

FEEDING THE CITY: HISTORICAL EVOLUTION OF THE FOOD SUPPLY AND ITS TERRITORIAL PLANNING IMPACTS END 18TH CENTURY - END 20TH CENTURY

Sabine Bognon¹

Abstract

Cities do not produce their own food and that is why they are an interesting starting point to study food policies evolution, regarding territorial and urban planning and concerning food supply.

Feeding a city depends on procedures settled since its founding. But food supply results from a sequence of complex and rather unknown mechanisms. Unfortunately, knowledge is fragmented whether (or both) by disciplinary shackles or (and) historical periods boundaries.

The theoretical and analytical framework of territorial ecology provides a way to think historically the co-evolution of the urban food hinterland and its governance. It helps tracing past social and territorial conjectures in order to provide new inputs for a prospective debate on the current changes in urban food supply arrangements and its consequences in terms of urban and territorial planning.

A historical scan will embrace the connected evolution of the Parisian hinterland and the governance of its food supply. Since the end of the 18th century, food supply experienced progressive liberalization. Technical changes in farming and transport released most of the natural constraints that featured the pre-industrial food system; whilst feeding Paris remained an important issue for both the city and the French state, justifying the existence of a public supply policy, at least up to the World War II. Simultaneously, the agricultural policy (at regional, national or after WWII European scale) had large consequences on food production that had as well many consequences on hinterlands and especially on rural areas that surrounded Paris (where they added to urban pressure, especially from the inter-two-wars on). The metabolic links between Paris and its surroundings became very thin. This ongoing configuration led to agrifood business, large retailing and mass consumption development although almost hegemonic, the resulting food system has been challenged from the 1970s on.

Based on a multidisciplinary bibliographic approach, this paper aims at better characterizing this long-term history. We are indeed convinced that it is a necessary step to a comprehensive analysis of urban-rural trajectories and the intertwined

¹ Paris 1 Panthéon-Sorbonne University – ADEME, Paris, France – sabine.bognon@gmail.com

questions of space (rural and urban) and flows (of food) underlying some great planning issues.

The findings expected in this article are twofold.

First, the center of Paris metropolitan area's is an illustration of the co-evolution of the hinterland and the multiscalar governance of food stream, from the late 18th century to the early 1980s. The case helps to understand the processes and agents' networks that govern upstream of urban metabolism, in terms of food supply.

And second, as expected, agent's governance and the management of a food hinterland involve consequences in terms of territorial and urban planning. The case offers a way to analyze those consequences retrospectively and maybe foresee new perspectives regarding recent movements of food system "relocalization".

1. Introduction

Resource scarcity and global change confirm the relevance of considering the city as endowed with a systemic metabolism. It has a stock, it is supplied by material and energy streams, it produces excretas, and it is sometimes even able to recycle some of these resources. The city thrives on exterior territories since it is not intended to produce its food. As renewed policies think on money saving and flow management efficiency, food supply is being challenged by movements aiming the relocation of food streams provenance.

The analysis of the food system and its recent changes may lead to its spatialization. The metabolism territorialization takes place through the concept of hinterland. Literally "backcountry", the hinterland is defined by the American geographer Van Cleef as "the area adjacent to a trade center (extending to and including its satellites) within which economic and some cultural activities are focused largely on the primary center" (Van Cleef, 1941, p.308). The hinterland, from the perspective of urban metabolism and in our globalized societies, involves non-contiguous territories, and it is the result of food upstream management. The "natural" hinterland, as referred (in other words) by those who claim for a territorial bond between production and consumption, can be defined as "the valley of the river on which [the city] is located or even of the drainage basin of the river. [Or as] the region readily accessible from the [city] or as the terrain tributary to the [city]" (Van Cleef, 1941, p.308).

At a metropolitan scale, the food system is now global, but it has not always been so. History is used to understand how the Parisian hinterland has become global and what the socio-spatial path that led to pleading for the relocation of the food supply areas is².

Feeding the city is a public policy concern since the urban population, concentrated and plentiful, is capable of a certain political power. However in Paris (and in some other global cities), the governing who cared greatly for the livelihood of citizens under the *Ancien Régime*, now seem to be almost entirely excluded from food supply management decisions. A retrospective review of the stakeholders and their involvement in the food supply system is needed to understand their path, their political chronicle. It leads to the causes and consequences of a public withdrawal, to the study of agents today in power, and to the implications of relocating the hinterland in terms of food flow governance.

This study is mainly bibliographic. It seeks to gather in a synthetic way, much scientific work concerning the subject. So the material basis is deliberately eclectic and multidisciplinary.

One goal of this paper is the decompartmentalization of disciplinary approaches: planning is a field that, although denying it, remains dominated by sectoral thinking. We aim to bring together a broad and transverse thematic corpus, and by that to embrace the diversity of approaches tackling spatial planning and food.

²Relocation involves a come-back to a nearby supply, reached one day and now lost.

The bibliographic material is essentially made of secondary sources: reports, monographs, articles, theses... but we also wanted to compare some of these documents to their sources, in order to reveal their richness.

Here, time slicing is driven by the evolutions more than by the historical accuracy or an academic relevance. The study investigates the periods of time in order to understand the transitions between each of them. Thus, we focus on the end of the *Ancien Régime* (second half of the 18th century) because it carries the unprecedented changes and announces the upheavals of the Industrial Revolution. The following period covers the 19th century and the first half of the 20th century. This combination is used to treat the process of long-term Industrial Revolution: the successive innovations as taken one by one are not the point here. This long period allows us to read the political-economical and socio-technical trajectories of the food system. Finally, since World War II (WWII), the period stands in one block because it seems that we are still evolving within it.

As a first step, we analyze each period independently. We study the co-evolution of the food flow governance, the scale of the Parisian food hinterland, and land management and urban planning. The results of this bibliographic investigation are presented as answers to two main working hypotheses.

a. Public authorities are sidelined in terms of food supply. How did it come to such marginalization? What were the keys of a public food policy and in which directions were they replaced?

b. The inner metropolis of Paris allows us to observe the combined evolution of the hinterland and a multiscale governance of food flow. How city and regional planning are keys to understand this co-evolution? What are the spatial implications of political and economical choices for food supply?

At last, the interest of that work is that its timeline is deliberately long. Our hindsight highlights different stable periods and their transitions. It sheds light on actual claims for the relocation of the hinterland.

2. Analysis

2.1 Ending the *Ancien Régime*³ (last 18th century): the State governance of Paris food-stream landscapes a "natural" hinterland.

Social stability and the basis of power are only guaranteed by the insurance of a consistent, affordable and regular food supply : administrators keep in mind the political disorders caused by food scarcity and famines. Paris is even more strategic as it is the capital of France: the population is high⁴ and represents a risk of urban uprising (that finally turned out to be at the end of the period!).

³ *Ancien Régime* is the French term that refers to the political system established before the French Revolution, including monarchy and aristocratic society.

⁴ Lepetit (1995, p.93) notes that there are approximately 510 000 people at the edge of the eighteenth century and 620 000 by the Revolution (1789).

Royal power is directly involved through the supply police (*police de l'approvisionnement*). It ensures consistency, quantity, quality and prices' relative stability (Kaplan, 1988). The monarchy controls many different places, but the police is mainly operational on markets. All transactions must take place there, where the supply police overcomes and moralizes trade. The market provides a bridge between the interests of the "sovereign [State] responsible of the exchange" (Clement, 1999, p.8) and those of the society, against the principle of market economy⁵ (*principe de marché*).

Following this principle, the market economy is completely freed, on property and self-interest bases. Facing this thinking trend, the state fears the monopoly and the power of merchants that may now speculate on famines to increase their profit. Preventing that kind of speculation is also a way to guarantee State incomes: "tax interest came in large part in the measures taken, arguing to ensure supply and to fight speculation" (Bureau de l'Approvisionnement, 1889, p.11). The principle of market economy leads private interests, as the market is the material place of sales that supply police can look after and rule.

In the middle of the 18th century, French economists stand up for liberalization. They recommend freed exchanges, guided only by the rules of offer and demand, out of all socio-political considerations (Clément, 1999). On the eve of the Revolution, supply police is quite contested since it sets against the liberal claims of the merchants.

Ending the 18th century, all believe in a social justice that allows everyone to get food according to one's needs, without yet accepting the State as a market ruler. Whilst the debates among economists are reflected on the merchants' claims (Clément, 1999), in fact, according to Kaplan's expression, supply police and food supply are "an inseparable pair". French society, and particularly Parisians, is gifted with a strong political culture: the State along with the police keeps legitimacy to rule the market until the end of the *Ancien Régime*.

Whereas Abad (2002) and Kaplan (1988) respectively spot successive "circles" or "rings" centred on Paris, we rather stand with a slightly flat characterization of spaces⁶.

Abad (2002) shows the contribution of all the French territory to provide varied foodstuffs. Other authors (Billen et. al., 2011) balance these contributions by their nitrogen value, but agglomerate at the same time the types of food. The following maps (figure 1) combine those works : they do not exclude some provinces even if they are lightly contributing to Paris hinterland in caloric terms.

⁵ "System of relations in which, wherever the transaction takes place, the impersonal forces of offer and demand determines the prices that preside the allocation of resources, incomes and productions" (Kaplan, 1988, p.16)

⁶ The contributions of these authors are relevant in their argument (typology and sectorial features of each areas). But here, this representation is superfluous and may even suggest an application of the Von Thünen model – although Abad (2002, p.802) defends itself in the way that territorial specialization does not match the type given by the German economist.

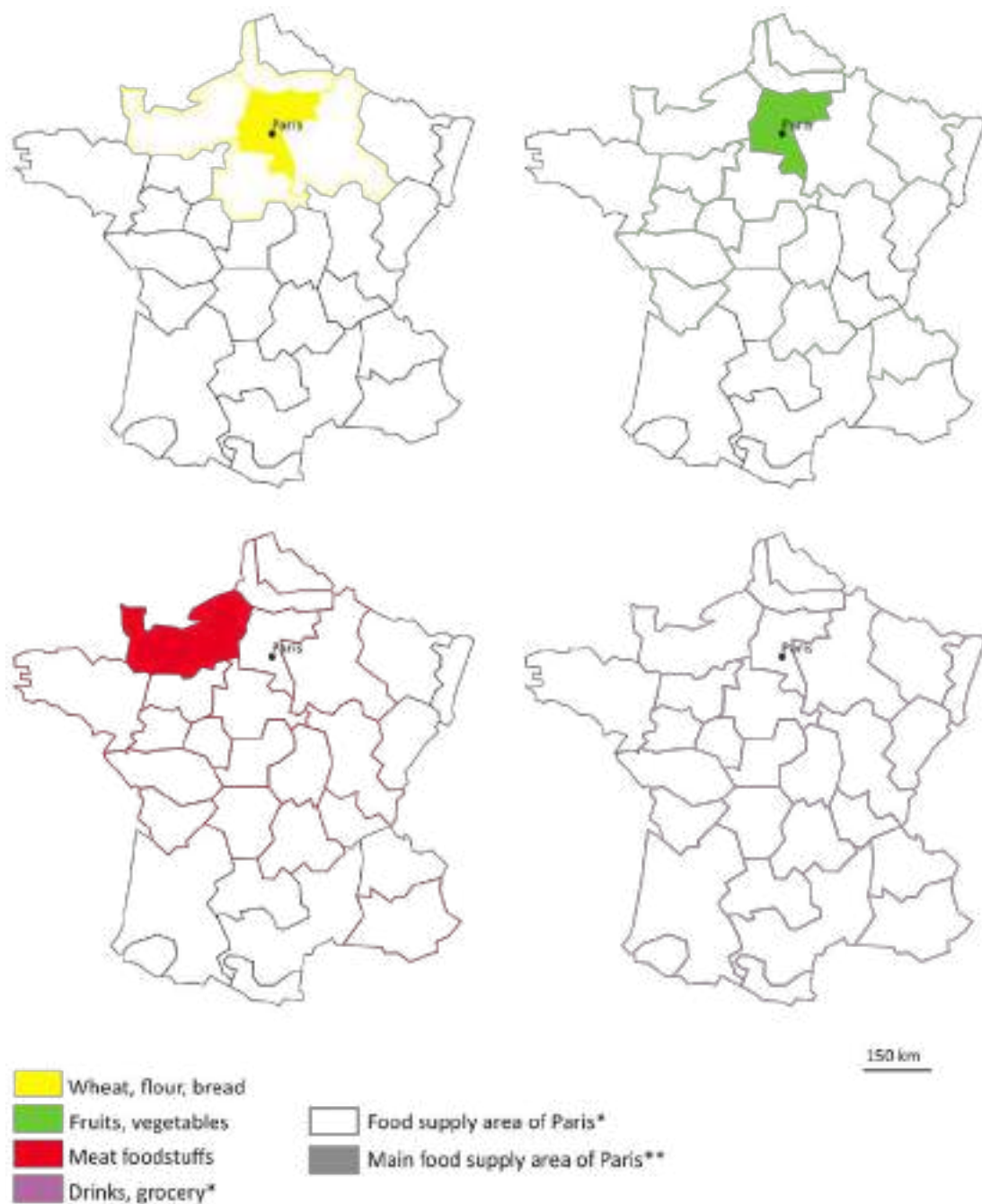


Figure 1. Paris food hinterland, ending the Ancien Régime

From Abad, 2002 ; Billen et. al., 2011

* data exclusive Abad⁷ - ** data exclusive Billen et. al.⁸

⁷ Although way more fragmented, we have regrouped some datas to ease their overlaying.

⁸ We have only selected the upper class of statistical quantitative typology because this assessment does not necessarily represent at best the reality of the Parisian hinterland of the *Ancien Régime*. The unit that bases these thresholds is the amount of nitrogen in each food family. Our study does not attempt to assess the contribution of nitrogen flow in the territories, which may also skew the results for the products that contain little (fruits and vegetables). The representation of the upper end of this territorial classification allows here to prove the quantitative weight of some territories.

Ending the *Ancien Régime*, the food hinterland of Paris is national: all the provinces contribute. International trade is negligible, as it concerns very few volumes, and exotic foodstuffs that are reserved to the wealthier⁹. The quantitative results (Billen et. al., 2011) show an origin area centred on Île-de-France (Paris province) and Normandy. Even if the whole French territory feeds its capital city, it seems that the watershed of the Seine-river downstream from Paris, is the "natural" hinterland, as defined by Van Cleef (1941; see introduction of this article).

Both cause and consequence of what we achieved to demonstrate, Paris is conceived as the core knot of the national transport system. Numerous streams pass through the city that concentrates financial capitals. Concentrating the national infrastructure is a typical concern of the monarchy.

Created ending the 15th century¹⁰, postal roads (*routes de poste*) founded the national road network. Built on a radial scheme around Paris (figure 2), they guarantee a decentralised royal power throughout the country. The merchants nevertheless neglect road supply, because road network is not very attractive. On the one hand, foodstuffs are not necessarily produced nearby the main roads, and on the other hand, transport conditions are much poorer than by waterway. Waterborne shipments are favoured (Abad, 2002): it is more profitable (opportunity to move more important volumes, with less workforce), and the network is already well extended. Rouen and Le Havre ports are the sea doors to Paris. The Seine-river watershed's mesh is important and bonded to the Loire-river watershed since the beginning of the 18th century. Let us note that the Canal du Midi, which construction started ending the 1660s, can bring to Paris southern and Mediterranean foodstuffs, via Bordeaux and Nantes, without passing through the Strait of Gibraltar (figure 2).

Important infrastructure work, ending the *Ancien Régime*, gives Paris privileged access and fluidity: "a very large part of the communication network has been conceived to allow Paris to soak up the whole kingdom production" (Abad, 2002, p.15).

⁹ Abad (2002) quotes citrus and dried fruits from the Mediterranean basin, almonds, capers and olives from Spain, Japanese pistachios, spices from colonial trusts, coffee from Arabia, tea from China...

¹⁰ Their purpose is the availability of mounts for the messengers of the kingdom.

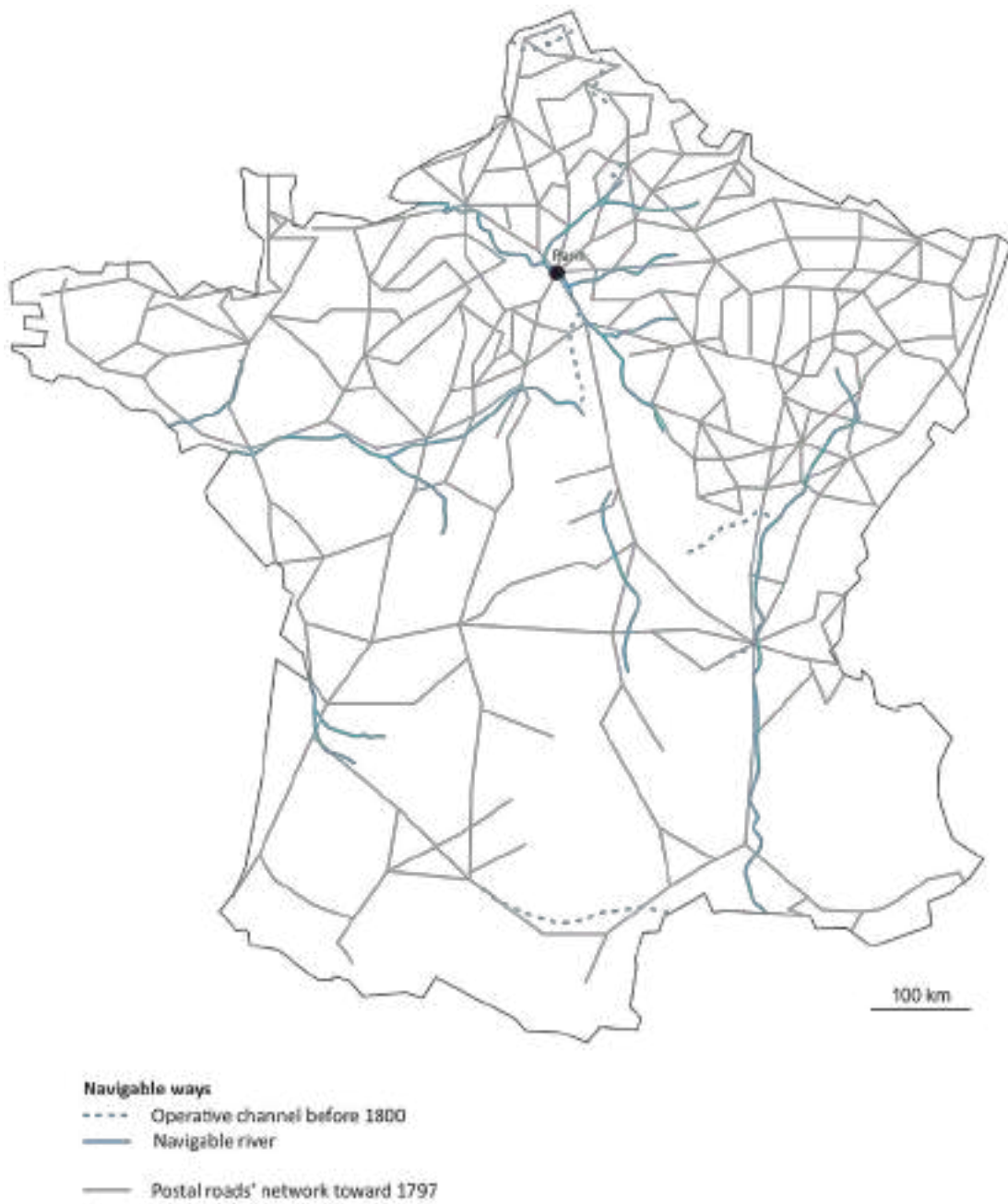


Figure 2. Paris as a transportation node for roadways (*) and waterways (**).
 From (*) *Saint-Julien, 2000, p.77* ; (**) *Saint-Julien, 2000, p.23*

2.2 The Industrial Revolution and its consequences (19th century – inter-world-wars period): innovations improve the transportation infrastructure network and provide a wider hinterland

One revolution after another, the French Revolution gives place to the Industrial Revolution. Technical improvements cause great changes into the food-system. The documentation concerning this period increases: primary sources become reachable due to thriving national statistics. And those sources are often the basement of the secondary sources of our demonstration.

Paris keeps its capital city status: its population is far superior to that of other French cities and is growing fast, particularly in the second half of the 19th century (Dupâquier, 1995). At a national scale, the urban population increases by 155% between 1831 and 1911. The main causes are industrialization (which attracts rurals) and the intensification of international commercial relations (which attracts immigrants).

Still central to the concerns of public authorities, social order¹¹, tax collection and thus food supply are among the causes and consequences of enhancing the polarization of transport networks around Paris.

The road network is growing. The whole territory is now covered even if the north of France, and especially around the capital, is more densely equipped. A nodal network of cities is born, creating as many regional relays for the delivery of provincial goods between these secondary cities and to Paris.

Figure 3 shows the road network in 1820: differences in meshes are still significant. Even if the gaps tend to disappear throughout the period, the road network remains differentiated in favor of the capital city area.

Waterways, always playing a part in food supply capital are also improved and increased throughout the 19th century and the first half of the 20th¹² (figure 3). The watershed of the Rhine and the Rhône are connected to that of the Seine to facilitate international trade with Central and Southern Europe and with the Mediterranean ports.

¹¹ Attracted by the cities, the working masses increase the vulnerability of the State against potential episodes of food insecurity.

¹² Ther modernisation (1879-1914) is mainly due to Freycinet, French ingeneer and public Works minister, than *Président du Conseil* (Saint-Julien, 2000, p.77)

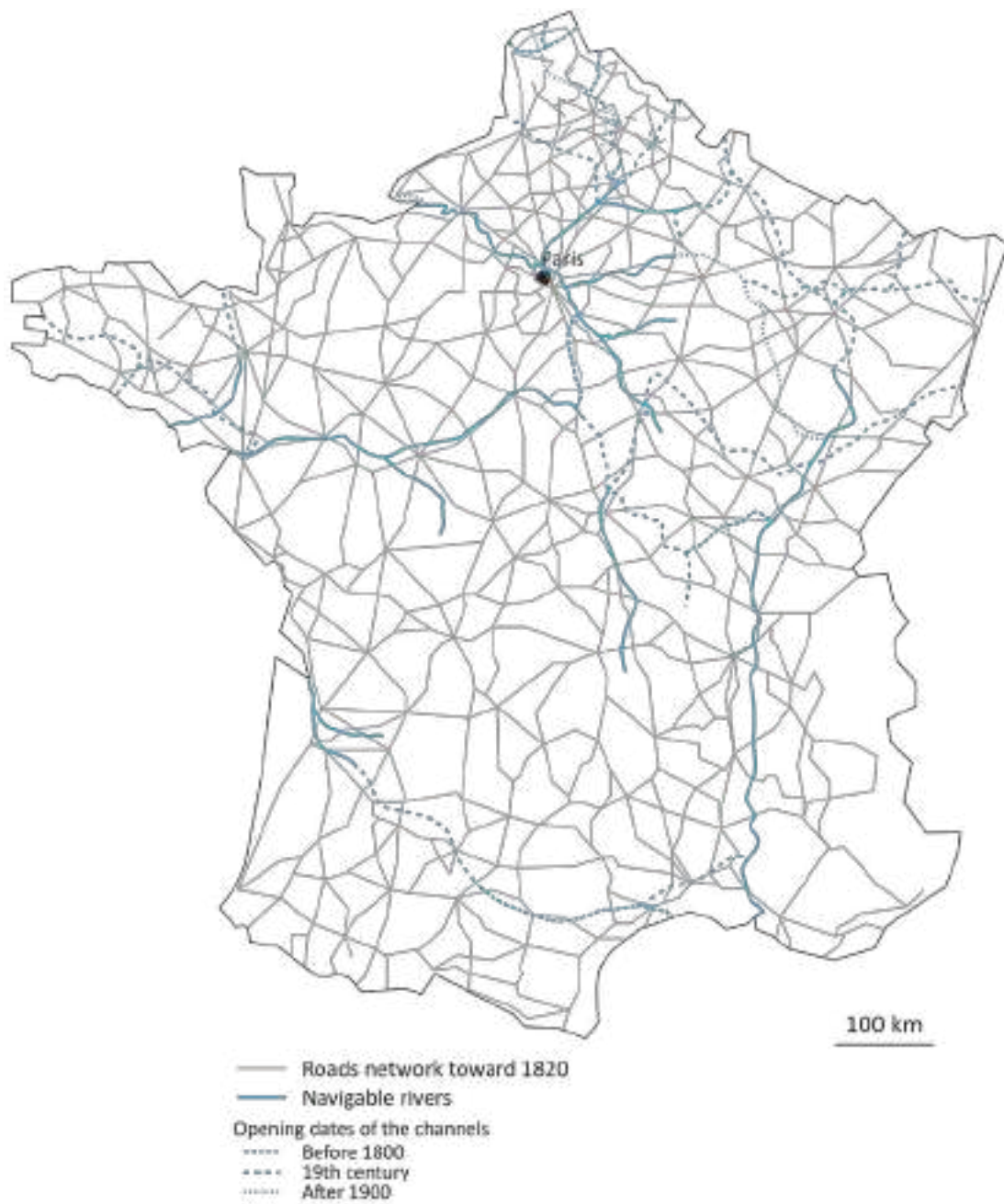


Figure 3. Main roads network toward 1820 (*) and navigable waterways (**)
 From (*) *Saint-Julien, 2000, p.23* ; (**) *Saint-Julien, 2000, p. 77*

The advent and growth of the railway contribute to strengthening the central location of Paris since the network is heavily polarized by the capital (figure 4). In the first half of the 19th century, it seems that the rail has a mandate for international transport. The trend is reinforced in the second part of the period with new links created to the Mediterranean (present Italy and Spain) and the multiplication of tracks towards Prussia and the Netherlands.



Figure 4. Railroad network improvement.
From Saint-Julien, 2000, p.45.

The origins of the products are known by the accounts held by the authorities. For this period, we have two specific dates (1896 and 1910) to which the Prefecture of the Seine (Bureau de l'Approvisionnement, 1897 ; Bureau de l'Approvisionnement, 1911) gives the origin of the products sold in Paris.

More than the previous period, the *Départements* (designation of the provinces since the Revolution) are requested. Their ability to meet this demand is made easier by the constant improvement of transport and technical progress in the primary sector. The widespread agricultural intensification contributes to higher yields¹³ and at the end of the period, and the mechanization of farming increases productivity. These volume gains are reflected in the participation of all *Départements* to supply Paris.

¹³ The fallow fields are reduced to leave room for legumes plantations (nitrogen-rich fertilizer) and the stocking density increases (producing quantities of manure suitable for fertilization). (Billen, et. al. 2007)

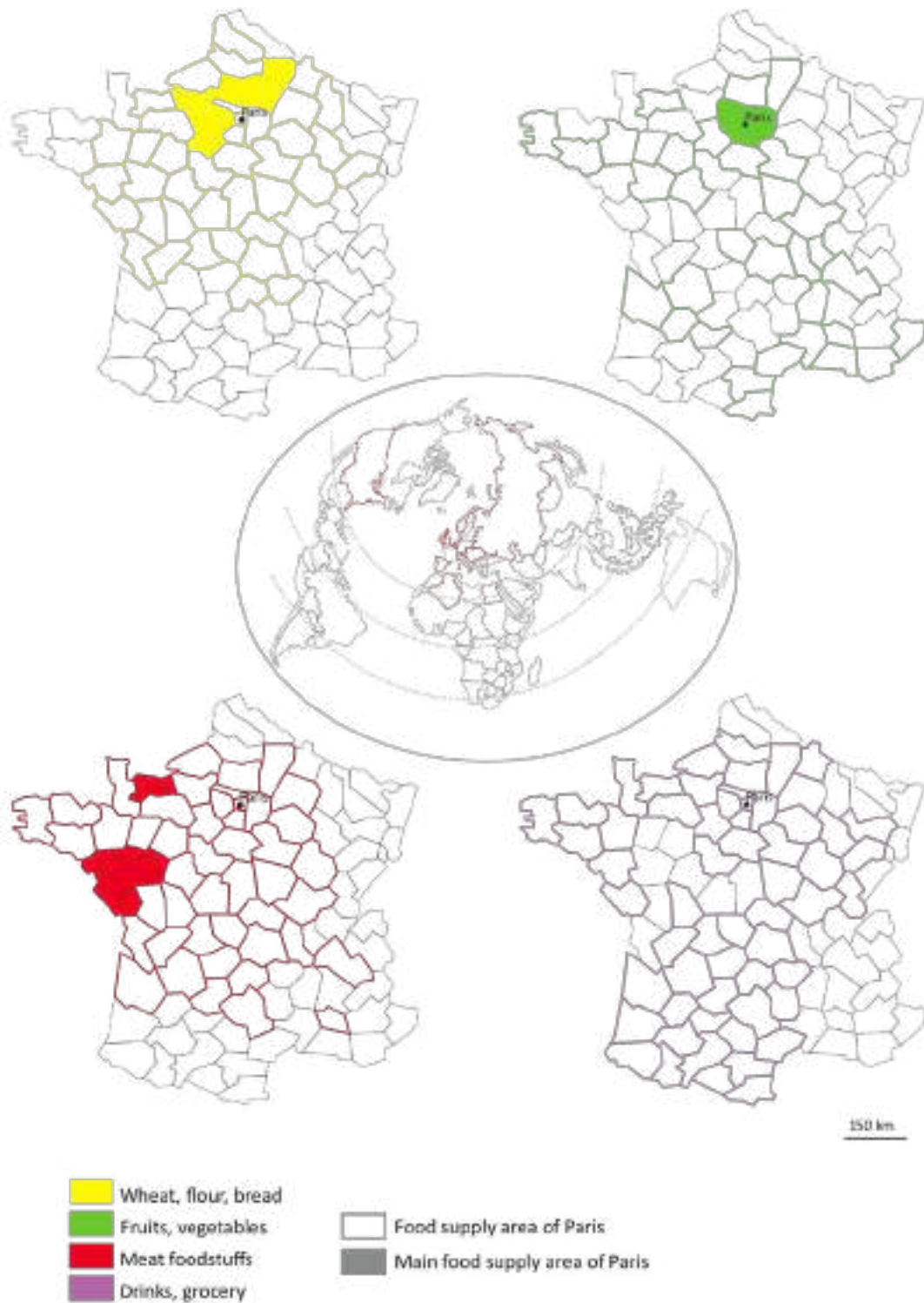


Figure 5. Paris food hinterland in 1896
 From Bureau de l'Approvisionnement, 1897 ; Billen et. al., 2011¹⁴

¹⁴ We have not found data detailed enough to compare them with those presented by Billen. As in Figure 1, we have retained only the higher level of its quantitative classification to account for the majority of grain origins.

On figure 5 the year 1896 is represented because it is one for which we have the largest number of corroborating reports. The natural hinterland from the late 18th century now seems challenged. All *Départements* are still involved in supplying the capital, but some regional specialization of production is at work. The privileged area of origin of animal products (meat and fish) moves to the west of the country and Algeria takes a relatively large share in the supply. Only 5% of animal products are imported from abroad, but most of Europe contributes. Marginally more in 1896 than in 1910, the import of meat from North America (and later Southern America) is gaining importance, especially because of the technical progress in shipping refrigeration means (Pedrocco, 2005).

Fruits and vegetables come mostly from the crops in the surrounding suburbs of Paris, while many other *Départements* contribute. The increasing importance of Mediterranean products (citrus and other fruits) and the significant contributions of Algeria as well as Spain and Italy, should be noted. The improvement of transport conditions is the cause (shortening time, preservation techniques): products previously reserved for wealthy people (exotic or extra seasonal consumption) become more and more affordable (Péhaut, 2005).

Les Halles Market case study

The dichotomy centralization / co-operation between public and private sectors can be explained with the case of Les Halles Market. Governed, according to the period, by the State or the City, but daily managed by merchants, this central market is only dedicated to the supply of fresh food in Paris.

Under the *Ancien Régime*, Kaplan (1988) describes it as a state-market (*Etat-marché*) in which each corporation rules its law, while subordinated to the public authorities. The transition from the revolutionary period occurs only in the last years of the First Empire (1810's). A dual public authority governs Les Halles Market. The *Prefecture de Police* (police headquarter) makes it accessible, ensures internal and surroundings security, healthiness of the products and the places of sale. The *Prefecture de la Seine* (city authority) monitors all economic transactions (fees and sales taxes collecting, price control by following prices trends, anticipation of speculation by prohibiting storage). Driven by economic interests above all, merchants are responsible for daily management of the market: they ensure the cleanliness of their storefront and update the register of financial trends of the products (enabling control by the *Prefecture de la Seine* and justifying prices' increases and decreases).

Les Halles Market, sometimes nicknamed the Belly of Paris (*Ventre de Paris*¹⁵), supply the capital city since Louis VI (12th century) who had launched an initiative to the site (Chemla, 1994). The upgrading will, expressed at the end of the *Ancien Régime*, was taken over by Napoleon. Haussmann, prefect of the Seine *Département* commands the main arrangements. He mandates the architect Victor Baltard to conduct works from 1853 to 1868, building ten pavilions on two blocks, connected by a glass roof.

The works increase tenfold the space occupied by Les Halles under the *Ancien Régime* and the neighborhood is greatly changed, especially to facilitate its access by

¹⁵ For a romantic and realistic portrayal of Les Halles market, see Zola (1873)

various transportation modes, since the barriers and railway stations. "[...] the whole neighborhood was redesigned, upset. The breakthrough streets [...] [made] away much of the old market district [...] the result of those new streets was a profound and radical change in the neighborhood, making a clean sweep of the past [...]"(Chemla, 1994, p.39). The State's goal is to provide a centralized food supply for the capital region, "the new pavilions were not only an architectural work [resulting of technical progress of the Industrial Revolution, particularly in regard to light metallic structures and large glazed areas], they had to fulfill their daily essential function, that of providing the regular supply to the inhabitants of Paris and the Seine *Département*, but also to cities and outlying regions" (Chemla, 1994, p.40). The ten pavilions house the goods according to their nature. Outside, the fairground hosts the storage of all goods that do not fit in or do not find their way to their proper pavilions (figure 6).

In the early 20th century, access to the pavilions is more and more difficult¹⁶. The commercial intermediaries create their market niche by taking advantage of these obstacles and the multiplication of retailers scattered in Paris. They are remunerated by commission (thereby increasing significantly the price of food previously traded in direct circuit), a service provided to the seller and the buyer who now meet less directly. This new link in the chain of food distribution reveals the economic liberalization of the markets.

¹⁶ The fairground's gradual spatial conquest causes a congestion that will bring the government to reconsider the location of the market after WWII.



Figure 6. Pavilions and fairground of Les Halles Market towards 1869-1875 (*) and in 1903 (**)

From (*) Chemla, 1994, p.58 (pavilions in 1869) and p.75 (fairground in 1875) ; (**) Chemla, 1994, p.88.

2.3 Contemporary period (post WWII – end 20th century): privatizing the food governance leads to a globalized and rather unknown hinterland, while State planning of the food supply becomes obsolete

The food industry dominates the production of foodstuffs and gradually becomes the origin of most of the products consumed. Indeed, the industry is involved in agricultural activities (production rationalization, use of chemical inputs, mechanization...) and productivity increases despite the decreasing number of farmers (rural exodus) and land availability (urban growth) (Malassis, 1994). The transition from a society of "mass poverty" to a society of mass consumption, and the globalization of the food economy is effective. Thus, it causes the expansion of an agribusiness food system. Supply is changing since the destination of the agro-industrial production is mainly supermarkets. In the 1950s, the original aim is to bring closer the consumer and the producer by combining interrelationships into the hands of intermediaries (distributors), in order to reduce the prices (figure 7).

B : potential buyer – P : producers – I : business intermediaries
No intermediary: BxP
5 producers and 10 potential buyers: $5 \times 10 = 50$ interrelationships
Availability of intermediaries between producers and consumers: P x I + I x A
2 producers gather the previous offer in one place: $2 \times 5 + 2 \times 10 = 30$ interrelationships
In this example, one loses almost a third of interrelationships. Here, the efficiency appears as particularly reliable for both the producer and buyer.

Figure 7. The efficiency goal of the mass distribution

From Dioux, Dupuis, 2009

But this demonstration does not take into account the margins released by the intermediaries, nor the pressure they may have on suppliers to ensure an affordable price to the consumer.

That distributor is buyer then seller of goods: its economical reason to be is therefore limited to (co-)pilot the households supply. From an economic perspective, food supply of Paris merges with the supply of consumption units that compose it (households, communities, businesses...). If the distribution circuits have always existed¹⁷, modernity invents logistics. In the 1960s, it is about the logistics of means (freight management). Then in the 1980s, the concept of supply chain provides retailers the opportunity to drive the supply from beginning to end. Therefore, the distributor ensures a continuous flow of goods and makes reliable the corresponding information flows (creating databases that allow the exchange of computerized data throughout the distribution process¹⁸), dealing with making the service efficient and responsive to consumer expectations. It is in fact a tool of flexibility and constant adaptation of supply to demand. Finally, in the late 1990s, supply chain management becomes a unit of profit, an activity in its own, that distributors include (or not) in their supply activity.

¹⁷ i.e. since concentrated populations need to be supplied by tradable goods.

¹⁸ "By 1988 [Wall Mart] had the largest privately owned satellite communication network in the US and its central database is second size only to that of the Pentagon". (Morgan, et. al., 2006, p.180)

The backbone logistic tool of the mass distribution is the central purchasing body (CPB). To strengthen their relationship with suppliers and external purchasing companies, major retailers have formed oligopolistic and in-house CPBs, for their own use. They are intermediaries between farmers and agri-food suppliers; and although there are only few companies, they gather the large majority of turnover. This is the proof of the unequaled success of the large retailing companies.

The links between public authorities and the people become distended on food. The convenience prevails over the quality and quantity, considered as the primary givens of the food industry. From the perspective of consumers, the state is less involved, and it should, because food is a matter of individual choices (Chabrol, D., 2008). Public power is gradually but completely delegating the food supply governance to the business world. After WWII, supply control is provided by private companies, dominating a booming consumer society that chooses to accept and undertake the direction it is orientated.

The hinterland is reset by the plans of the agribusiness. The decrease of transport costs enables the outsourcing of production to countries with cheaper workforce. The hinterland is becoming global in consistency with new consumer habits: seasonality is no longer a price criteria and exotic products are made affordable for all. Consequently, the supply of Paris (as the supply of other cities in rich countries) is from more and more remote provenances. The hinterland is therefore largely and intensely internationalized. On the one hand, the potential provenances of products have increased. And on the other hand, territorial logics of supply have excluded State planning. Specialization of productive areas is guided by the agribusiness, and transport infrastructures created by the State in order to manage the supply nationally are being exploited by private companies.

It is difficult here to produce a map of the hinterland. First, although the food system is relatively stable since the 1960s, fluctuations in the hinterland are such that it is impossible to give a fixed vision. Moreover, the origins are skewed by the blurring of sources: food companies, CPBs, and large retailers communicate very little about the exact origin of the products they sell. And finally, the circuits of production and distribution have become so fragmented¹⁹ that the origins obtained by the databases of the Customs can only account for the last (or penultimate) stage stop of the products.

In the 1950s, three reasons push the State to transfer the activity of the Halles Market on the outskirts of the capital city (Chemla, 1994). First, location is no longer appropriate, because of the city center traffic congestion, bad working conditions for the merchants, and the impossibility to extend despite the high population growth. Second, the occupational structure of the market is changing due to progressive emptying of the wholesalers that go to outskirts warehouses, and the emergence of polyvalent buyers for whom access to various buildings is complicated by the morphology of the market. Finally, the urban supply is changing with the progressive domination of the supermarkets.

¹⁹ About this fragmentation, see the travel of a strawberry yogurt before one can eat it (Böge, 1993).

The State therefore wishes to create a new logistic platform that would be accessible, flexible and extendable. In 1962, Rungis is chosen because it is located close to functional transport infrastructures (main roads around Paris and Orly international airport). The market opening is in 1969. Forty pavilions, sectorized according to the traded goods, form a regular alignment and are separated by parking areas and arterial roads for internal circulation. A goods station completes the 230 ha of the National Market (Marché d'Intérêt National, MIN). Management is entrusted to SEMMARIS, a semi-public company that is technically and economically responsible for the MIN.

Rungis is one of 16 MINs in France. It is the one that has started the State dynamic of formalization of wholesale markets supplying large urban centers. Gradually becoming outdated (competition with agribusiness), the MINs were reformed in 2004, giving local communities greater autonomy for their management.

However, the evolution of consumption has profoundly affected the success of Rungis. The domestic market has not been responsive to the development of new products (frozen, freeze dried, processed...) that pass through major retailers and their central purchasing bodies. The sizing of the MIN becomes too important for the use made of it. An international dimension emerges. First, the goods passing through the marketplace are intended to supply cities abroad (London, especially for products of southern Europe). And a consulting firm offers the expertise of the SEMMARIS agents on management and development. Moreover, an office of the *Rungis* brand was exported to London (Covent Garden Market) and a close collaboration is born, including the sharing of experience.

Away from the outgoing logic (state control of local trade and national), Rungis is now in decline. The diminishing importance of national production (subsistence agriculture) led the wholesale markets to restructure. The international opening and the creation of parallel professional branches (marketing, consulting ...) illustrate the attempt of the MINs to be maintained, in urban contexts, however, more favorable to the extension of the commercial network of the supermarkets.

3. Results

3.1 The path of the governance: from centralized State to relegated State

From the end of the *Ancien Régime* to the present day, governance of the food supply has been reset continuously. From a centralized state that managed all matters concerning the supply of the Parisians, the food system has now passed into the hands of the private world of business.

At the French Revolution, the depletion of populations' amount differences between Paris and other French cities is partly due to the diversification of the supply means: it is the "revenge of the merchants' profits onto the tax levy, [the revenge of the] openness onto the world of earthly society, [the revenge of the] the market economy onto the state administration" (Lepetit, 1995, p.94). But according to Kaplan (1988), modernization of the supply means does not fundamentally change consumer attitudes against the State. The progressive globalization of the economy

(internationalization of economic relations, including the intensification of inter and intra colonial trade) puts forward the principle of market economy to which population and public authorities oppose the superiority of social demands. The trend is probably twofold. Market and principle of market economy are therefore political positions borrowed alternatively by governments and merchants.

However, the Industrial Revolution has led to technical progresses that have impacted all key areas of the food system. First, producing and routing facilities are systematized and streamlined. The responsibility now rests on private and public trusts. These companies first concern transportation (rail, initially) and then gradually handles the other components of the food system. The industry comes into production (improved farming techniques, farm businesses in the "new world") and distribution (rationalization of distribution and concentration at Les Halles Market).

This privatization trend has been continuing to this day. After WWII, the State is still relatively strong and highly centralized. Nevertheless, the priorities of government deviate from Paris food supply. Indeed, the material reconstruction of the country, the management of urban growth (shift to a service economy, rural exodus and international migrations) as well as considerations for international politics (decolonization and repatriations management, construction and development of a European Common Agricultural Policy) lead the public authorities to a withdrawal from food governance. Still in charge of quality control of foodstuffs (public health) and the balance of goods in transit on the domestic territory (customs), the role of the State is gradually becoming marginal to the omnipotence of agribusiness companies.

3.2 Spatial and urban planning at the heart of food supply concerns

During history, food supply has been a crucial issue for the authorities. They made of the capital city an essential node which polarizes the whole territory. This is obvious in terms of transportation: infrastructures were designed radially and concentrically around Paris; natural routes were arranged so that all can converge toward Paris. The urban site is fully optimized since the foodstuffs can reach from around the world.

It is the same inside the city: the facilities are designed to rationalize the supply. Initially, the concentration on a market was for the State to control transactions, but this structure has persisted because it allows an orderly supply. Haussmann's urban restructuring has optimized the supply, at least for a moment. As well, Les Halles Market's transfer to Rungis, closer to the national and international transportation infrastructures is the same movement: on the orders of public authorities, Paris relocates one of its functions outside its own territory, and further accentuates its functional influence on the national territory.

The privatization of supply did not reverse the trend. Instead, the companies responsible to route the food to Paris use the access roads provided by the State. As Rungis Market, CPBs of large retailers are excluded from inner Paris area, and their location depends more on the reported profitability and on land freight rates than on the consistency of proximity to the city.

The extension of the supply area of Paris is obvious. The international opening has been a milestone since the end of the *Ancien Régime*. International trade and technical-industrial revolution of the 19th century are the basis of this configuration of the hinterland. This is not a matter of planning, the specialization of agricultural areas is part of a global mechanism due to various factors (economical, financial, commercial, historical, climatic, diplomatic...).

4. Conclusion

History enlightens a view over the periods that preceded us and the transitions that accompanied them. Nowadays, the relocation of the hinterland is a burning issue: it mobilizes a growing number of stakeholders and challenges the foundations of the global and privatized food system that governs us since the 1950s. On behalf of sustainable development, some say we should at all costs overcome this system. Indeed, it abolishes all values of equity (unfair trade), viability (mismatch between economic development and ecological enhancement of territories) and bearability (inadequacy of chemical-technical industry with public health priorities). This historical synthesis offers a reading key for the evolution of our food system: nothing was done without transition. No rupture is possible with the food system that rules us. But it seems likely that we live in a period of transition. Paris is an example of one of these rich cities that include some of the citizens and politicians to question the hegemony of the private and global agribusiness system. Emerging initiatives suggest that the invective of sustainable development has entered the common awareness. The shortening of some delivery circuits (direct sales) and the enthusiasm to go "back to the land" (community gardens, intra-urban or suburban productive areas...) can be plotters, leading signals suggesting that the food system is changing. In France, and in Paris, this relocation will appeal (without using those terms specifically) to the proximity of a natural hinterland once optimally located on the outskirts of the city and that no longer exists. Supporters of this relocation are probably tagged by over a century of suburban legend, colored by the theories of the German economist Von Thünen and the utopia of the British urban planner Howard. Following the findings of this paper, the natural hinterland is to be relativized. First, no backtracking is possible in the the current system. Changes, if they are perennial, will be due to the innovations and to adaptation of some already known but renewed processes. Furthermore, we demonstrated that the natural hinterland, as defined in the introduction, has never matched the ring road of Paris. In his most spatially concentrated, the Parisian hinterland corresponded to the downstream of the Seine-river's watershed. But our demonstration helped to see that for over three centuries, Paris food needs polarize ad minima the whole country.

The importance of considering spatial and urban planning to gather consumption and production areas, is to be found in the principles of territorial ecology. This scientific field, under construction, considers a territory, together with the flows that supply it (and the ones it generates) and the actors who govern it. This set should be taken into account in any sustainable attempt to relocate the hinterland. Indeed, localism and proximity are two concepts, not to be confused. The first attempts to impose by whatever means the notion of local, which can lead to ideological dangerous shifts

(national or local fallback, borders glorification, excessive protectionism, "food fascism"...). Instead, the idea of proximity enables a step by step reflection, without giving limits for the relocation, and considers values of *rescale*, *respace* and *reconnect* (Kneafsey, 2010).

References

Abad, R., 2002. Le Grand Marché. L’approvisionnement alimentaire de Paris sous l’Ancien Régime. Paris : Fayard.

Billen, G., Barles, S., Garnier, J., Benoit, P., Rouillard, J., 2007. Empreinte écologique et empreinte alimentaire de Paris. Une approche de biogéochimie historique. In : PIREN-Seine, Territoires, carbone, azote et changements globaux, Ecologie Territoriale. [online] Available at : <http://www.sisyphes.umpc.fr/piren/book/149> [Accessed on 8 February 2011]

Billen, G., Barles, S., Chatzimpiros, P., Garnier, J. 2011. Grain, meat and vegetables to feed Paris: where did and do they come from? Localising Paris food supply areas from the eighteenth to the twenty-first century. Regional Environmental Change. [online] Available at : <http://www.springerlink.com/content/103880/> [Accessed on 10 July 2011].

Böge, S., 1993. Registration and evaluation of transportation by means of product-related transportation analysis. [online] Available at : <http://www.stefanie-boege.de/> [Accessed on 7 March 2011]

Bureau de l'Approvisionnement, 1889. Notes sur les abattoirs, entrepôts, halles, marchés et établissements divers concernant l'approvisionnement des Paris. Archives de la Préfecture du département de la Seine [44 DB 5]

Bureau de l'Approvisionnement, 1897. Rapport annuel de l'année 1896 sur les services municipaux de l'approvisionnement de Paris. Archives de la Préfecture du département de la Seine [44 DB 5]

Bureau de l'Approvisionnement, 1911. Rapport annuel de l'année 1910 sur les services municipaux de l'approvisionnement de Paris. Archives de la Préfecture du département de la Seine [44 DB 5]

Chabrol, D., 2008. Manger, un acte culturel. Projet, un avenir en commun – Economie de l'alimentation, (307), pp. 54-60.

Chemla, G., 1994. Les ventres de Paris : les Halles, la Villette, Rungis. L'histoire du plus grand marché du monde. Grenoble : Glénat.

Clément, A., 1999. Nourrir le peuple : entre Etat et marché. XVIème-XIXème siècles. Paris : L'Harmattan.

- Dioux, J., Dupuis, M., 2009. La distribution. Paris : Pearson Education.
- Dupâquier, J., 1995. Histoire de la population française. (Volume 3). Paris : Presses universitaires de France.
- Kaplan, S. L., 1988. Les ventres de Paris. Pouvoir et approvisionnement dans la France d'Ancien Régime. Paris : Fayard.
- Kneafsey, M., 2010. The region in food—important or irrelevant? *Cambridge Journal of Regions, Economy and Society*, 3, pp.177–190.
- Lepetit, B., 1995. Le peuplement. In : J. Dupâquier, Histoire de la population française. (Volume 2). Paris : Presses universitaires de France, pp. 81-98.
- Malassis, L., 1994. Nourrir les hommes. Paris : Flammarion.
- Morgan, K., Marsden, T., Morley, A., 2006. Worlds of food: place, power, and provenance in the food chain. Oxford : Oxford University Press.
- Pedrocco, G., 2005. L'industrie alimentaire et les nouvelles techniques de conservation. In : J.-L. Flandrin, M. Montanari M., Histoire de l'alimentation. Paris : Fayard, pp. 779-794.
- Péhaut, Y., 2005. L'invasion des produits d'outre-mer. In : J.-L. Flandrin, M. Montanari M., Histoire de l'alimentation. Paris : Fayard, pp. 747-778
- Saint-Julien, T. (dir.), 2000. Atlas de France. Vol. 11, Transports et énergie. Paris : La Documentation Française.
- Van Cleef, E., 1941. Hinterland and Umland. *Geographical Review*, 31 (2), pp. 308-311.
- Zola, E., 1873. Le ventre de Paris. [online], Available at : http://fr.wikisource.org/wiki/Le_Ventre_de_Paris [Accessed 12 January 2011].