport service market throughout the 19th century in France with a rapid growth of domestic freight volume. This revolution can be defined as an economic phenomenon in which the water transportation network deployment with the two periods of stagnant growth phase and railway constructions in the later 1830's was overlapped, and had achieved national transportation capacity expansion.[17] It should be noted that the transportation revolution is further classified with *the first revolut*ion and *the second one*, as I will examine in the second half of this section.



In addition, the modern French-type transport revolution with such a feature as double transport revolution is newly relatively positioned from the point of view of the international comparison. Double transport revolution means: constructing railways, then synthesizing inland waterways and railways into the new national transport network. This article poses the questions for Modern France as the following.

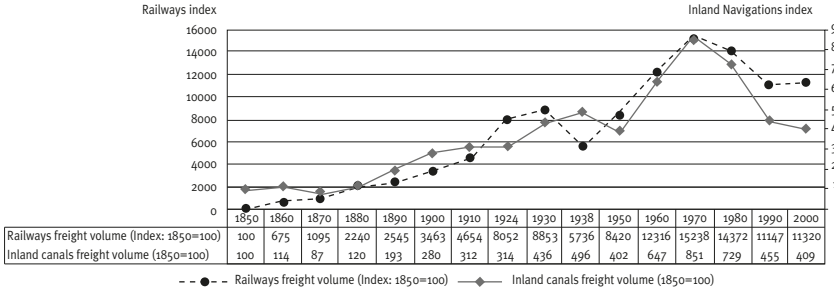
The water transport system in Great Britain was so vast before fixing a network of railways, but the transportation volume by water made its decline in contrast with the case of France through the 19th century.[18] And Belgium,

16 Toshio Ito, "The Development of Lorry Transportation in Osaka and the Surrounding Districts in the Early Showa Period," *Journal of Market History*, no. 25, 2005, p. 24-43; Tsugihiro Sekiya, "A Study of why the Physical Distribution Changed: The Relation between Transportation Means and Inventory Management," *Journal of Market History*, no. 25, 2005, p. 8-23; Akira Tanezaki, "Network System of Osaka & Kobe Port and its Cluster type –Local Cargos and Global Cargos," *Journal of Market History,* no. 25, 2005, p. 44-53; Fumihiko Ichikawa, "Approaches to Comparative Urban Transport History" and "Comments on Annual Spring Conference 2004 of Market History," *Journal of Market History*, no. 25, 2005, p. 1-7 and p. 54-57.

17 Fumihiko Ichikawa, "Routes Combined with Waterways: Inland Navigation as Contributor for Modern New Transport Revolution," in Yujiro Aga & Kikuyo Tanaka (eds.), *Borders and Borderlands in History Revised by Conceptualizing Cultural Agencies in Time and Space*, Kyoto, Shouwado, 2007, p. 86-88; F. Ichikawa, "Approaches to New Linkage of Waterways & Railways in the Second Transport Revolution –Transportation Reorganization by Demand Side Initiatives," *OGU Review of Economics*, vol. 22, no. 1, 2008, p. 53-56.

18 Peter Mathias, *The First Industrial Nation*, London, Methuen, 1983, chapter 4 & 10; Motonobu Kajimoto, " Canal Restoration Movement in Britain since the End of the Second World War," *Transport & Communication History Studies*, no. 65, 2008, p. 1-2.

one of France's neighboring countries, maintained the system which utilized water transportation for the 19th century, but restrained the competition between the waterways and the railways as a transport policy unlike the French case.[19] The expansion trend of domestic transportation market itself in the 19th century is clear from the transportation growth data (cargo volume × haul distance) of both waterways and rail freights which **fig. 1** illustrates.




| | 1850 | 1860 | 1870 | 1880 | 1890 | 1900 | 1910 | 1924 | 1930 | 1938 | 1950 | 1960 | 1970 | 1980 | 1990 | 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Railways freight volume (Index: 1850=100) | 100 | 675 | 1095 | 2240 | 2545 | 3463 | 4654 | 8052 | 8853 | 5736 | 8420 | 12316 | 15238 | 14372 | 11147 | 11320 |
| Inland canals freight volume (1850=100) | 100 | 114 | 87 | 120 | 193 | 280 | 312 | 314 | 436 | 496 | 402 | 647 | 851 | 729 | 455 | 409 |

Railways freight volume (Index: 1850=100) — Inland canals freight volume (1850=100)

Sources: based on B. R. Mitchell (ed.), *International Historical Statistics: Europe*, 2003

Fig. 1. Modern French trends of Freight volume index, 1850-2000
(Tons x kilometer) 1850 = 100

In the long period from 1850 to 1970 (1970 was the peak of 120 years), the domestic waterways freight transport volume grew 8.5 fold, from 1,666,000,000 t·km to 14,183,000,000 t·km. The national railway freight transport volume also saw a sudden increase by 152 times, from 462,000,000 t·km to 70,400,000,000 t·km.[20] In modern French traffic history studies, it has been supposed that the development situation of waterways network in France had been accompanied by a significant regional bias. The Le Havre – Paris – Lyon – Mulhouse line, which connected the cities of eastern and northern France, also demonstrated a clear contrast between the northern and southern parts of the line. The former featured a high density of waterways, whereas that rate in the latter had a tendency to decline.[21]

Although the argument is generally made that the practical use of the waterways service network in modern France was generally restricted to the northern part, it can be observed in **table 1** that at the turn of the century, the average volume of transit goods on the Atlantic Ocean – Mediterranean

19 *Reports to the Board of Trade on Railways in Belgium, France and Italy*, London, H.M.S.O., 1910, p. 110.

20 Brian R. Mitchell (ed.), *International Historical Statistics: Europe 1750-2000*, Houndmills/New York, Palgrave Macmillan, 2003.

21 Michèle Merger, "The Economic Performance of Inland Navigation in France," in Andreas Kunz and John Armstrong (eds.), *Inland Navigation and Economic Development in Nineteenth-Century Europe*, Mainz, Philip von Zabern, 1995, p. 181.

Sea waterway in southwestern France was continually increasing. The Rhône River – Sète waterway, which linked the southern part of France to the Rhône River, showed some freight decrease in 1897, but likewise recovered after. In any of regions south or north of the line, the average freight volume for which each waterway was in growth is examined.

Table 1. The annual freight volume trend of three main waterways and the Rhône River = Sète waterway in France (Freight volume per km = 10,000 t; Index: 100 = 1893)

| Waterways | 1893 | 1897 | 1902 | 1913 |
|---|---|---|---|---|
| Paris = Belgium Border waterway: 284 km | 264.3t | 338.1t | 339.3t | 498.3t |
| | Index=100 | 128 | 128 | 188 |
| English Channel = Bourgogne = the Mediterranean waterway: 1,346 km | 64.2 t | 73.8 t | 80.7t | 133.5t |
| | Index=100 | 115 | 126 | 208 |
| The Atlantic Ocean = the Mediterranean Sea waterway: 509 km | 9.0 t | 13.9 t | 16.7 t | 18.0t |
| | Index=100 | 154 | 186 | 200 |
| The Rhône River = Sète waterway: 116 km | 13.0 t | 11.5t | 11.8t | 12.6t |
| | Index=100 | 88 | 91 | 97 |

Source : *Annuaire statistique de la France*, 1892-1894, 1898, 1903 and 1914-1915



High dependency on the waterways network would continue even after the mid-19th century, as rail network expansion only became prevalent at the beginning of the next century, for instance, in the northern region, which is examined in the next section. The Chamber of Commerce of Calais had reported in 1908:

> The dock for vessels, i.e., the Calais harbour, will be dependent on the large-scale waterways network of north France and Belgium by the Calais Canal. If countless flat bottom type ships come to Calais, they load the northern French woods and the agricultural products from USA and Australia. These ships are carrying construction materials of Houlle, Lessins and Tournai, coals of Bruay, Violaines, Marles and Vendin, and sugar from Pont d'Ardres.[22]

The following excerpt is taken from the *Continental Railway Situation Survey*, which was subtitled *Report submitted to both Houses of Parliament by Royal command of His Majesty the King* that the Board of Trade of Great Britain carried out at the same period:

> *Section on France transportation circumstances*: When a canal service exists, large lots of grain are almost invariably dispatched by water. / Wheat and flour from

22 F. Lennel, *Calais : son port, son industrie*, Paris, Impr. Bertrand frères, 1908, p. 48.

> Dunkerque to Lille and Paris go mainly by water. / Coal merchants also take advantage of canals when available, the rate from Bordeaux to Toulouse being about half the rail rate, but not including the subsidiary charges for loading and unloading./ […] / The waterways of France are free, not only to French traders but to those of other nations".[23]

French transport policy from the mid-19th century, preceding the Second Industrial Revolution, was widely modified and superimposed by regime transformations. The policy which chiefly relied on construction of the railways as the new mode of transport was adopted in the 1840s; thus begins the first French-style transport revolution period. This policy would see a drastic change in the 1850s during the Second Empire under Napoleon III.

This paper focuses on the transport capacity of conventional, already-existing mode of transport, i.e. waterways service. Beginning with constructions of new railways, however, the plan was changed to extend both the railways and waterways doubly. It pointed to the establishment of the multistory traffic system, which is more cost-effective, as the crucial element of the industrial infrastructure formation. It would cover the whole empire as part of the domestic industry-promoting policies, which were aimed at improvement of the international competitiveness of the French economy. As a result, the world saw the onset of the second French-type traffic revolution in the 1850s.[24]

The competitive promotion policy between both would also be further advanced with the waterways network and railways, with the expansion policy of the two modes. The presence of the waterways network, which could carry freight with a low charge as opposed to railways, also brought restriction on the price increase in railway fares.[25] As a result, the many modes of transport were connected organically and more cheaply for customers, and the expectation of the reorganization of a widely available national traffic system grew. The synthetic traffic system, which was not limited to railway construction, was newly promoted, the new cooperation between the waterways and railways would be also based on the competitive policy by the State, but the cooperation of the two modes of transport would be stagnant on the contrary.

According to research in the area of railway business history, management of the railways generally did not favor cooperation with the waterways network,



23 *Reports to the Board of Trade on Railways in Belgium, France and Italy*, *op. cit*., p. 198.

24 In this paper, "the second transport revolution" of France is defined as the economic phenomenon of proceeding the policy of extending linkage of waterways and railways and expanding freight volumes from the 1850s to the 1910s. It is classified that the "the first transport revolution" obtained freight volume growth through depending on railways construction.

25 Alfred de Foville, *La Transformation des moyens de transport et ses conséquences économiques et sociales*, Paris, Guillaumin et C$^{ie}$, 1880, p. 142 *sq*.

which served as a competitor.[26] In other words, the transport policy, which promoted both progress of waterway networks and railway construction, became the basis of the second French-type transport revolution starting in the 1850s. On that policy, setting the connecting points for waterways and railways would need more time to proceed, and expanding double transport capacities of waterways and railways would bring leaps of growth from the 1870's which would characterize the second French-type transport revolution. As shown in **fig. 1** for the freight transport volume (ton·km), growth from 1870 to 1900 would develop as transportation by water increased 3.2 times and transportation by rail increased 3.1 times.

This policy would be continued after the 1920s, in the course of the second French-type traffic revolution. In the 1930s, the Railways = Waterways Adjustment Area Committee functioned to examine the relations of water transportation with the railways.[27]



It was the entrepreneurs' group that would attempt the changes and innovations necessary to expand the transportation system. These changes would be along railway lines or the waterway routes, including customers for freights, who were not satisfied with the lack of cooperation between waterways and railways and were seeking organic ways to link the two. The system would, ideally, be comprised of plural modes of transport.

At the beginning, the negotiations of entrepreneurs from local Chambers of Commerce and the regional trade unions were focused solely on the improvement of the means of transportation they themselves were using. As customers for freights, they mainly requested lower costs and maintenance. Depending on the traffic conditions of each region, they repeated the demands and the petition to the Central Government, to the Parliament, and to the railway companies. However, starting in the end of the 19th century, entrepreneurs would begin to play a more important role in the general transport policy-making that targeted the whole of France, as will be examined later.

This paper focuses primarily on the Nord and the Normandy regions, and on the activities of the local and national economic organizations (in the Nord region, the Paris Waterway Extending Investigation Committee, Communication Survey Committee and Waterway-Railway Coordination Committee, etc.) and local Chambers of Commerce. Therefore, this paper devotes its attention to the

26 François Caron, *Histoire de l'exploitation d'un grand réseau : la Compagnie de chemin de fer du Nord 1846-1937*, Paris/La Haye, Mouton, 1973; *id.*, *Histoire des chemins de fer en France*, *op. cit*.

27 Commissions régionales de coordination fer-eau, Chambre de Commerce de Paris, *Coordination Rail-Eau*, 1934, p. 1-6, in Archives of the Chambre de Commerce et d'Industrie de Paris (the following as Archives CCIP), Cote: IV-8.30 (1).

involvement of local entrepreneurs in the reorganization of the transportation system in the 19th century, through the setup of newly developed "connection points" for waterways and railways, named *"Raccordements des voies ferrées et des voies navigables"*.

## THE DEMAND SIDE-LED RESTRUCTURING POLICY FOR THE NATIONAL TRANSPORT SYSTEM

### Initiatives for waterways network expansion

In the previous section, the modern French transport revolution was examined on a macro level, with a discussion of its long-term effects.

#### Trends in "regional entrepreneurs" group

The primary objective of this section is to examine similar themes, but on more of a micro level. Specifically, it deals with the waterways service contractors as transport service suppliers, railway companies and the activities of customers of inland navigation freight as the transport service consumers, and local entrepreneurs involving the domestic freight market in the second French-type Transport Revolution period (the 1850s-1910s). As seen in **fig. 1**, shown above, the expansion of the waterways cargo volume did not increase above that of rail freight. It continued, however, in the long run even after the First World War. Here, this paper will examine the motives for local entrepreneurs group's preference of waterways as customers in the transportation market which reflected huge flows of water transportation freights.

Factors that caused this preference for waterways can be summarized in four key points:

1/ relatively inexpensive cargo tariff levels, as compared to railways.[28]

2/ the convenience of the high-density water transportation network formed by the first half of the 19th century. It reduced distance with a shorter connecting route, especially the needs for a path to go by connecting the pivotal stops.[29]

3/ Providing direct routes of waterways to the international trade ports and to the industrial areas newly formed or accumulated on harbors and the waterside.[30]

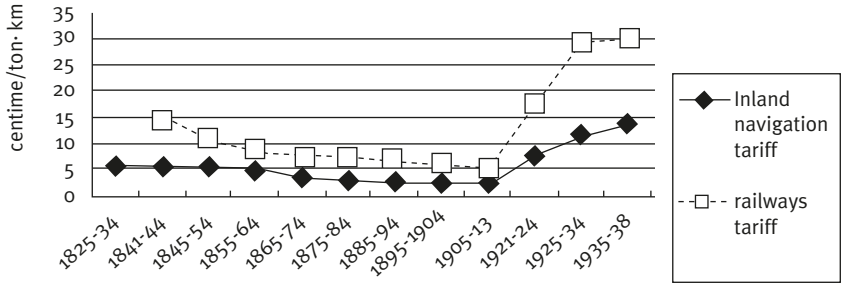


28 Jean-Claude Toutain, "Les transports en France de 1830 à 1965," *Économie et Société*, Série AF-9, September-October 1967.

29 *Reports to the Board of Trade on Railways in Belgium, France and Italy*, *op. cit.*

30 François Caron, *Histoire de l'exploitation d'un grand réseau*, *op. cit.*; *id.*, *Histoire des chemins de fer en France*, *op. cit.*

4/ Endurance in snow damage, relative to railways.[31]




Sources: based on Jean-Claude Toutain, "Les transports en France de 1830 à 1965," 1967, p. 279, tab. 4

Fig. 2. Trends of Freight tariff of railways & inland navigation from 1826-1934 to 1935-1938



The first point of preference, in research history of modern French transportation, was the superiority of the waterways to the railways: it was inexpensive for the rate level of cargo. As can be seen in **figure 2**, waterways freight rates continued to be at a lower level than that of the railways, and this trend would continue over the more than 100 years from the mid-19th century to the mid-20th century. In addition to the first point, this article pays attention to other points of preference.

The second point shows the convenience of waterway routes linking the distribution centers, and this situation heightened the customers' preference for waterways in particular. Assuming the advantage of basis of such waterways, regional entrepreneurs demonstrated the initiatives for waterway network expansion while also sometimes using the railway.[32]

According to the report appendix edited by the Investigation Committee for Transportation at the Chamber of Commerce of Paris (Commission d'enquête des voies de communication, Chambre de Commerce de Paris), in France various intentions and demands were set out by the business groups for the transport system formation.[33] Most Chambers of Commerce existed as a forum for the consolidation of the opinions of regional entrepreneurs with regards to the transportation system. According to the Opinions, Petitions, and Resolutions from Chambers of Commerce in each region, they desired

31 Association pour favoriser l'exécution du Grand Canal du Nord, *Note au sujet de l'Enquête ouverte sur l'Avant-projet*, Lille, 1881, in Archives de Paris (hereafter AP), Cote D1S5 1.

32 *The Fourth International Congress on Inland Navigation*, Manchester, The International Congress on Inland Navigation, 1890, p. 57.

33 Chambre de Commerce de Paris, *Annexes au Rapport de la Commission d'Enquête des voies de communication*, 24 October 1900, in Archives CCIP, Cote IV 8.10 (1).

the formation of waterway routes in addition to the construction of railways. The proposed plan for canal excavation and expansion obtained wide support, as well as did new plans for setting up connection points for waterways and railways,"*raccordements des voies ferrées et des voies navigables,*" and the program for the construction of new railway lines to complement the waterways network. To realize these demands, local entrepreneurs across the country used positive initiatives and repeatedly raised the transport system restructuring plans from trade associations or Chambers of Commerce after the mid-19th century.

#### Lobbying from a Chamber of Commerce: the Case of Rouen

This section will focus specifically on the Chamber of Commerce of Rouen, which was instrumental in arranging regional consensus and making decisions for the new transport policies, and therefore contributed heavily to the reorganization of the modern transportation system. The Chamber of Commerce was a positive representative for transport service consumers who had carried out various negotiations with the Railway Company. The Chamber also created social appeals such as resolutions, petitions, and demands to the state and railway companies. The City of Rouen is located in Normandy, on the bank of the Seine River, which links the capital and the international trade port of Le Havre.

Lines of the Western Railways Company (founded in 1855 after the mergers of three railways companies) were laid along Seine waterways to run the main line from Paris to Rouen, then to Le Havre. The Paris-Rouen line, which opened in 1841, would later be incorporated into the Western Railways network. On that occasion, the Chamber brought forth double transport policies.[34] The first of these policies requested railway fees that did not become disadvantageous for the Rouen area compared with the others on using new line of railways.

The second policy was comprised of demands that the Western Railways promote railway lines linking river ports and seaports, specifically through the setup of new connection points between waterways and railways, in an effort to maintain the basic role as nodal point and hub function of Rouen. Nonetheless, as in the case of the Northern Railways Company in the Second Transport Revolution period, the Western Railways Company also harbored negative attitudes toward the demands from the Chamber.[35]



34 Jacques Delécluse, *Les Consuls de Rouen, marchands d'hier, entrepreneurs d'aujourd'hui*, Rouen, Éditions du P'tit Normand, 1985, p. 163 *sq*.

35 Fumihiko Ichikawa, "Approaches to New Linkage of Waterways & Railways in the Second Transport Revolution, " *KGU Review of Economics*, vol. 22, no. 1, 2008, p. 54-55, 60; Paul Léon, *Fleuves, canaux, chemins de fer*, Paris, A. Colin, 1903, p. 104, 107.

The Western Railways Company had not anticipated that it would completely agree to cooperate in the setup of these connection points from the railways side, as it would heighten the competitiveness of the existing river ports and their network.[36] In other words, the Western Railways did not intend to contribute to the improvement of the existing waterway network, which it regarded as a rival from its birth. The stances of railway company officials gradually began to soften in the beginning of the 1860s. As evidence of this, the connection points between the river ports of Saint-Sever (Calvados Prefecture) and the railway line were indeed implemented in 1861, twenty years after the foundation of railway. The connection point of Serquigny was installed in 1865. The point linked the branch waterway to the Port of Rouen and the Paris-Caen Line of the Western Railways.[37]

Changes in circumstances, such as those described above, which were also proposed by Michel Chevalier, were brought about by a conversion of the transport policy, supported both by governments of the Second Empire and the Third Republic. The policy, which mainly founded railway lines and continued expansion of the waterways network, characterized the Second Transport Revolution from the 1850s (with "The Notice to the Governors of Prefecture dated 16th August 1873" by the Minister for Public Works, "La Circulaire," etc.).



After a long period of negotiations and repeated requests, several initiatives for the implementation of connecting points for waterways and railways were finally put in place by regional entrepreneurs through the Chamber of Commerce of Rouen. The construction of the new railway line which was connected to the right bank of the Seine at Rouen, contacting to the river port of Rouen, proceeded by the Government Order of 19th September 1885, a Decree (*Décret*) which was obtained by encouraging regional entrepreneurs. The introduction of the Government Order, which was the officially authorized order for implementation, noted that "considering the Resolution dated July 12, 1884 of the Chamber of Commerce of Rouen…, the Inspecting Engineer Report in October, 1884… and in heeding these demands (including other petitions), in approval of the Council of State, *Le Conseil d'État*, this government ordinance is emitted." With the "Document for Construction Specifications" (*Cahier des Charges*), the Government Order had proclaimed its decision in the name of the Republic President and would begin to implement construction.

36 Jacques Delécluse, *Les Consuls de Rouen*, *op. cit.*, p. 164.
37 *Ibid.*

The Plan was conceived as a construction project for a new direct connection to the main canal through the northern France region, connecting between Paris and Belgium. This Plan was formed in order to compensate the saturation state of existing waterway routes where so many goods were coming and going through rivers and canals in Northern France, for construction of a new direct waterway to the Capital. Two route plans were proposed by two Chief Engineers and the Plans were discussed including the possibility of establishment of the new waterway, according to the archives of the Nord Region - Paris Waterway Extending Investigation Committee.[38]

By the early 21st century, these proposed plans were mostly realized as the "Canal of the North" (Canal du Nord), and are, in present day, being extended as the "Canal Seine-Nord Europe".[39] At the time of the plans proposed for the initial Paris-Rouen waterway route, the distribution of goods along the route was as follows in **table 2**.

Table 2. Annual Freight Composition of Waterways of Paris-Rouen in 1868

| Items | Paris-Rouen (% of the total) | Rouen-Paris (% of the total) |
|---|---|---|
| Sugar | 4.8 | 5.1 |
| Wine | 0.9 | 1.5 |
| Crops | 1.0 | 1.4 |
| Industrial metal | 3.7 | 0.1 |
| Silk | 6.1 | 4.8 |
| Foods | 0.5 | 1.9 |
| Non-industrial metal | 2.5 | 2.0 |
| Minerals | 8.1 | 1.8 |
| Coals | 22.0 | 35.9 |
| Woods | 30.3 | 35.5 |
| Sugar Beets | 4.1 | 0.5 |
| Medicines | 10.0 | 5.6 |
| Rafts | 1.8 | 0.002 |
| Agricultural products | 3.8 | 3.4 |
| **Total** | **71,293,678 t/km** | **133,148,686 t/km** |

Source: based on Jean-Baptiste Krantz, *Amélioration de la navigation de la Seine entre Paris et Rouen,* 1868,

38 Commission chargée de donner son avis sur les résultats de l'enquête relative au doublement des voies de navigation entre le Nord et Paris, *Procès-verbal de la Commission : 4 mai 1881*, Paris, Imprimerie de Monrocq, 1881, p. 8-13. AP, D1 S51.

39 *VNF Actualités 2008*, 2008.

As can be seen in **table 2**, freight volumes in 1868 from Rouen to Paris (up the river) largely exceeded those from Paris for Rouen (down the river) and the composition ratios of coals and woods were big. Holleaux, the Chief Engineer who was also one of the route planners of this project, explained the physical distribution situation as follows in the committee (deliberations on May 4, 1881):

> The main line waterway between Belgium and Paris extends to 332 kilometers, and as for the main transportation items for Paris from the Nord Region, they are mineral fuel [= coal] which are shipped from Pas-de-Calais, Escaut ravine, Mons and Charleroi. The transport volume had reached 2,134,000 t in 1880. As to the transportation for Paris, there are durable raw materials for reinforcing waterway from Belgium, stones of Saint-Leu as building materials for Paris, various industrial products, cereals, woods and hydraulicity lime of Tournai. As to articles for Belgium from Paris, there are sugar beets from the suburbs of Creil, sand for glass-making in the Nord Region, gypsum, various industrial products, sticks for mines and cereals for Ghent and for Antwerp.[40]



Even during the phase of increasing coal transport by rail, coal merchants, glass manufacturing companies, whetstone merchants or other industrial and commercial entrepreneurs in the Nord region did not only shift to choose railways, but also to use the existing routes of waterways, in the 1880's. These regional entrepreneurs sought the new construction project for the canal which would be connected to Paris, but in a shorter distance.[41] Mayoussier, Director for commercial affairs of the glass-making company Saint-Gobain who was a big customer to waterways, spoke as follows: "The Oise River is in state that it is already insufficient for water transportation. For congestion, there is an 8-day wait during the navigation of the ship; and the navigation between Mery and Janville (70 km) also takes 15 days. I would demand the enforcement of the Chief Engineer Holleaux's plan."[42]

### The Petition for the Northern-Eastern Regions Connecting Waterway Construction

Beyond the "Construction Project for the Nord Canal," transport service customers or regional entrepreneurs needed the new waterway extension for an expansion of the water network. Twelve Chambers of Commerce of the

**40** *Procès-verbal de la Commission : 4 mai 1881*, *op. cit.*, p. 4-5.
**41** *Ibid.*, p. 1, 8-13, and Association pour favoriser l'exécution du Grand Canal du Nord, *Note au sujet de l'Enquête ouverte sur l'Avant-projet*, *op. cit.*, p. 31.
**42** *Procès-verbal de la Commission*, *op. cit.*, p. 22.

northern region (Congrès des Chambres de Commerce de la région du Nord de la France) were seeking a new contact waterway construction that connected the eastern and northern regions of France. The contents of the "Petition" in 1900 on the addressing letter to the Minister for Public Works asked for the new waterway construction proposal as one of the most important waterway routes across the country.

It appealed against the "Petition" as follows:

> The commercial distribution between the Northern region and the Eastern region or among Mézières, Longwy and Nancy is getting significant importance, and it is no doubt that the volume of its commodity circulation is widening day by day. Many factories in the Eastern region require coals and cokes produced in prefectures of the Nord and Pas-de-Calais, and iron industries in the south of prefecture of the Nord and the Eastern region should circulate huge amounts of commercial distribution and [therefore] we should recognize the actual waterways are too long indeed [to distribute].
>
> Steel produced in the Eastern region is sent in order to the Northern region for rolling. Cast iron refined and casted is having numerous sales channels and markets. Your Excellency the Minister, we have no competitive situation [on this Plan], and it might be insufficient [yet] to present you that we believe the Northern region as a whole desire these two projects of canal construction.[43]

In the aforementioned case, the Petition was adopted unanimously at the meeting in Lille City, on the 14th of May, 1900. The Chambers of Commerce that participated in the meeting were the following: the Chambers of Commerce of Abbeville, of Amiens, of Armentières, of Arras, of Beauvais, of Bethune, of Calais, of Douai, of Dunkirk (Dunkerque), of Lille, of Tourcoing and of Valenciennes.

#### Attitudes of railway companies toward the connecting points for waterways and railways

The railway companies, especially the Northern Railway, did not consider the cooperation with the waterways network which had become the rival of the railways in the transportation market. However, railway companies' officials tried the connection with the water transportation network, setting the connecting points in some cases. In the Nord Region, Port-Vauban, Port Don and Port Pont-à-Vendin as the river port or the canal one on the

43 Chambre de Commerce de Paris, *Annexes au Rapport de la Commission d'Enquête des voies de communication*, 24 October 1900, p. 48-50 in Archives CCIP, IV 8.10 (1).

waterway network introduced the connecting point for waterways and railways corresponding to Northern Railway lines.[44]

Some railway companies promoted cooperation with waterways especially in the non-competitive areas where the water transportation network was not in parallel to railways. That is why it reflected the degree of "non-competitiveness" with the water transportation network clearly, and differences came to develop in the density to the connection with the waterways network between the railways companies, where the Eastern Railways, the PO (Paris-Orléans) Railways, the PLM (the Paris-Lyon-Mediterranean Sea) Railways would push forward many more connections in comparison with the remainder companies including the Northern railways.[45]

### Transport policy-making functions of the Chambers of Commerce

#### Changes in negotiating functions of Chambers of Commerce



As the paper has examined so far, achieving the innovation for restructuring modern transport system in France by implementing the connecting points for waterways and railways had been driven by a demand-side approach exclusively as customers for both waterways and railways and regional entrepreneurs (the Chambers of Commerce) along transport routes, rather than by railways companies with negative attitudes as transport service suppliers. It should be noted that the regional entrepreneurs as transport service consumers and promoters of the innovation were the important contributors for the restructuring project of national transport system.

Until the latter half of the 19th century, as a "pressure group," regional entrepreneurs had simply negotiated with the central government or railway companies on improvements for traffic condition in the area where entrepreneurs had local interests. From the mid-19th century to the turn of the century, regional entrepreneurs' position or their function as local "pressure group" converted to that of participants of policy-making on national transport system including waterways and railways.

#### Involvement of Chambers of Commerce in the national transport policy-making

As seen above, the change in functions of the Chambers of Commerce occurred at the turn of the century. In the decision-making process of the transportation policies, through the Chamber of Commerce of Paris, etc., each Chamber of Commerce began to carry out its new role and moved to contribute to policy-making in cooperation with central government. By the

44 Paul Léon, *Fleuves, canaux, chemins de fer*, *op. cit.*, p. 104, 107.
45 *Ibid.*

Minister for Public Works, the government formed discussion bodies related to transportation policy, and the Minister had invited representatives of various Chambers of Commerce to them by the turn of the century. *The Higher Council of Railways* and *The Higher Council of Tourism* were established in that period and Presidents of the Chambers of Commerce in major cities like Paris, Lyon, and Marseille became the members of them.[46]

Prior to the above, at first *The Higher Council of Transportations* (*Conseil supérieur des voies de communication*) was set in 1878. It was the organization to discuss the problems related to planning of waterways, railways and roads and conducting surveys on transports, which was including presidents of nine Chambers of Commerce as members. However, according to the Government Order of 31st January 1878, *le Décret* indicating the aim of the Council, policy proposals by the members of the Council had not been specified. Then on the other hand, the *Advisory Committee for Inland Navigation and Ports* (*Comité consultatif de la navigation intérieure et des ports*) was established in 1902, and the Government Order of 15th February 1902 on the Committee defined and authorized that the Committee discuss on advices for the Minister for Public Works, all the transportation problems including installation of the connecting points for waterways and railways, other coordination cases with railways and also express opinions and extensive discussion on transport issues (according to "Introduction," Article 8, 9 and 10 of the Government Order of 15th February 1902).

The *Report to the French Republic's President* (*Rapport au Président de la République française*) of February 1902 by the Minister for Public Works, at the time of issuing the Government Order of 15th February 1902, stressed the recognition of the government as "the Chamber of Commerce is exactly just the first agency [in this country] which realizes the policy filled to the management of our country's waterways network, and the cooperation to the state which prepares waterways facilities". And the Advisory Committee was organized as "including members of the Parliament, Chambers of Commerce, waterways transport contractors, and their main customers."

Reflecting deeper relevance to policy making than in the case of *The Higher Council of Transportations* in the 1870's, twenty-five representatives of Chambers of Commerce all over France had become members of the Committee. And the Report said: "under the coordination with the Railway Advisory Committee, as well as the same institutions of other countries, this new organization is expected to have the stability ensuring the cooperation of various transportations.

46 Kazufumi Koga, *Economic History of the 20th Century France: State and Industries between Wars,* Tokyo, Nipponkeizai Hyoronsha, 1988, p. 295.

I [Minister for Public Works] would like to hope firmly that this organization will contribute to bring great influence of further reduction of domestic production costs [through a cheap transportation cost system with the tariff competition among traffic modes] and to develop the economy of France".

By the decision of the Committee, a River Port Station in Lyon was installed in cooperation with the PLM railway.[47] And the seven representatives of Chambers of Commerce who were members of the Advisory Committee also became councillors of the new National Office of Navigation which was established in 1912 (by the Government Order of 23rd September 1912). The Office was the organization to proceed general surveys and researches on improvement or management methods of waterways, and on formation of waterways policies (Introduction and Article 1 of the Government Order). Therefore such an institutionalization – as the Advisory Committee or National Office – progressed with the deepening involvement in domestic transport policy-making by regional entrepreneurs and the main Chambers of Commerce like Paris, etc. Prior to the institutionalization, the "Law on Coordinating between the Railways and the Waterways," in 1908, which has been sought by many regional entrepreneurs and various chambers of commerce, was established (**table 3**).



Table 3. Installment situation of Connecting Points of Waterways & Railways: 1903

| | |
|---|---|
| **Installment place of *"Connecting Points"* by 1903** | Don, Pont-à-Vendin, Rethel, Port-au-Perche, Saint-Ouen,<br>Ivry, Sens, Montargis, Saint-Florentin, Saint-Saturnin,<br>Vierzon, La Guerche, Gimouille, Montluçon, Custine,<br>Frouard, Varangéville, Girancourt, Passavant, Gray, Dijon, Besançon, Saint-Jean-de-Losne, Chagny, Chalon-sur-Saône,<br>Paray-le-Monial, Roanne, Givors |
| **Planning place for *"Connecting Points"*** | Lille, Béthune, Arras, Valenciennes, Cambrai, Abbeville, Amiens, Paris, Javel, Dercy, Montereau, Auxerre, Pagny-sur-Moselle, Épinal, Dole, Lyon (Plan for 16 Points) |

Source : Carte des raccordements des voies ferrées et des voies navigables, in Paul Léon, *Fleuves, canaux, chemins de fer*, *op. cit.*

Cooperating among Chambers of Commerce for coordinating and planning domestic transport policies beyond local economic interests they had committed in led to establishing new functions of Chambers of Commerce for contributing to form the national transport system. In addition to their traditional function as regional pressure group, the new policy-making functions for national transport policy were added to the Chambers of Commerce.

47 Paul Léon, *Fleuves, canaux, chemins de fer*, *op. cit.*, p. 104, 105.

Both waterways and railways, which had a competitive relationship in the modern freight transport market, would gain mutual profit opportunities through expansion of freight volumes in 19th century France by the initiatives of demand-side (regional entrepreneurs) driven various cooperation of waterways and railways. The further deployment of the waterways network as an existing conventional mode of transport was not necessarily preserving the former figure, through the process of both competition and cooperation of the railways (especially installation of the connecting points for waterways and railways).

The regional entrepreneurs as transport service customers had aimed at the reorganization of the waterways network, which could respond to the new environmental transformation just as the establishment of railways, and tended to restructure the entire modern transportation system. With further expansion of freight transportation market by setting the connecting points for waterways and railways, the extended function of the waterways system itself in France continued to progress qualitatively, even under the growth period of railways.[48]

Expansion of handling freight volume in modern France waterways extended continuously even after World War I and later as shown in fig. 1. This situation had been stimulated with innovations and reform policies in the waterways system by the innovative behaviors of regional entrepreneurs. The modern French economy showed the case of realization of restructuring transportation system by demand-side initiatives of regional entrepreneurs, cooperating with the government.



48 The Social Sciences Library (Takada Memorial Library) of Waseda University, Tokyo, has a collection of important documents for modern French transports. This article refers to some of these data at the Library.

# TABLE DES MATIÈRES

TROISIÈME PARTIE

## TERUSHI HARA, HISTORIEN DES ENTREPRISES ET DES PROCESSUS D'INTÉGRATION INTERNATIONAUX