History of urban food policy in Europe, from the ancient city to the industrial city

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Benoit Daviron, Coline Perrin, and Christophe-Toussaint Soulard with François Menant (Contributor)

"What distinguishes and indeed contrasts the nation system and the city system is their structural organization. The city state avoided carrying the heavy burden of the so-called primary sector: Venice, Genoa and Amsterdam consumed grain, oil, salt, meat, etc., acquired through foreign trading; they received from the outside world the wood, raw materials and even a number of the manufactured products they used. It was of little concern to them by whom, or by what methods, archaic or modern, these goods were produced: they were content simply to accept them at the end of the trade circuit, wherever agents or local merchants had stocked them on their behalf. Most if not all of the primary sector on which such cities' subsistence and even their luxuries depended lay well outside their walls; and laboured on their behalf without their needing to be concerned in the economic and social problems of production. In all likelihood, the cities were but dimly aware of the advantages this brought and rather more conscious of the drawbacks: obsessed with their dependence on foreign countries (although in reality such was the power of money that this was reduced to almost nothing), all leading cities desperately tried to expand their territory and to develop their agriculture and industry. What kind of agriculture and industry though? The richest and most profitable of course. Since Florence had to import food anyway, why not import Sicilian grain, and grow vines and olives on the hills of Tuscany?" (Braudel 1984a: 295)

In this chapter we focus on urban policies in the field of food and agriculture, in Europe, from antiquity to World War II, seeking to relate the current debates discussed in this book to long-term developments. In so doing, our primary objective is to show how very diverse are the actions taken under urban food policies and thus to enlarge the range of possibilities considered in the current debates. Our second

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27

objective is to reappraise cities' role in comparison with that of States, which have gradually acquired the status of major players in the area of food.

This historical approach reflects a certain diversity but makes no claim to completeness. European cities' relation to agriculture and food takes myriad shapes. One must in any case distinguish the two tendencies that have shaped urban Europe over the long term: 'central place' cities and 'network' cities (Hohenberg and Lees 1995: 4–7).

Under the central place model, the city provides services to (and administers) its surrounding area. That model produces a hierarchical urban structure, with many small towns, a diminishing number of larger centres, and a single capital—an organization that is very stable over time and may be implemented top down or bottom up.

Under the network model, the city participates in commercial, informational and political exchanges that go well beyond the region or the country and depend on the existence of (tangible or intangible) communications facilities. Distance is of little consequence. The network model promotes specialization and division of labour between cities and is exemplified by the emergence of industrial and mining cities. Such a hierarchy is unstable because of competition between cities of the network and the specializations they develop.

Both models are found in Europe. During the middle ages, the network model spread gradually from northern Italy, to Germany, to Flanders. Fernand Braudel writes: "[…] The destinies of these very special cities were linked not only to the progress of the surrounding countryside but to international trade. They were indeed to free themselves from rural societies and outdated political ties" (Braudel 1984b: 511).

Conversely, on either side of that corridor, to the northeast and southwest, the 'central place' model held sway. Both models were subject to imperial or national interference, whether through tax levies or predatory actions. The 'prince' would make his coercive powers available to a city, either directly, by commandeering products (episodically, or permanently, as tribute), or indirectly, by levying taxes.

Given that very diverse backdrop, we shall trace the history of urban food policy under three headings: first, the stages of Europe's urbanization. Second, cities' supply policies from antiquity to the modern era. And third and last, cities' public health policies at the dawn of the Industrial Revolution. Under the last two headings we shall be noting the progressive decline of urban policies because of rising State involvement. To conclude, we shall look at how cities could once again take food supply in hand.

The Four Stages of Urbanization in Europe

Four stages can be discerned in the history of European urbanization (Bairoch 1985; Hohenberg and Lees 1995; Mumford 1989). The first corresponds to the Greco-Roman civilization. It is marked by issues of supply for the imperial cities of the Mediterranean. The second stage begins in the middle ages, the golden age of cities

as political entities with their own ambitious food policies. The Black Death (1347–1352) marks the start of the third stage, which comprises over three centuries of slow, sporadic urban growth (Hohenberg and Lees 1995: 6), and is marked by the emergence of nation States and a decline in urban food policies. The fourth stage begins in the mid-eighteenth century, with industrialization and the development of public health policies. Following our presentation of these four stages in the history of urbanization, we shall be looking at food policies.

Greco-Roman Urban Civilization

Ancient Greece was urban. At its height, c. 500 BCE, Athens seemingly had a population of some 100,000, while each of a number of other Greek cities had around 40,000 inhabitants. If we include towns with more than 5000 inhabitants, the urbanization rate may have been around 15–25%. The same is true, on a larger scale, of the Roman Empire. The population of the city of Rome alone appears to have been in excess of one million around the second century CE.

The end of antiquity is conventionally dated to the sack of Rome in 410. In the ensuing centuries, Roman civilization declined owing to the combined impact of invasions. Between 200 and 600, the population of Europe fell from 40–55 million to 20–35 million and became markedly less urban. The change in Rome's population is an extreme example of that process, as it fell to 50,000 by 700 and only some 30,000 by 1000 CE, despite the presence of the papacy. Other towns disappeared completely.

The Golden Age of Mediaeval Cities

Beginning around the year 800, the population of Europe, including the cities, began to grow again. Until the year 1000, the effects of urbanization were felt mainly in the regions of southern Europe that were part of the Arab world (Spain, Sicily), which at that time accounted for 50% of the population of European cities of more than 20,000. In that year, Cordoba and Palermo were the largest cities in Europe after Constantinople, the largest cities in Europe, with respectively 450,000 and 75,000 inhabitants (Chandler and Fox 2013).

In the rest of Europe, the urban renaissance began in the tenth century: "[…] thanks to the emergence of two foci, one in southern and one in northern Europe: Venice and southern Italy, on the one hand, and the Flemish coast on the other hand" (Pirenne 1927: 75).

Between 1000 and 1300, the population of Venice grew from 45,000 to 110,000 inhabitants, Genoa's from 15,000 to 100,000, Milan's from 30,000 to 100,000, and that of Florence from 13,000 to 60,000; while in Flanders, Ghent, Bruges and Ypres

totalled 220,000 inhabitants in the middle of the fourteenth century. In the latter case, the growth was linked to the wool industry.

The urban renaissance then spread continent-wide, favoured by the resurgence of trade within Europe (especially between North and South) and with the Orient. The peak Roman-era population was quickly outstripped. Between 1000 and 1300, the total population, and that of cities, doubled, as the number of cities with more than 20,000 inhabitants rose from 35–45 to 100–110. Most of today's large cities emerged at this time.

Population growth came to a halt, however, at the beginning of the fourteenth century. A string of poor harvests caused famines, and then the Black Death struck Europe in 1347 and, over the next 5 years, killed a third of the population. Europe paid a heavy price for its resumption of trade: the first plague outbreak was in Caffa, a Genoese outpost north of the Black Sea (McNeill 1976). The plague then spread rapidly along trade routes, reaching Scandinavia 2 years later.

Slow Urban Growth in the Modern Era with the Rise of Nation-States

Population growth resumed in Europe after 1400. By 1500 the population had returned to pre-Black Death levels, but growth was slow and hesitant: over two centuries, it increased from 76 to 102 million. City development was in step with that increase, with no significant increase in the rate of urbanization. Large cities, indeed, save only London, had slower growth from the sixteenth to the seventeenth century. Charles Tilly (1990) believes that this was the consequence of a shift of industrial activity to small towns and countrysides, as merchants and entrepreneurs sought to escape the rules of town-based guilds. As a result, though new settlements did spring up, they were unchartered.

This new phase of urbanization was shaped, in particular, by two processes:

– First, the geographical centre of gravity of long-distance trade moved from the Mediterranean to the Atlantic, benefiting the United Provinces, where by 1700 urbanization exceeded 40%. The population of London grew tenfold between 1500 and 1700, from 50,000 to 550,000 inhabitants. The same was true, to a lesser extent, of other cities: Seville (up to 1600) and Lisbon, the ports of entry for products shipped from America to Spain; and in France, Nantes and Bordeaux.
– As regards the distribution of power, the period is characterized by the raise of territorial States, their growing grip on urban life, and the decline of cities' autonomy. Mercantilism (in Adam Smith's parlance) prevailed: sovereigns promoted the establishment of national markets by limiting the freedom of long-distance trade and by eliminating obstacles to internal circulation (e.g. by removing customs offices and tollbooths).

The sixteenth century marked a turning point. Speaking of the cities of the Mediterranean, Fernand Braudel wrote:

"[…] in the long term, they were healthy, since they were still growing: at any rate they overcame crises and difficulties; however, all towns without exception saw their liberties bring whittled away by the extension of the territorial states, which were expanding even more rapidly than the towns, surrounding them, subjugating them, or even chasing them from acquired positions. A new political and economic age was beginning." (Braudel 1995: 326).

In a discussion of the lengthy urban policy crisis in the sixteenth century, Braudel also wonders: "What disappeared in the course of this prolonged crisis? The mediaeval town, the city state, mistress of her own fate, set in the centre of her surrounding gardens, orchards, vineyards, wheatfields, and nearby coasts and roads." (Braudel 1995: 345).

In the seventeenth century, at a time when economies and populations were shrinking, the capitals of the then emerging territorial States administered by sovereigns, such as Paris, Madrid or St. Petersburg, became distinctly more populous than other cities. London, which was at once the seat of the Atlantic merchants and a royal city, became the second largest in Europe after Constantinople.

The Industrial Revolution Spurs Strong Urban Growth

As of the 1700–1750 period, a new phase of growth began with the rise of the cities of the Industrial Revolution: Europe's urban population grew sixfold during the nineteenth century. In both London and Paris the population grew to more than a million. In 1900, Europe's average urbanization rate was nearly 40%. "The main elements in the new urban complex were: the factory, the railroad, and the slum" (Mumford 1989: 657).

Mining and steel-making areas became important places of settlement: the German Ruhr, the Black Country of England, Borinage in Belgium, and in France the Pas-de-Calais and the Loire coalfields. It was there that the industrial city or 'coketown' as Mumford, after Dickens, calls it (Mumford 1961: 642 et seq.), emerged.

Industrial activity also developed in the older cities. Thanks to coal and steam power, with thermal (metallurgy, chemistry, etc.) and mechanical energy (spinning, weaving, machining, etc.), industry shed its dependence on wood, wind and watercourses. Steam engines also made it easier to supply cities with food, fetched from farther and farther afield. Long-distance supply had previously been much more complex, and had since antiquity needed rulers' direct involvement to ensure its safety.

Securing Food Supply: Rise and Fall of Urban Policies

*"From antiquity to the modern day, feeding city dwellers to ensure political tran-
quillity and social stability has been a constant concern for rulers, and in discharg-
ing that function they forged strong bonds between the peoples and their sovereigns."*
(Marin and Virloulet 2003).

Special Features of the Mediterranean Food Supply

The Mediterranean is one part of the world where, since ancient times, urban gov-
ernments have taken a direct role in long-distance supply, in particular of cereals.
The overview by Marin and Virloulet (2003), *Nourrir les cités en Méditerranée –
Antiquités – Temps modernes*, shows that supplies of wheat were a constant concern
but that urban governments were never involved in the supply of all commodities:
the private trading system still dominated trade. The reasons for cities to take an
active public role varied by city, by State and by era: military strategy could be
involved, or prestige, food quality, or control of famine and conflicts.

In the Mediterranean, the economic structures that governed city food supply
underwent little change between antiquity and the modern period: poor or chancy
agricultural yields, with unchanging transport and storage arrangements. The
Mediterranean was still the geographical framework of the food trade. Cities set up
wheat boards or 'offices of abundance' (public granaries)—institutions specifically
intended to see that city dwellers received the grain they needed and so to forestall
food shortages and starvation. But, while grain supply to the cities of the North was
mainly organized by private agents (except for sporadic price-fixing), in all
Mediterranean cities there was at once a private supply and a public *annona*
(Grantham and Sarget 1997).

Thus, the history of the Mediterranean affords us valuable information on cities'
strategies and ways of influencing grain supply markets. The foundational *annona*
system of ancient Rome is the guiding thread for this first historical period.
Subsequently we shall see how the *annona* system evolved in modern times.

The Ancient Annona System in the Mediterranean

The principle of the ancient *annona* is as follows: magistrates have specific respon-
sibility for monitoring the city's markets and must, should difficulties arise, buy
foodstuffs and distribute them at cut prices or free of charge. Rome innovated by
making these distributions, at first exceptional, a regular occurrence, transforming
the *annona* into a civic institution, which would later be copied by Constantinople.
It was a prerogative of the capitals, as the system existed only briefly in other
cities.

Wheat redistribution by the *annona* was made possible by in-kind levies on certain provinces, such as Egypt and Africa, and the income of the Imperial domains. Ancient Rome drew its supplies chiefly from Egypt (33%), North Africa (10%), Sicily, Sardinia and the rest of Italy. The African share subsequently grew, as Constantinople developed and consumed a growing proportion of Egypt's production. The Black Sea region and Egypt were the sources of supply for Athens and Constantinople. The major Mediterranean ports were Pozzuoli, Alexandria, Narbonne, Cadiz, and Carthage.

The *praefecti annonae*, the Imperial officials who supervised the grain supply, had other duties as well: with a role to play in port infrastructure, incentives for carriers and merchants, and management of a special fund for merchandise purchases. The office of the *annona* also regulated foreign trade in grain, banning exports to forestall shortages or, when harvests were abundant, encouraging them instead, to head off a collapse of domestic prices. Periods of scarcity were marked by the sending of senatorial grain commissions, which would make emergency purchases of foodstuffs that were then distributed in the city.

A key role was played also by the great landowners (senators, knights) in possession of extensive agricultural estates, not just in Italy but also in the provinces of Sicily, Egypt and Africa. Often they owned warehouses, which they would let for a tidy profit.

The *annona* system contributed to ancient cities' strength, being founded on the links between prominent merchants and the ruling classes.

The Annona System in Modern Times

In modern times, the Mediterranean ceased to operate in a vacuum. The supply area had expanded. In the eighteenth century, Marseille became the largest Mediterranean port of trade for grain.

The modern *annona* differed from the ancient one (Marin and Ventura 2004): its role was no longer to regularly distribute free grain to part of the city's population. The modern equivalent was a marketing board, acting to regulate market prices: buying and storing grain in good years and, in bad ones, putting it back on the market at low prices, to drive prices down. It could also act to control bread-making, for example by regulating the number of ovens allowed for public sale of bread. Thus, organizations of this kind became graduated response systems that did not control the whole urban food supply.

They were caught between conflicting priorities—social peace and profit—and afforded many examples of collusion between officials and food supply professionals, constituting licit or illicit interest groups (Martinat 1999). These policies were also often based on a power balance between a city and a territory over which it sought to wield a monopoly, or at least to ensure that it had the pre-emptive right to buy agricultural commodities. In practice, however, a balance was created between consumer protection and the need to keep both producers and traders solvent.

From antiquity to the modern era, the *annona* system helped feed large urban populations in a world still dominated by rural life. That kind of balance was sustained for a long time in some cities (Constantine, Rome, Madrid), less so in others (Naples), but storage-based regulation of market prices put a great strain on municipal finances. For that reason, with the increasing urban population as one factor and widespread price inflation as another, a breakdown occurred in the second half of the eighteenth century as the old *annona* systems failed. Thenceforth those systems could no longer satisfactorily deal with cities' food supply, which States would now be called upon to regulate (Revel 1975).

The Golden Age of Urban Supply Policies: The Middle Ages in Europe

The mediaeval period was a golden age for urban policies, particularly food supply policies. For cities in the Middle Ages, facing the spectre of famine, food supply was a major challenge (Box 1). "[T]he regulation of food markets within the city was a major area of activity. It was very complex in detail and the authorities continuously adjusted rules to deal with practice and to meet the requirement of changing markets." (Keene 1998: 4).

Box 1: Famine, Markets and Public Policy in European Cities from the End of the Middle Ages

François Menant

Urban societies at risk of famine
Beginning in the twelfth century, but especially the 13th, Europe was undergoing rapid population growth, which was only finally halted by the great plague of 1348. Paris and a few Italian cities had more than 100,000 inhabitants; Catalonia and the Valencia region, Flanders, the Rhine Valley and a few other regions had dense urban networks. Much of their inhabitants' livelihood came from the salaries paid by industry, which at the time was achieving growth by exporting its products, including textiles, to European and Mediterranean markets. The people's staple food was bread: most of them would buy wheat in the market, have it ground at the mill, knead the dough themselves, and take it to the bakery to be baked.

Beginning in the 1270s, but especially after the 'Great Famine' that ravaged Flanders and England in 1314–1317, recurring food crises hit these poor workers, just like the poor rural masses. The deteriorating climate Europe was experiencing at the time certainly had something to do with this, even if it is not a complete explanation: poor harvests now happened every 4–5 years, causing more serious shortages. In Florence, there was an episode of inflation

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(continued)

Box 1: (continued)

on average every 6 years between 1309 and 1375, with the price of wheat rising each time: its average decadal price, referred to an index of 100 in 1271–1286, reached 481 in 1339–1353.

Food shortages came to a head just before the plague of 1347 that affected all of Europe. Nor did they end thereafter, as might have been suggested by Malthus's theories. That goes to show that they were not simply an effect of overpopulation, as the population had in fact dropped sharply. Post-plague conditions were nevertheless a little better, as workers' wages had risen to a point where they could feed their families except in times of extreme shortage.

Mechanism of food crises

Europe now had a market economy in which shortages were reflected in rising and indeed soaring prices, known by the Latin word *carestia*. Poor harvests were only the trigger, or indeed pretext, for the inflation (Sen 1981). The decisive inflationary mechanism went as follows: when a crop failure was expected, at winter's end or even earlier sometimes, brokers—merchants and wealthy landowners—banking on rising prices, would keep their stocks off the market. Some grain would be released to market, but because quantities were limited, the prices stayed high.

The working poor, who had not been able to put anything by, had no option but to continue to buy when prices rose, and ended up spending much of their money, then all of it, on wheat. As a result, demand for manufactured goods, and in general everything but staple foods, temporarily plummeted: the crisis hit the entire economy.

Public food shortage policies

Beginning in the last third of the thirteenth century, in most cities and states, institutions and tools were put in place to lessen the seriousness of such crises. Supply from distant sources was now largely the responsibility of States and, especially, municipal authorities, who had the wherewithal to prevent and combat shortages: money, shipping and storage capacity, as well as intelligence on foreign production sites. It should be added that in the cities, the ruling circles were strongly motivated, on ideological and political grounds, to take action against scarcity: thus, Italian municipalities acted for the 'common good' or simply out of fear of the people's anger.

The great cities of the 14th and 15th centuries, especially those with easy access to the sea, were largely supplied by imports: Sicilian wheat fed Florence and the other cities of Tuscany; Venice was supplied by Puglia; Genoa from the far end of the Black Sea; and the cities of northern Germany from the eastern shores of the Baltic. In times of scarcity, imports played a bigger role, because it was very rare for the whole of Europe at once to be

(continued)

Box 1: (continued)

affected by a poor harvest of all cereals. The landing of a cargo, or even just the announcement of its arrival, was enough to ease market prices. As soon as they heard the news, those who had been holding back their stores hastened to put them on sale, to take advantage of the last days of high prices; which immediately drove those prices down.

Learning the lessons of the major food shortages of the late thirteenth century, urban authorities bought wheat as soon as concerns were raised about the harvest. At times, too, they would build up stores in advance, without waiting for warnings of scarcity, and sell them at moderate prices to those who needed them. However, the municipality's wheat would not be sold at too much of a discount to the market price, so as not to undercut commercial supply. Alternatively, the municipality could act to distribute wheat to bakers, or even produce bread itself, which was then sold at affordable prices. Charitable institutions (hospitals), which had extensive landholdings and monetary resources, also played a significant role in preventing mortality; in that sense they took over from the monasteries, whose histories reveal the charitable role they had played in times of famine since the early Middle Ages.

Another part of the supply management measures was coercive: producers and middlemen were forced to put their reserves on the market (which meant stock checks and searches) and forbidden to export, while prices could not be raised beyond a set ceiling; but the ceiling price led to wheat becoming unavailable on the market, and urban authorities soon learned to wield the double-edged weapon of price controls with caution.

Supply, then, especially in times of food shortage, was a capital issue for the cities of the late Middle Ages: a demographic and public health issue of course, but also a political and ideological one.

Mediaeval cities' food policy must be placed in the more general context of the five objectives pursued in their economic policy (Heckscher 2013: 128):

1. To guarantee the city abundant supply by preventing its supply from being diverted to another destination.
2. To prevent the development of rural activities that would compete with the city's. (These two objectives were sometimes pursued jointly, for example in Germany, where cities delimited an area on their outskirts that was reserved for agricultural production and in which manufacturing was forbidden.)
3. To ensure that local merchants participated in trade and to forbid any direct relationship between *outside* merchants and the rural population.
4. To do everything possible to ensure that trade took place within the city, for example by requiring unloading to be done in the river cities.
5. To guarantee everyone a livelihood in keeping with their social status, for which purpose it was vital to limit competition (role of guilds).

In the food industry, the first objective is what defines and distinguishes mediaeval cities' policies:

"[…] The dominating feeling throughout the Middle Ages, mostly in towns, which were almost the only repositories of medieval economic policy, was the one natural to consumers; they wanted to hamper or prevent exports but favoured imports; their tendency was a 'love of goods'; their policy may be called one of provision." (Heckscher 1936: 49).

Henri Pirenne (1917) outlined the legislation of the Netherlands' mediaeval cities. With the goal of "providing the townspeople with cheap, abundant foodstuffs", intermediaries were considered speculators. "It followed that the country seller and the urban buyer must be put in direct contact so as to prevent the market from being cornered by a group of speculators" (Pirenne, 1917:100). He cites the example of Liège, where, in 1317, the *Lettre des vénaux*:

"[…] forbids 'regraters' [middlemen] to buy poultry, cheeses or venison within a two-league radius of the city. All such foodstuffs must be brought to the market, and wholesale merchants shall be able to acquire any surplus only after the burgesses [townspeople] have been supplied therefrom. Butchers are forbidden to keep meat in cellars and bakers to buy more grain than they need 'for their own baking'." (Pirenne 1917: 100).

All possible measures are taken to keep food prices down: "Not only is a maximum price set, but it is absolutely forbidden to sell outside the market, i.e. anywhere except in public and under the supervision of the burgesses and officials of the municipality" (Pirenne 1917: 100).

The ban on traders' buying in the vicinity of the town and the requirement that trade take place in a public market were found in many towns. The purpose was both to eliminate traders' profit margins and to ensure that local products would not be sent elsewhere. In Paris, traders were forbidden to buy within a radius of 10 leagues in the case of wheat, 20 leagues for wine (Aymard 1983: 1404). In Geneva, as late as the seventeenth century, the city administration sought to make fairs and markets the only places where trade with farmers was permitted. A political decree or police order set a radius in which production was reserved for urban supply: producers had to sell in town, while buyers were not allowed to buy directly from producers within four leagues (18 km) of the city (Niwa 2015). In Venice, this policy of exclusive sale was taken to another level. In 1234, a treaty required the merchants of Ragusa to sell wheat and salt only in Venice. Another treaty, from 1236, forbade all trade in the northern Adriatic except the transport of food to Venice (Hibbert 1963: 174).

As another way of securing the food supply, taxes were often low or nonexistent on inbound goods, while those leaving were subject to high taxes, as in the German towns or in Florence. Such taxes were often price-adjusted, being imposed only when prices rose above a certain level (Hibbert 1963: 176).

Similarly, towns often had bylaws making their own people priority buyers or indeed the only ones entitled to buy for a set time after the products' arrival.

Finally, towns sought seek to avoid any takeover of supply by a monopoly or commercial cartel. In 1268, in Douai, there was a legal limit on the daily quantity (e.g. of wheat) a person could buy (Hibbert, *op. cit.*). Trade and processing of food

products were often the last and only business sectors not subject to a guild monopoly.

Trade circuits could also be directly controlled. In 1555, in Valencia, Spain, there was an elected magistrate, the *clavarie del vituallement*, assisted by deputies who dealt with wheat and meat (*administradors dels forments* and *administradors del carns*). The municipality helped supply grain to the city. This took the form of wheat (*forment asegurat*) that it bought in bulk and sold at a fixed price, to keep the market price low (Lapeyre 1969: 134] cited in Tilly 1974: 438).

All major Italian cities also had a wheat office, and sometimes and oil office too: *Abbondansa* in Florence and Siena, *Officio delle Biave* in Venice. Maurice Aymard notes that all of them were in agreement that: "[…] the city's supply could not be left to private enterprise alone, for entrepreneurs had neither the means nor no doubt the concern to ensure the abundance and regularity of supply deemed considered necessary" (Aymard 1966: 72).

Because of its size and power, Venice exemplified in the extreme this commitment to the flow of foodstuffs. All grain entering the city was monitored. Locally produced grain could be sold only in Venice, and Venetian farm owners were required to send in their harvest by summer's end. Grain imported from farther afield was subject to long-term purchase contracts with merchants that included loans. A system of import premiums was provided for crisis situations (up to 40% of the domestic price). Purchases from the most distant growing regions (Burgundy, Bavaria, Poland) were made directly by the authorities. Importers were allowed to retain only a limited share for their own consumption. All the rest was put on sale in the two public shops that supplied flour to individuals to make their own bread. The bulk of the grain, however, was set aside for bakers, whose numbers were limited and who must comply with strict rules on the quality, weight and price of bread. The retail price remained fixed but the weight would vary depending on wholesale prices, which the authorities sought to control. Wheat could under exceptional circumstances be sold below market price.

At this period the cities were clearly seeking to keep the countryside in a subordinate role, as a source of biomass but also of labour, even though their relations were commercial in nature. The city often had a conflictual relationship with warlords and other neighbouring feudal powers, playing a middleman role and serving as a refuge for farmers seeking to evade their local lords' suzerainty. The cities had a high mortality rate and a structural population deficit that made them dependent on rural immigration.

Hence, urban wheat stores could be used to supply the countryside: in Geneva, as of the late seventeenth century, farmers received assistance in the form of seed wheat or bread whenever a subsistence crisis arose (Niwa 2015). In providing that assistance, the Wheat Board did not merely seek supplies from the countryside, but actively contributed to the development of agriculture.

Lastly, the existence of a nearby town provides an outlet for rural production. That, according to Max Weber, was what made the difference between the agrarian structures of Germany to the west and east of the Elbe. To the east, the lack of towns meant that only lords who could export grain over long distances (particularly to

Amsterdam) had access to the market. To the west, in contrast, a dense urban network allowed farmers to get rich and gradually achieve emancipation (Weber 1991).

Rise of the States and Decline of Urban Food Policy

In the modern era, the construction of the territorial States upset the urban food policies described above. States intervened more and more directly in food production and distribution beginning in the sixteenth century and up until the great wave of liberalization of the second half of the 19th. Unification of the national market was a goal of the territorial States, but one that went against all the measures the cities had adopted to secure their people's food supply. It was nevertheless eventually achieved. In France, unification was not complete before Colbert, despite the enactment of successive decrees by the predecessors of Louis XIV.

Again, under mercantilism, the territorial States adopted strategies of autarky (Clément 1999: 38) that jeopardized urban supply policies based on long-distance trade. Moreover, the States, having responsibility for the government of cities and countryside alike, pursued policies that skewed more toward producers' interests, while consumers' interests tended to be overshadowed. Thus, in England, the first national measures taken at the end of the seventeenth century sought to promote grain exports, an orientation that was diametrically opposed to what mediaeval cities wanted.

This rise of the States continued well beyond the eighteenth century. It is true that, in the nineteenth century, Europe experienced a "free trade interlude" (Bairoch 1993: 39), which began in 1846 with the abolition of the United Kingdom's Corn Laws, but it did not last long. As early as 1870, continental Europe adopted protectionist policies and the two world wars as well as the crisis of the 1930s reinforced State intervention: creation of domestic marketing boards, proliferation of border controls on foreign trade, food aid distribution, etc. This state of affairs was perpetuated by the creation of the Common Market, then the EU's Common Agricultural Policy, which introduced a mechanism for protection of agricultural prices in the domestic market. States only withdrew from the management of food markets with the enactment of the European reforms of the 1990s and the World Trade Organization agreements.

As of the nineteenth century, another major area of intervention for urban policies emerged with the hygienist movement and the cities' separation from the organic world.

The Cities' Separation from the Organic World

"I have argued that the sanitary idea and its enthusiastic adoption by many in the public health movement were responsible for two major changes in the mid and later nineteenth century. First, there was a materialization in physical

infrastructure of the idea that waste products and their smells had to be removed before they could cause disease. A range of technologies, from sewers to waste destructors, were employed to achieve this purpose. Second, food-producing animals and animal by-product industries became unwelcome in many cities, with the ultimate aim of establishing nuisance-free, and therefore cleansed, environments. Together, these amounted to a greater conceptual and physical separation of the urban realm than had ever been experienced before." (Atkins 2012: 77).

In the nineteenth century, rapid urbanization caused health problems, as epidemics arose (McNeill 1976). Transportation development facilitated the spread of germs. Industrial activity increased pollution of the air, water, and even soil (Mumford 1989). Such pollution was the result of new technologies and the fact that cities now hosted insanitary premises that had previously been spread across the countryside. Finally, organic waste from food and the presence of animals in the city (particularly draught horses) was a potential source of contamination and proliferation of germs. As a result, excess urban mortality increased during the first phase of industrialization. In 1840, a man born and living in the country (County of Surrey) had a life expectancy of 44 years, compared to 35 for a Londoner and 24 for a Mancunian. Such large discrepancies were related, in particular, to infant mortality in cities, where infectious diseases (typhoid, tuberculosis, pneumonia, cholera) and food- and waterborne illness were frequent.

By the end of the eighteenth century, that situation had given rise to discussions that would soon engender hygienist policies. The 'progress' of science and technology was paralleled in medicine by the promotion of public health. The goal was prevention rather than cure, a cleansing of the environment (Jorland 2013: 24). This 'century of hygiene' spanned the last decades of the eighteenth century to the first of the 20th (Frioux et al. 2011).

We shall illustrate that shift by taking up the following topics successively: the regulation of food wholesomeness, the issue of animals' place in the city, and organic waste management.

Regulation of Food Wholesomeness

Urban authorities (municipalities) were important promoters of hygienist policies, but gradually the national public authority (State) asserted itself. Healthful food was at first a concern of municipalities, which at that time had lost all their prerogatives regarding market price regulation. But, by the turn of the twentieth century, in this area too the State had evinced the cities, which became mere local agents of the State, which, through legislation, assigned them a great part of their duties and obligations.

The wholesomeness or nutritional quality of food is not always easy to assess. The presence of pathogens or adjuvants is detectable only by complex techniques. In 1909, Sheridan Davis, the officer in charge of Manchester's milk supply, said that:

"The inhabitant of large towns has generally no access to the sources of his food; he is seldom able to satisfy himself by personal observation of the genuineness and soundness of the articles offered to him for consumption, and has to depend upon the knowledge, skill and vigilance of persons appointed for the purpose of protecting him against the dangers associated with insufficient or unsound food supplies" (Delépine, quoted in Otter 2006*: 526).*

In the nineteenth century, however, the development of chemistry and biology considerably expanded the range of analytical methods and of risks to be assessed. Thus, typhoid contagion through milk had been demonstrated by the 1870s, while the transmission of bovine tuberculosis to humans, in milk or by meat eating, was the subject of very serious concern. That was the backdrop for the establishment in many European cities of municipal laboratories to monitor product quality (Frioux et al. 2011) (Box 2).

Box 2: Development of Analytical Laboratories in France

Benoit Daviron

In France, a 1790 ordinance gives as one of the municipal police's powers: "inspection of fair dealing in measuring commodities sold by weight, length or volume and of the safety of foodstuffs offered for public sale" (Paquy 2004: 45).

At the beginning of the nineteenth century, at the Restoration, 'wholesomeness councils' were created in various cities (Lyon 1822, 1825 Marseille, Lille 1828…). They were made mandatory by the central government in 1848. Then, in the late 1870s, municipal hygiene offices proliferated. In particular, they looked into the wholesomeness of food and drink.

The history of the Grenoble laboratory studied by Lucie Paquy is a case in point (Paquy 2004). In Grenoble, the idea of creating an analytical laboratory to combat food fraud and adulteration was first floated by City Council in 1881. Its implementation drew on several major cities' experience with such laboratories: Brussels (1856), Antwerp, Paris, Lyon, Saint-Étienne, Brest, Le Havre, Montpellier, Le Mans and Marseille (Tanguy 2007). At first, the qualitative and quantitative analyses people requested were billed to them, to finance the laboratory and avoid to great a number of requests. In that way, Grenoble differed from Paris, Lyon, Toulouse or even Le Havre, where analysis was based on the existence of permanent inspection and sampling services.

Box 2: (continued)

"In Lyon, for instance, inspection of foodstuffs, and more broadly of 'any item whose use may have health effects', was the responsibility of the laboratory's four expert inspectors, who had the police provide samples of suspect products. These samples were then sent to the lab for analysis and, if fraud was detected, the municipality referred the case to the Prosecutor's office. The effect was that Lyon was able to continuously monitor product quality" (Tanguy 2007: 50).

During the first few years, wines made up nearly 80% of the samples analysed. Among the other products were milk (skim or 'blue'), vegetable oils (often mixed), butter and liquors.

But the law of 1 August 1905 relating to "the suppression of fraud in the sale of goods and falsification of foodstuffs and agricultural products" redefined the division of powers between the State and the municipalities. It implemented a central fraud unit at the Department of Agriculture. Prefects were given the responsibility of organizing local collection and analysis services. Hence, they appointed collection officers who would send samples to the lab and, if fraud was suspected, refer the matter to the Prosecutor's office.

The communes were expected to play a role in stamping out fraud. The laboratories set up by the municipalities were, like the State labs, authorized to perform tests, provided they had been previously approved by the Ministry of Agriculture. The Grenoble laboratory received certification for the departments of Isère and Hautes-Alpes on 18 April 1908. In 1910, however, after some faulty analyses, the Ministry of Agriculture decided to temporarily suspend its certification and made reorganization recommendations to the municipality of Grenoble. The laboratory's operating procedure and staff recruitment process were increasingly set by Paris. Before the First World War, the municipal laboratory mainly survived on State subsidies and became the local authority for the repression of fraud.

Debates and regulations on animals' proper place in the city formed part of the same hygienist movement.

Regulation of Animals' Presence in the City

From Private Slaughterhouses to Industrial Municipal Abattoirs

At the beginning of the nineteenth century, the slaughter of animals was done at a a large number of private, cottage-scale slaughterhouses located in the city close to consumers. The public authorities progressively took over their activity. The French term 'abattoir' is said to have been coined to designate slaughterhouses

commissioned by the authorities: the large-scale ones built from 1806 to supply Napoleon's troops (Otter 2005: 95). An 1838 ordinance classified slaughterhouses among "the most unhealthy, dangerous and noxious places", but the regulations relating thereto were the responsibility of municipalities, which set their own health policies. In the course of the nineteenth century, municipalities began building and managing their own abattoirs (Muller 2004: 107).

Séverin Muller reports on the process of creating a municipal abattoir at Saint-Maixent-l'École in the 1860s. The municipality's goal was to limit nuisances, such as odours and contamination. Strict construction rules were laid down to ensure hygiene. Slaughterhouse inspection was the responsibility of veterinarians employed by an 'animal health police' organized by the department, but in practice field inspections were carried out by municipal roadmen, police officers, or the establishment's security guards. In Saint-Maixent-l'École, because the municipality could not afford a full-time veterinarian, a 'veterinary artist' was hired to inspect the abattoir every two days and issue slaughter permits for animals certified healthy. Continuous monitoring of the slaughterhouse was done by a *garde champêtre*. As time went on, the slaughterhouse director too was tasked with examining cows raised within the commune to make sure they did not have diseases that could contaminate the milk.

In the United Kingdom, the same abattoir municipalization movement got under way later. In 1870, there were still 1500 private slaughterhouses in the city of London alone (Atkins 2012: 84). The slaughterhouses were most often unspecialized spaces that were occasionally used for animal slaughter. Being so numerous, and not purpose-built, they were virtually impossible to inspect. The Public Health Act of 1875 directed local authorities to create public abattoirs, and in 1890 a new law authorized them to shut down insanitary slaughterhouses.

Once Ubiquitous, Animals Are Expelled from the City

Before they were expelled, animals were everywhere in nineteenth-century industrial towns. "[I]t is possible to argue that animals were constitutive of a certain stage of the urban. They facilitated growth, they fuelled it, and they provided an essential continuing link with the parallel rural economy." (Atkins 2012: 35).

A number of factors contributed to animals' presence in the city. Most important was the perishability of fresh products, milk in particular, in the absence of refrigeration technology. From 9000 at the end of the eighteenth century, the number of cows in London had increased to 15,000 by the mid-19th; they were fed on the by-products of breweries and distilleries. For urban consumers, local supply also offered some guarantee against the frequent practice of watering down the milk.

The next greatest reason was urban growth, which required unprecedented numbers of carriage horses for local transport. In London, the number of horse-drawn cabs rose from 1265 at the beginning of the 1830s to 6800 in 1863 and 11,000 in 1888 (Thompson, 1976). Horse buses numbered 620 in 1839, whereas in 1902 there were 3696 (with 11 horses per bus, as they needed rest!). In Paris, the number

of horses per 1000 inhabitants rose from around 23 to 35 between 1820 and 1880 (Barles 2012: 175).

Finally, the proliferation of animals in the city was encouraged by massive influxes of country dwellers, who brought their livestock with them and often kept up an agricultural activity while adapting to city life. In Manchester, Irish migrants were criticized for keeping pigs in town, even though that practice was actually common well before the great waves of immigration (Scola and Scola 1992: 39).

All of these factors contributed to the omnipresence of animals in the city, a situation that Peter Atkins called "urb-an-imal" or "animal-constituted urbanism" (Atkins 2012).

In a subsequent phase, however, after 1850, more and more measures were taken to ban animals from the city. Particularly complained of were the physical danger they posed to passers-by (Barles 2012: 182 et seq.), noise, odours, and especially the risk of contamination and disease. Thus, urban cowsheds where the cows lived tightly packed together and never got out (until they left for the slaughterhouse) were vilified as reservoirs of typhoid, scarlet fever, diphtheria and tuberculosis.

Atkins gives a chronology of the London by-laws adopted from 1844 on that little by little eliminated animals' place in the city (Atkins 2012: 28–33). The Metropolis Management Amendment Act of 1862, for instance, reaffirmed urban authorities' power to close unfit pigsties and prevent their keepers from opening new premises. It also introduced a compulsory licensing system for cowsheds. A fuller set of measures was created following the enactment of the Public Health Act of 1875.

Live animal markets were also outlawed. In London, Smithfield Market, which had been in operation since the tenth century, was moved in 1855. By the end of the nineteenth century, standards had been adopted for cowsheds setting out construction materials, the type of openings required, and a minimum space per animal. A monitoring system was established. In 1900, the city of Glasgow inspected 1220 cowsheds and 13,919 cows (Otter 2006: 525).

In London, the number of cows fell from 15,000 in the mid-nineteenth century to no more than 3000 on the eve of the First World War. London's self-sufficiency in milk fell sharply: from 80% in 1850 to 28% in 1880 and just 3% in 1910 (Atkins 2012: 41). Of swine in Manchester, Roger Scola writes:

"[…] While as late as 1866 the sanitary authorities of [Manchester] remarked on the persistence of 'a passion or infatuation amongst very many of the working classes for pig breeding and pig fattening', only ten years on they were able to report that they were meeting less resistance in their efforts to clear away the pigs, even from the poorest areas." (Scola and Scola 1992: 40).

Thus, by the turn of the twentieth century the 'Great Separation' of human residence and animal production was accomplished (Atkins 2012: 2). Soon only pets would remain in the city. Regulations were compounded by successive innovations in the conditions of transportation and product storage. Fresh produce could now be grown in places remote from consumers, and as the automobile gained ground, horses too were banned from the city.

The drive to rid the city of its organic waste dates from the same era.

Organic Waste Management

The invention of urban waste is recent (Barles 2005a). Only when the city reached a certain size and its links to the countryside and agriculture loosened, so that waste was no longer mainly organic, did waste management become a problem, requiring a public policy and municipal management.

Ridding the City of Its Waste

The best-known ancient sewers are probably those of ancient Rome, which are partly still functional. An open-air ditch (the *cloaca maxima*) was built by Tarquin the Elder in the sixth century BCE, at a time of rapid population growth, to drain stormwater as well as wastewater into the Tiber. The canal, probably inspired by Etruscan techniques, also helped drain standing water between the Palatine and Capitoline Hills, a lowland area that then became the site of the Circus Maximus. By the second century BCE, it had already become a real underground sewer. These major urban projects of ancient Rome were built by Imperial command, so the term 'municipal policy' was not yet apposite.

Most Western cities took over waste management as one of their prerogatives in the second half of the nineteenth century, following the Industrial Revolution, with the goal of cleaning up the city, to get rid of waste that was deemed a source of disease. Engineers were then called upon to come up with technical solutions whereby the city could efficiently clear away a daily increasing flow of waste.

In London, wastewater was at first discharged directly into the Thames with the rainwater, a recommendation of the Consolidated Commission of Sewers created in 1848 (Trench and Hillman 1984). Only in 1854 was the connection made between poor water quality and the recurrence of cholera epidemics. A new, high-capacity underground sewer system was then designed by the engineer Joseph Bazalgette. Parliament voted to finance the project after the 'great stink summer' of 1858. The work was entrusted to the Metropolitan Board of Works. Wastewater was collected by a gravity sewer and flowed into the Thames estuary, where it was raised into reservoirs by monumental pumping stations (driven by steam engines). The reservoirs emptied into the sea by tidal action. The new sewer system, personally inaugurated in 1865 by the Prince of Wales, made cholera epidemics a thing of the past and cleaned up the Thames. As it was a Parliamentary project, it was directly managed by the London County Council beginning in 1889.

In Paris, wastewater emptied into the Seine, the Bièvre or Ménilmontant Brook. As in London, following recurring cholera epidemics and pollution of the Seine, a modern underground sewer system was created during the great urban transformation undertaken by Haussmann as Prefect of the Seine from 1853 to 1870 (Reid 1993). For the first time, town planning was being done according to a comprehensive plan grounded in hygienic principles: the opening up of the Grands Boulevards cleansed and aired out the urban fabric. Underground conduits followed the line of

the new streets. The sewer system was designed by Eugène Belgrand, a civil engineer polytechnician who in 1867 became Director of Paris's water and sewerage department. It is a combined gravity-fed sewer (collecting runoff and sewage). Progressively, buildings were obliged to connect to it: in 1852, an Imperial decree provided that: "[…] any new construction, in a street with sewers, must be configured so that rainwater and greywater feed into them" (Haussmann's memoirs, cited by Barles 2005b).

An 1894 law prohibited direct discharges into the Seine. The first sewage outfall was at Clichy, downstream from Paris, in settling ponds. The drainage channels were extended to Achères in 1895 (Reid 1993). In Paris and London both, it was hard to draw a line between State and municipal policies. In both cases the sewers were funded by the central government, a key role being played by a few expert engineers (Barles 2005b). Once the infrastructure was in place, it was managed by a municipal engineering department (the County in London, the Prefecture of the Seine in Paris).

As this hygienist period unfolded, a new vision of nature emerged: romantic, clean, sanitized. It advocated the physical separation of city and agriculture. And yet some urban waste continued to be recycled to feed the city.

Waste Recycling to Feed the City

Waste management is a specifically urban problem, one municipal authorities are faced with only when the city exceeds a certain size. Before it became a problem, waste was considered a resource.

Until the nineteenth century, self-regulation and recycling held sway: waste was organic and was recycled in agriculture as fertilizer, as animal feed (pigs, chickens) and sometimes in industry (dyes, papermaking pulp). Swine ran free in the city, feeding in the streets on domestic waste that residents were encouraged to leave for them (Clubbe 1992). In London, however, ordinances were adopted as early as 1357 prohibiting residents from throwing their garbage in the streets (Trench and Hillman, 1984).

The *jardins maraîchers* (market gardens) of Paris illustrate the dual role played by agriculture: as a food source and a waste disposal.

The French term *maraîcher* is derived from the *marais* (marshes) on the right bank of the Seine (today's Marais district) occupied from the twelfth century by farmers who drained the marshes to produce fruit and vegetables and sold them at the neighbouring market, Les Halles (Quellier 2015). Eventually, under the Ancien Régime, the term *marais* came to be understood as any market garden, no matter where it was or what kind of soil it grew on. Indeed, these areas of agricultural production were pushed out to the suburbs as the city expanded and the fortifications were rebuilt farther out, but links to the city remained close, for both marketing and fertilization.

Up until the eighteenth century, the contents of Paris's cesspools were stored and dried at the foot of the Buttes-Chaumont and then sold to farmers as fertilizer (Guerrand 1985). Up until the end of the nineteenth century, when farmers came to

sell their products at the Halles market, they collected organic waste, including horse manure (Taylor-Leduc 2015). It was the same in London (Thick 1998). In Paris in the 1870s, some market gardeners had an actual contract with the municipality to pick up sludge at every street corner. These nightsoil collectors were granted a 3-year licence to ply their trade in a given neighbourhood by the adjudicators whose job it was to have the sludge and refuse of Paris removed. The sludge, a mixture of earth, water, manure, straw and domestic waste, was particularly rich in chemical elements (Barles 2005a).

Once the sewer system was in place, agriculture again had a role to play in purifying sewage before its discharge into the Seine. The engineer A. Mille drew on what Edwin Chadwick had done in London to develop the landfarming system. After a promising experiment near the Clichy outfall, which was deemed successful, the Paris water and sewerage department reached an agreement in 1869 with the commune of Gennevilliers for an expansion of the landfarming area, which went from 6 ha to 115 in 1874, 295 in 1876, 379 in 1878, and 422 in 1880 (Barles 2005b). This rapid expansion shows the success of an organization that was deemed: "[…] economically viable, agronomically effective, and hygienically satisfactory as it removes nuisances from the capital" (*ibid.*: 71).

Though physicians feared the sludge spread on farmland would cause disease, the strategy was immediately successful. Crop irrigation did in fact filter the water and protect the Seine. Barren gravel soils became fertile. The sleepy little town of Gennevilliers turned into a garden of Eden. Emperor Napoleon III visited the town and came back laden with vegetables (Steel 2008). By 1879, about 10% of the fruits and vegetables at the Halles market came from landfarming sites; often they were sold cheaper than the produce of conventional farmers because yields per hectare were greater (Taylor-Leduc 2015). So successful was the system that it was adopted Europe-wide: in 1878, Berlin abandoned chemical treatments to follow Paris's example. By 1900, crop irrigation sites covered 6800 ha and gave employment to 3000 farmers (*ibid.*).

Suburban agriculture is a particular phase in the history of cities' food supply systems and an innovative production model that is closely linked to urban life. It made possible great technical feats, as illustrated by the market gardeners and fruit growers of Argenteuil and Montreuil. Remarkable results were achieved by '*laitiers nourrisseurs*' (urban dairymen) considering that all of their cows' feed was purchased. "While farms constituted an independent economic unit, these suburban operations undertook only one phase of production" (Philipponneau 1952: 204).

It is true that this virtuous circle of urban ecology, whereby urban waste such as manure and wastewater was reused as fertilizer in periurban agriculture, fell into decline in the twentieth century. After the Second World War, suburban farms closed and farms in general became dependent, not on cities, but on distant farms and factories that provided seeds, feed, and chemical inputs. Paris's belt of market gardens disappeared due to such forces as the rise of the automobile, competition for land in peri-urban areas, and the ability to quickly bring in by train fruit and vegetables from regions with a warmer climate (Stanhill 1976). From that point on, municipal policies focused on the storage and treatment of urban waste.

Conclusion

The history of urban food policy is marked by very varied objectives as well as ways and means: ancient cities of the Mediterranean that guaranteed much of the urban population access to food thanks to tribute from the colonies; medieval and modern cities that made sure of their supplies by setting up exclusive catchment areas and by financing trade; and hygiene-conscious contemporary cities that issued regulations on the use of waste and where animals could be kept.

That history, however, reflects two major shifts. First, cities had to become entities that could really pursue a food supply policy. And second, the place the city would assign to agriculture, and more broadly to all living things, had to be established.

Through a slow evolution, beginning at the end of the Middle Ages, cities gradually lost their ability to conduct food policies. The rise of the States and their struggle to establish a unified national market were decisive. Right from the beginning of the twentieth century, but especially after the First World War, States increasingly gained a stranglehold on food supplies.

Again, the rapid urbanization attendant on the Industrial Revolution frequently created headless communities unable to implement policies throughout their territory. Conurbation phenomena gave rise to 'clots' of human habitation split between a number of politico-administrative entities. As much as 50 years ago Lewis Mumford noted: "Such urban clots could and did expand a hundred times without acquiring more than a shadow of the institutions that characterize a city in the mature ecological sense" (Mumford 1989: 458). He went on to say:

"The new urban emergent, the coal-agglomeration, which Patrick Geddes called the conurbation, was neither isolated in the country nor attached to an old historic core. It spread in a mass of relatively even density over scores or even hundreds of square miles. There were no effective centres in this urban massing: no institutions capable of uniting its members into an active city life: no political organization capable of unifying its common activities" (Mumford 1989: 470).

How can policies exist, absent any entity able to design and implement them? That is the very issue which, in modern Europe, is leading to the creation of metropolises that merge a number of cities into one.

Cities' separation from the organic world is the second long-drawn-out shift. This more recent phenomenon is also a consequence of the Industrial Revolution. Unlike the ambition nourished by Ildefons Cerdà, who wanted to "ruralize the city, urbanize the country" in his 1859 plan for Barcelona (Consales 2004: 798), no such synthesis occurred. While the countryside did become increasingly urbanized, thanks to the automobile, the reverse never came to pass. Cities' close relationship with the rural and organic world—through the presence of animals and market gardening, and organic processing activities such as slaughterhouses or tanneries, and through the use of urban waste in agricultural production—has disappeared in favour of simple importation of food products, lacking any connection to the living world.

These slow transformations are today being called into question, as new political spaces are being created so that cities can again be involved in food issues. At the same time, States' policies are being challenged by liberalization. Metropolises that can endow today's conurbations with a capacity for action commensurate with their size are being created. Lastly, the dispersal of production chains is increasingly being challenged on account of the risks it entails for the environment and health.

Food supply is once more on cities' agenda (Chapter "Cities' Strategies for Sustainable Food and the Levers They Mobilize"), and it follows that urban food policies can no longer discount agricultural production and the rural world. In their struggle against the cities, States often allied themselves with the countrysides, as appears from the protection policy adopted in France after the Commune by Méline and the self-sufficiency policies of the twentieth century. Today, one stage in devising ambitious urban food policies is certainly the building of new alliances with agricultural and rural areas.

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