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'Feeding the peoples of Europe': Transnational Food Transport Infrastructure in the Early Cold War, 1947–1960

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Human nutrition is becoming more and more a problem of balance... What is most harmful is not occasional fasting, but prolonged and unremedied malnutrition, which eventually slows down the activity of a whole nation. Endemic malnutrition is, therefore, the enemy, but victory lies not only in increasing production, though this is of course necessary, but also, and perhaps to a greater extent, in a more even distribution of the foodstuffs produced, a sphere in which transport plays a technical role of the first importance.¹

Secretariat of the United Nations Economic Commission
for Europe, 1949

Introduction

The quote above points to one of the major problems in Europe after the Second World War: the poor state of food supply. During and immediately after the war, outright food shortages occurred regularly, mainly due to the collapse of grain production and imports, and many of Europe's inhabitants had considerable difficulty reaching sufficient daily calorie intakes. However, such *undernutrition* is not what the quote is about. Instead it is about *malnutrition*: by 1949 endemic hunger was nearly ended in Europe, but malnutrition persisted. It was caused by overly monotonous diets based on grains and potatoes; the challenge, then, was to increase the intakes of foods providing a wider variety of nutrients. Such foods were often labelled 'perishable foodstuffs', the most important of which were meat, fish, eggs, dairy products, and fruits and vegetables.

The quote does more than spotlight the lack of perishable foods as Europe's new post-war enemy. It also asserts that improving the intakes of such foods crucially depended on transport. In other words, it connects the feeding and health of Europe's individuals and nations to transport infrastructures, in particular those transport infrastructures that were already then known as the 'refrigerated chain' or the 'cooling chain'. These had to be either radically improved or, in the case of the deep freezing chain, built from scratch before they could start 'feeding the peoples of Europe'.²

Finally, although the notion of 'Europe' is not explicitly mentioned in the selected opening quote, it looms heavily in the background. It is important to note where the quote is from: a report by the secretariat of the United Nations' first regional body, the Economic Commission for Europe (UN ECE, 1947), which – among many other initiatives – inspired an enduring effort to build Europe-wide transport systems for perishable foods. This effort reflected the UN ECE's mission statements and its particular vision of what Europe could, and should, become: a Europe of nations jointly solving their food problems, as well as other economic problems, by means of international co-operation and division of labour; in short, by building a pan-continental economic system. For the UN ECE secretariat, the stakes were huge: they argued that pan-European co-operation and interdependency would not only foster economic recovery, but also prevent a return to national autarchy and nationalism and a deepening cleavage between the emerging Eastern and Western blocks that might eventually cause a Third World War.³ The UN ECE thus was a post-war successor of the interwar League of Nations' functional organizations, working for European economic, social and infrastructural integration at a time when the initiative that would ultimately become the European Union had scarcely been born, and would involve only a handful of countries for decades to come.⁴

This junction of food, transport and European integration – and its corollary, fragmentation – is the subject of this chapter. The lead question is whether any 'Europe' was produced in the sphere of (perishable) food infrastructure building, and what this 'food Europe' looked like. I shall try to disentangle several material, institutional, discursive and statistical aspects of this theme in the 1940s and 1950s, when Europe's endemic malnutrition was attacked and supposedly overcome. To do so, I take relevant UN ECE efforts and archives as a privileged research entry. This organization provides a promising research site because it initiated, monitored and hosted negotiations on international food transport infrastructures with the explicit purpose of building an integrated Europe. As a veritable 'food system builder', it proceeded by identifying problems and bottlenecks, thus bringing into view integration efforts, but also failure and fragmentation on a pan-continental scale. In short, it was a first row witness to the dynamics and tensions of pan-European food infrastructure development.⁵

This perspective allows us to inquire into the shaping of 'food Europe' – or, in the terms of this book, mediations between 'infrastructure' and 'Europe' in the food domain – in several dimensions. Section 3 examines the ideological or *discursive* dimension, here represented by the cited UN ECE vision promoting a particular understanding of post-war Europe by a rhetorical linkage to such issues as malnutrition, perishable foods, and transport infrastructure. Section 4 investigates how this vision was translated into a programme for actually *building* international perishable food chains. It tracks the wide range of actions, in both the material and institutional spheres, intended jointly to produce a pan-European food economy. Section 5 spotlights the *negotiated* character of this effort, which produced – like any infrastructure project – inclusion and exclusion, those connected and those passed by, and thus a particular fragmentation in European food collaboration. Section 6, finally, exploits UN ECE efforts to statistically monitor food production and trade on an aggregate level to evaluate what 'food Europe' looked like by the 1960s in terms of actual food circulation. Before proceeding, however, I will briefly discuss the research theme in the light of existing literatures on European food history and infrastructure history.

Toward a transnational European food history

There is a large and growing scholarship on European food history, witnessed by an impressive number of books featuring 'food' and 'Europe' in their titles and the establishment of European food history associations.⁶ Remarkably, the relationship between food history and European integration has been barely investigated in this booming field. The same is true for the infrastructural dimension of food supply. On one hand, this literature clearly delineates the main event in *European* food history, the food supply 'revolution' of the last century and a half, and *mentions* the pivotal importance of infrastructure contributing to this revolution. Century-old dreams of the 'Land of Plenty' were actually fulfilled during this period of time. At least in Europe, food became abundant, varied and cheap.⁷ Others speak of a 'nutritional transition' or the emergence and diffusion of a 'modern food culture.'⁸ This transition to abundance and variety can be further specified as a rise in the daily per capita energy intake from around 2,000 to 3,000 kilocalories, and the replacement of a monotonous diet of starchy staples (cereals, potatoes) by a varied diet including meat, fish, fruits, vegetables, and processed foods such as sugar and butter, thus overcoming both undernutrition (lack of calories) and malnutrition (lack of essential nutrients). This transition coincided with a dramatic rise in life expectancy for the populations involved, although the precise role of food vis-à-vis other factors is still under debate.⁹

Among the drivers of this important historical process, transport infrastructure is generally mentioned as a crucial element, next to increasing agricultural productivity and rising real incomes, that enabled consumers to

buy more expensive foodstuffs and diversify their diets. The assumption is that infrastructures such as transport networks and associated techniques of conservation (cooling and freezing, pasteurization, packaging) enabled long distance food trade, thereby loosening the traditional ties between food and territory. Hence, failing harvests and seasonal shortages could be overcome by acquiring foods produced elsewhere: food supply was 'delocalized'.¹⁰ Of course there always had been trade in foodstuffs, but foreign foods had remained a privilege of the wealthy few until the nineteenth-century industrial and transport revolutions.

On the other hand, this literature remains vague about *how* transport infrastructure was involved in this transition, and what exactly was 'European' about it. 'Europe' is predominantly taken as a self-evident category, tacitly equated with the cumulated experience of national food histories. This nation-centred framework of analysis, which goes under the banner of comparative history, is clearly reproduced in published European food histories, which nearly always juxtapose (sub)national case studies.¹¹ The very term 'Europe', if used at all, tends to stand for an abstracted development pattern from a limited number of individual countries.¹² A transnational perspective that may, for instance, place national food developments in the context of international circulation of foods, spotlight transfers *between* countries and other mechanisms connecting (or separating) national food histories, and inquire into the importance of national borders vis-à-vis other borders, seems to be missing so far.¹³ Yet such a perspective is needed in order to inquire how 'food Europe' was integrated and fragmented. Focusing upon transnational food infrastructures, this chapter explores one possible avenue to investigate this theme.

A similar argument goes for the relationship between food history and transport infrastructure. Food historians acknowledge the pivotal role of transport; they have also embraced infrastructure-like concepts such as 'food chains' or 'food systems', though on a national scale. Such concepts invite study of the entire food cycle from production to consumption, and draw together (often isolated) research fields such as agricultural history, retail history and diet history.¹⁴ Incidentally, the food chain concept was originally developed in the context of perishable foods in the early twentieth (perhaps late nineteenth) century, then denoting uninterrupted refrigeration of the successive stages of production, transport, storage, retail, and consumption of perishables.¹⁵

Yet the role of transport in these 'chains' or 'systems'—and thereby in the modern food transitions at large—is scarcely investigated. Like 'Europe', transport infrastructures are generally taken for granted. Food historians tend to focus on junctions in the food chain—agricultural fields, food processing factories, retail shops, and consumption sites such as kitchens and restaurants, neglecting the transport links that connect them. As a result, the (selectively) connecting, territorial element of food chains so important to the research questions of this book is largely overlooked. Only

a few studies relating food transport to nation-building processes suggest the importance of transport for studying integration/fragmentation issues.¹⁶

From a perspective of transnational infrastructure, the relationship between transport, food chains and European integration can be further specified. In this volume, food chains are interpreted as a form of infrastructure. Their development processes, however, may differ substantially from familiar 'first order infrastructures' such as railway, road, electric power, or telecom systems. Instead food chains can be interpreted as 'second order' infrastructure, built on top of first order ones by a new set of actors outside the familiar network industries – in this case related to the food sector.¹⁷ These actors *mobilized and used* road, rail and waterway infrastructure to hook up food sector nodes (farms, fields, factories, warehouses, shops, kitchens) into a new infrastructure functionally dedicated to food supply, that is, food chains. To do so they deployed, as we shall see below, a variety of strategies, including the development of refrigerated wagons, trucks and containers serving as interfaces between transport and food supply infrastructure. Studying food supply as a sectoral or institutional use of transport infrastructure for building food chains brings into view the territorial aspects of food supply and, hopefully, features of European integration and fragmentation.¹⁸ This chapter delves into the choices made in such processes and searches for the 'Europe of perishable foods' that they helped produce.

In so doing, this chapter aims for a transnational history that is more than cross-border studies. Rather, it inquires into connections and fragmentations in European food chain building, whether they run across or within national borders. I therefore use the term 'international' for the cross-border food chains that the UN ECE wished to construct, as opposed to self-reliant 'national' food systems it sought to break open. The term 'transnational' food chains refers to the overall configuration comprising cross-border as well as national food chains. It is in this overall configuration that we may find the relative success or failure of UN ECE efforts, which connections and fragmentations characterized Europe's food supply, and thus what kind of 'Europe' was constituted in the food domain.¹⁹

A vision of 'food Europe'

In February 1948, the UN ECE's Inland Transport Committee decided to set up a Working Party on Transport of Perishable Foodstuffs. The idea was to 'determine whether there are any transport bottlenecks in the way of moving the food available, and if so, develop the necessary arrangements for eliminating those bottlenecks'.²⁰ The Working Party obtained a mandate to 'take any immediate action which might improve or facilitate the transport of perishable foodstuffs'.²¹ Unless international law was involved, it could do so without prior consent of the UN ECE's highest organ, the Commission, an annual assembly of national government representatives. This state of

affairs was typical for UN ECE work. Since its political prestige and financial capacity were severely limited, not least after it had lost the bid for distributing the Marshall funds to a rival organization (the Organization for European Economic Cooperation, 1948), the annual Commission meetings allegedly had degenerated into 'merely another cockpit for waging the cold war'.²² By contrast, at the level of day-to-day activities a spirited and active secretariat headed by executive secretary Gunnar Myrdal, much praised for its data-gathering and processing abilities, worked with a large subsystem of committees and working parties on a range of economic issues, from inland transport and energy infrastructures to agriculture, trade, housing and steel.²³ Now, perishable food was added to the list.

By way of preparation, Myrdal and his secretariat contacted all UN ECE member state governments requesting information on the state of perishable food transport.²⁴ On the basis of the replies, the secretariat drafted a report of the European food situation after the war, identifying bottlenecks demanding immediate attention and proposing a number of measures. The study articulated what perishable foods were, why they were so terribly important for Europe, how this 'Europe' should be conceived, and what role transport played in all this. In short, it presented a vision for building 'Europe' in the domain of perishable foods.

The starting point in this discursive constellation, as noted, was that malnutrition had become endemic in many parts of post-war Europe. During and immediately after the war there had also been quantitative undernourishment in some regions. In Germany, for instance, the wartime daily per capita energy intake of 2,800 kilocalories fell to 1,500 in several periods of 1946/47.²⁵ Qualitative nutritional deficits causing malnutrition, however, were much more widespread. Europe's endemic food problem, the secretariat concluded, was not starvation but malnutrition, 'which eventually slows down the activity of a whole nation'. In short: 'endemic malnutrition ... is the enemy'.²⁶

How to beat this new post-war enemy? Here, the concept of perishable foodstuffs came in as supplier of the missing nutrients, needed 'for the maintenance of human life itself and man's energy requirements for the performance of various functions'.²⁷ Already during the war, new insights in nutritional science had given perishable foods a key role in food rationing. According to Dr J.M. Latsky, a nutrition expert of the United Nations' Food and Agricultural Organization (FAO, 1945), 'it is unfortunate that the most nutritious, and therefore the most expensive, foods should be so highly perishable'.²⁸ In the Secretariat's vision this was translated to 'the foodstuffs most necessary to man are unfortunately those which are normally the most perishable and the most dearest'.²⁹ Thus supplies of fresh milk and cheese, meat, fish and eggs needed to be increased in order to secure protein intakes. Offal (the organs of slaughtered animals), today considered either waste or a delicacy, was also included as a vital protein supplier. An

increase in fresh cream and butter consumption should increase the intake of fats and fat-soluble vitamins. Increasing supplies of vegetables and fresh fruits, finally, were badly needed to improve the intake of mineral salts, water-soluble vitamins (A, B and C), and cellulose.

The problem behind Europe's malnutrition, then, was the reduced intakes of perishable foods during the recent war. According to FAO data, annual per capita meat intakes had only remained relatively stable at 50–60 kilograms (kg) in countries specializing in animal husbandry, such as Ireland and France. In other countries meat intake sharply declined: in the United Kingdom it had dropped from 60 kg in the period 1934–8 to 48 kg in 1947–8. Others fared far worse: Austrians experienced a decline from 54 to 25 kg, Germans from 51 to 12–16 kg (depending on occupation zone), and Italians from 20 to 14 kg. In Eastern Europe, low pre-war meat intakes had further declined: in Bulgaria from 22 to 18 kg, in Hungary from 36 to 23 kg, in Poland from 26 to 17 kg, and in Rumania from 18 to 14 kg. Similar discrepancies and declines were observed for fresh fish, eggs, and dairy products.³⁰

How, then, to increase the availability of perishable foods? In the vision of the UN ECE secretariat, the answer was international co-operation:

The time is now past when nations could, separately and independently, solve the problem of balancing production and consumption. The solution must be based on a rational system of exchanges between countries with a production surplus and those with a deficit. Perishable foodstuffs remain a vital element in these exchanges. In the case of Europe in particular, FAO surveys have shown that improved distribution of the following foodstuffs was essential: fresh fruit and vegetables, meat, fish, eggs, milk and dairy products.³¹

The issues of malnutrition and perishable foods were thus connected to a particular meaning of 'Europe': an interconnected Europe, in which 'nations' collaborated in an international division of labour. As noted above, this conception of Europe was part and parcel of the UN ECE sense of mission. The very (and initially controversial) idea of a 'regional' organization in the 'universal' United Nations framework was that Europe's common history and geographical scattering of resources made treatment as a single development region desirable.³² Once established, the secretariat further added to this mission statement by stressing that binding Europe's nations together in economic co-operation and interdependency would not only secure common prosperity, but also prevent future rivalry and war.³³ When the ECE was evaluated and made permanent in 1951, the UN General Assembly accepted the ECE argument that all-European economic co-operation was essential to economic growth as well as world peace.

For the case of perishable foods, the secretariat suggested – without documentation – that large-scale intra-European trade had once existed. However, already in the 1930s this trade had allegedly been greatly reduced due to the Great Depression and associated protectionist policies. The Second World War, poor harvests in 1946 (Eastern Europe) and 1947 (Western Europe), and post-war protectionist trade policies further caused record low levels of trade in perishable foods in 1947 (see Table 5.1). In order of volume, fruits, meat, vegetables, fish, dairy products and eggs were the most dominant perishables traded. However, in the eighteen countries for which data were available, total exchanges had fallen significantly – from an annual nine million tons in the pre-war period to under seven million tons in 1947. Trade in vegetables had recovered by then, and trade in fish had slightly inclined. Yet trade in eggs and dairy products had collapsed, while trade in fruits, and to a lesser degree meat, had been reduced significantly.³⁴ 'Europe', it seemed, was increasingly becoming a Europe of autonomous states rather than an interdependent region. In the UN ECE vision, this certainly did not help in beating Europe's malnutrition enemy.

Finally, this vision for 'feeding the peoples of Europe' connected the previous concepts of malnutrition, perishable foods, and an integrated pan-Europe to the issue of cross-border transport and transit. If perishable food intakes were to be increased, increasing food production and dietary awareness of consumers were important, but transport infrastructure

Table 5.1 Annual imports/exports of perishable foods in eighteen European countries* for which data were available in 1947

Most traded perishable foods	1934–8		1947	
	Exports × 1,000 tons	Imports × 1,000 tons	Exports × 1,000 tons	Imports × 1,000 tons
Fruits	628	2,940	510	1,763
Meat	327	1,255	98	1,125
Vegetables	573	611	588	637
Fish	433	397	458	538
Butter and cheese	410	718	133	493
Eggs	204	257	55	112
All perishable foods:**	2,737	6,517	1,951	4,969

* Belgium, Czechoslovakia, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Sweden, Switzerland, United Kingdom.

** Adding poultry, milk, beer, fruit juices, yeast, and flowers and bulbs.

Source: ECE, Survey, chapter III, p. 2. (Compare figures for individual countries in ECE Secretariat, 'Survey on transport of perishable foodstuffs', annex 3.)

constituted the major bottleneck to international trade. Here, the problem was twofold.

First, common European standards for product quality and quality control were badly needed, for 'the conveyance of perishable foodstuffs by international transport cannot yield satisfactory results unless the foodstuffs carried are of good quality and are suitably selected and packed.'³⁵ Such standards should be developed by experts and preferably be agreed in the legal instrument of International Conventions.³⁶ Second, the challenges to transport itself were speed and good travel conditions. As for speed, little attention was given to building new rails or roads, although it was noted that constructing a Channel Tunnel and other tunnels and bridges would greatly speed up transports and eliminate transshipment. Instead, most problems concerned better use of existing rail and road infrastructure. Rail transport greatly dominated perishable food transports by land, but crossing borders was slow, and international rail tariffs lacking even on some major routes. Road transport by motor lorries was promising because it enabled door-to-door delivery, but was poorly developed (nearly exclusively serving Dutch and Danish exports) and highly irregular. Inland waterway and air transport of perishable foodstuffs was negligible. Intermodal freight transport by containers was promising, but containers were not yet equipped to store perishable foods. Besides, international tariffs for combined transport were lacking almost completely.

As for travel conditions, the most pressing problem perhaps was the 'more or less general inadequacy' of the so-called refrigerator chain.³⁷ The promise of this refrigerator chain was wonderful:

Even the most perishable foodstuffs can be stored in their natural state at production centres, transported over long distances, and warehoused near the consumption centres where they will finally be sold, always providing that all these operations be carried out at a practically uniform low temperature. This need for an unbroken sequence of refrigeration facilities suggested the metaphor of links in one single 'refrigerator chain.'³⁸

The report further compared the situation in 'Europe' with that in the United States, and concluded that Europe fell far behind in building such chains. For instance, European railway companies in fifteen countries for which data was available jointly owned about 16,500 wagons with temperature-controlling facilities: one wagon per 12,000 inhabitants. In the US the ratio was 1 per 1,000 inhabitants, but, since US wagons had three times the payload of European ones, the correct comparative figure was 1 per 330. A further problem highlighted by comparison with the US was that Europe's large export countries, Italy, France and Germany, owned over 80% of the European wagon park, but used wagons mainly for domestic transport. Importing and transit countries hardly owned any rolling stock with

temperature control equipment. The situation in other transport modes was worse, and immediate action necessary.

To complete the circle in this discursive journey, it is noteworthy that the secretariat regarded the transport issue as so pressing that it was inscribed into the very definition of perishable foods, as opposed to foods like wheat or wine that did not pose challenges to transport in European trade. It developed a concise and pragmatic working definition: perishable foodstuffs were 'foodstuffs which, by reason of their fragility or their susceptibility to rapid change when fresh, require special precautions in transport: speed at which conveyed, use of refrigeration, ventilation in transit, etc'.³⁹ By defining perishable foodstuffs as precious foods requiring a specific mode of mobility, the Working Party mobilized the concept for a European cold chain-building programme.

Building the cold chain, 1949–60

The visions described above were relevant not only as a discursive mediation between 'Europe' and 'infrastructure', or as an effort to keep alive and promote the idea of a continentally integrated Europe in severely adverse times.⁴⁰ As Tom Hughes has argued, the intellectual effort of critical problem articulation also serves to suggest solutions inviting specific actions crucial to overall system development.⁴¹ When the Working Party first convened in June 1949, it adopted not only the secretariat's sense of urgency and mission, but also its identification of bottlenecks to the 'feeding of the peoples of Europe' in the realm of international transport.⁴² In response, the Working Party developed an impressive array of actions to address these problems. This section explores the *variety* of actions taken to remove 'bottlenecks' in order to mobilize transport infrastructures for international perishable food distribution.

Notably, the Working Party was not alone in this effort. Rather, it was a self-appointed spider in a rapidly growing web of actors formed around the theme of international perishable food supply. Next to national delegates and experts, the Working Party associated a host of international organizations adding specific expertise and competences to the task at hand, as we shall see below. One of its key activities, therefore, was social network-building. Among these collaborations, the United Nations global food agency – the Food and Agricultural Organization – deserves particular mention. The FAO already worked on European fisheries trade and transport problems in 1947.⁴³ But, when the UN ECE Working Party was established, a division of labour was agreed: the UN ECE would be responsible for food transport issues, while the FAO would focus on food production and consumption issues. This latter work would, for instance, include setting global nutrition standards (with the World Health Organization and UNESCO), and lobbying with member governments for the establishment

of national food authorities to further promote these standards on national and local levels. While this crucial strategy to increasing perishable food intakes awaits further research, this section examines initiatives concerning perishable food transport infrastructure only.

Socio-technical system-building: A wide range of activities

The Working Party started by emphasizing two factors pivotal to trade in perishable foods over which it had virtually no influence: national production and trade policies. Then it focused upon what it could do in the international arena. In the resulting list of activities we find an insight into the transdisciplinary nature of refrigerated food system-building.⁴⁴ For instance, the 1951 work programme contained thirty-three items.⁴⁵ From the point of view of mobilizing transport systems for international circulation of perishables, we may group these problem-solving activities into four major categories.

A first set of tasks centred on designing appropriate transport vehicles for perishable foodstuffs; we might call these 'gateways' between existing transport systems and emerging perishable food distribution systems. Thus the International Railway Union and the International Institute of Refrigeration were asked to design insulated, refrigerated and mechanically refrigerated railway wagons as well as so-called 'fruit and vegetable wagons' (requiring, for instance, shock absorption and ventilation). Already by 1950 this work had resulted in specifications for insulated and refrigerated wagons of SS-class, that is, allowing speeds of up to 120 km/h. Next to complete wagon designs, these organizations researched specific elements such as inside wagon walls (of stainless steel or aluminium alloys to withstand frequent chemical cleaning after fish or fruit transport); shock-absorbing devices; ways of securing loads on wagons; standards for air-tightness of vehicles; sealable passages in wagons allowing insertion of a thermometer from the outside; and so on. Similar work went on for lorries and for containers, now involving the International Road Transport Union, the European Union of Coachbuilders, and the International Container Bureau. Next to such technical research, these actors worked on auxiliary infrastructures such as icing and re-icing facilities. For ice-cooled transport, an entire infrastructure of ice factories, ice bunkers, and re-icing stations along transport routes was needed. This infrastructure needed to be mapped and possibly reorganized; for instance, re-icing stations should preferably be placed at compulsory stopping points such as customs, frontiers, and locomotive changing points.

A second realm of activity was not concerned with gateway designs, but with organizational and legal measures to speed up the flows of perishables. By the early 1950s they had identified major asymmetries in European perishable transport. For example, in 1951 the journey Hamburg–Prague took 2 days, while Rotterdam–Prague, a shorter distance, allegedly took 6 to 8 days.⁴⁶ In response, the Working Party worked with the International

Freight Train Time Table Conference to attempt to rebalance transport by further reducing transport times for perishable transports. It also tried to persuade the International Rail Transport Committee (CIT), an association of national railway administrations working on international legal issues, to decrease the maximum time limits allowed for perishable transports. Furthermore, the International Chamber of Commerce should design international transport documents, while national governments were requested to support special fares for perishable transit traffic.

Much work was done to reduce delays at frontiers, many of which were inscribed in international law. Sometimes the Working Party secured the interests of perishable foods in legal work done by other UN ECE bodies. Most of its recommendations on railway traffic were implemented in an *International Convention to Facilitate the Crossing of Frontiers for Goods carried by Rail* (1952), arranging for customs clearance in the interior of states instead of at borders; simplified procedures for clearance of goods in transit; recognition of the national seals of other states; placing customs offices of neighbouring countries at the same location so that control could be exercised simultaneously; and harmonizing customs opening hours. Also, perishable goods transit traffic should be given priority at border crossings. Maximum delay times were not specified, but referred to bilateral agreement.⁴⁷ For road transport, the draft *Customs Convention on the International Transport of Goods by Road* (June 1949) addressed similar issues. It introduced the so-called TIR (*Transports Internationaux Routieres*) carnet, which deserves special mention: cargos were sealed and only checked at the country of origin and destination, not in transit countries. The 1949 draft convention was later succeeded by the *TIR convention* (1959, revised 1975), which still today counts as one of the UN ECE's most important contributions to international freight traffic. In 1952 just over 3,000 TIR Carnets were issued for individual transports; the number increased to 100,000 in 1960, 800,000 in 1970, and 2.7 million (representing 34,000 companies) in 2001.⁴⁸ Finally, for intermodal transport a *Customs Convention on Containers* (1956) was negotiated.

A third set of actions was to develop European standards for perishables and their transportation, which again were inscribed in international law. These included quality standards for perishable foods prior to transport, which greatly affected their preservation *en route*. As such standards primarily involved producers and exporters, the Working Party sought co-operation with the UN ECE Committee on Agricultural Problems, where these groups were represented. This Committee set up its own Working Party on standardization of perishable foodstuffs in intra-European trade.⁴⁹ By 1958 general provisions for all fruit and vegetables were defined in a Protocol (a less heavy legal instrument than a Convention, but still legally binding) accepted by most countries. By the mid-1960s recommendations were issued for standards in size, colour and classification of twenty individual perishables. From the early 1960s these standards were called 'European standards'.⁵⁰

In addition, the Working Party on Transport of Perishable Foodstuffs negotiated standards concerning transport conditions. The International Chamber of Commerce, national governments, rail, road, aviation, and containers transport organizations, and the International Standards Organization helped to produce standards for packaging fresh fruits and vegetables, eggs in shell, and other produce in draft recommendations available by the early 1950s. Packaging in international transport should henceforward be new; non-returnable; parallelepiped in shape (no baskets etc); tested for sturdiness, load stability and ventilation; provided with devices for interlocking; designed for use with or without lids; conforming to standard dimensions; and marked by an official control stamp. For instance, saw-wood fruit boxes could be of five sizes with specified weights.⁵¹ Work on transport standards also included handling operations; the mechanization of handling operations, reducing damage to perishables, involved standardized pallets, fork lift trucks and cleaning procedures.

Much work, finally, went into defining standards on the meaning and testing of perishable foods transport itself, including standards for terms such as 'insulated', 'refrigerated', 'mechanically refrigerated' and 'heated', and procedures for their verification. As we shall see below, negotiations were difficult. Such standards were first proposed in an annex on perishables to the *General Agreement on Economic Regulations for Road Transport* (1954) and an *Agreement on Special Equipment for the Transport of Perishable Foodstuffs and on the Use of such Equipment for the International Transport of some of those Foodstuffs* (1962). Both were used by a limited number of countries only. The breakthrough was the *Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage* (ATP, 1970). This is the best-known product of the Working Party today. It currently has forty-two member states and specifies classes of refrigeration equipment, testing procedures and maximum transport temperatures for a range of foods. Thus frozen fish was to be transported at max -18°C , frozen butter at -10°C , non-frozen poultry at $+4^{\circ}\text{C}$, and non-frozen fish 'must always be carried in melting ice'.⁵²

A fourth problem area that needed to be addressed, finally, concerned the actual construction and operation of cooling chains once wagon designs, customs procedures, quality standards and so on were in place. The 1949 Secretariat report had suggested a solution: new international rail and road organizations could plan, build and operate cold chains, taking the idea out of laboratories and meeting rooms and into practice. The wish for a railway company dedicated to temperature-controlled transport was immediately served. At the first Working Party session in 1949, the Belgian and French representatives proudly reported that the International Railway Company for Refrigerated Transport had been created. *Interfrigo* began as a body studying refrigerated transport problems, but was currently drafting statutes for commercial operation. The company would create a European park

of refrigerated rolling stock; importing countries would share in its costs. Membership was open to all European railway administrations (see below).⁵³ In 1993 *Interfrigo* merged with *Intercontainer* (1967) into *Intercontainer-Interfrigo* (ICF). *Interfrigo* did not have a monopoly, though; it was one of a number of companies providing refrigerated services.

Regarding road transport, the Working Party pushed for a similar initiative. At its ninth session in July 1952, the International Road Transport Union IRU was officially asked to establish an international body to assist the development of intra-European road transport facilities for perishable foods. Rather than an official international body, it should be an association strengthening the international bonds between road transport enterprises.⁵⁴ *Transfrigoroute Europe* was formally founded in 1955 as an association of the most prominent refrigerated road carriers of nine countries. It was headquartered in Basel (later Bern), Switzerland, and IRU president (and refrigerated transport entrepreneur) Paul Schweizer became its first president. *Transfrigoroute Europe* members had to comply with formal refrigerated transport standards; in return they obtained the *Transfrigoroute* identity card and carried the *Transfrigoroute* sign, which should give them priority at borders and other privileges.

Already by the late 1950s, *Transfrigoroute* adverts claimed that it had 'created the unbroken cooling chain on roads'.⁵⁵ Its 'rolling refrigerators' allegedly allowed door-to-door transport of perishables, from ships to cold storage, ship to importer, cold storage to ship, or producer to consumer (Figure 5.1). By 1976 it had 1,175 valid ID cards registered. Renamed *Transfrigoroute International* in 1982, it presently serves the interests of the temperature-controlled road sector divided into twenty-five national member associations in Europe and North Africa. In 2005 it claimed to associate about 1,700 firms and organizations, covering some 80% of the perishable food road transport market.⁵⁶

Whose 'food Europe'?

By 1960, then, international cold chains seemed well under way. We saw that this effort was achieved by many actors in perpetual co-operation and negotiation on a number of issues. However, such negotiation might also involve disagreement, even conflict, and refusal to cooperate. It is in the contested features of food transport system-building that we may find important clues as to which 'Europe' was under construction in the domain of perishable food chains.⁵⁷ In search of territorially selective aspects of food chains, I shall focus here on the participation or absence of states in this impressive international collaboration. Such inclusion or exclusion can be found on several levels.

First, as noted above, the UN ECE's overall sense of mission stipulated that 'Europe' should be as inclusive a category as possible.⁵⁸ In the context of the early Cold War this translated into a focus on East-West cooperation and



Figure 5.1 Transfrigoroute lorries in the late 1950s

Transfrigoroute lorries identified by the Transfrigoroute logo. They served (inter)national routes connecting major harbours and consumption centres (Stockholm–Helsingborg in Sweden, Marseille–Lyon–Paris in France, Barcelona–Madrid–Gerona in Spain and Amsterdam, the Netherlands–Düsseldorf, Germany–Frankfurt–Munich–Vienna, Austria).

Source: *Transfrigoroute Brochure*.

perpetual attempts to involve (Central) Eastern European states and Soviet republics as formal ECE members. The imbalances the Working Party noted above between Western ports and Prague were thus not grabbed from thin air. Also, non-UN countries (Albania, Austria, Bulgaria, Finland, Hungary, Ireland, Italy, Portugal and Roumania until 1955; Switzerland until 2002), which could not be *de jure* included in the Commission, were invited to participate informally in the committees and working parties from the start.⁵⁹

These attempts at East–West co-operation encountered problems, especially in the early years. Although the UN ECE had been founded by eighteen states, notably including such Soviet republics as the Byelorussian and Ukrainian SSRs, escalating Cold War tensions caused a massive walk-out of (Central) Eastern European members. Until these tensions eased in 1953/4,

the organization was predominantly a 'Western' one – save for Poland's participation in the Coal Committee. From 1953 many Eastern European delegates returned, and the Soviet Union started to participate in all UN ECE committees. Even East Germany, which was not recognized by most Western countries and was barred from international organizations, participated in practical work from 1953 (it only gained *de jure* membership in 1973). Finally, the UN ECE seems to have respected the 1946 UN embargo against the last remaining 'Axis power', General Franco's Spain, until 1955.

Second, this push for all-European co-operation did not necessarily materialize in the concrete work on perishable foods. When the Working Party gathered for its first session, it associated representatives of fourteen governments under the chairmanship of Italian F. Martin and O. Schoenewald from Italy and the Netherlands, respectively: two countries with major export interests in perishables. In the following decade, national representation was clearly skewed towards North-Western and Central Europe (including Austria, Belgium, Denmark, France, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and Western Germany from 1950). The United States were also present.⁶⁰ By contrast, Southern Europe was poorly represented throughout the 1950s. Italy was the exception, taking a leading role throughout the period under investigation. Spain only joined in 1956, after the UN boycott had been lifted. Portugal and Albania remained absent, and Greece and Yugoslavia participated only once or twice. As for what was increasingly called Eastern Europe, only Czechoslovakia, Hungary and Poland participated at the first session, but by its third session in June 1950 no Eastern country participated. The Working Party, too, had become a 'Western' body. When the Cold War tensions eased, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, the USSR and the Eastern zone of Germany became regular guests. By then, participation suggested more East–West co-operation than North–South co-operation.

A third level of inclusion and exclusion is visible in reviewing which countries adopted the results of Working Party efforts, most notably the international treaties discussed above.⁶¹ Regarding border crossings, for instance, the *International Convention to Facilitate the Crossing of Frontiers for Goods carried by Rail* (1952) with special provisions for perishable foods was signed only by the Benelux countries, France, Italy, Norway, Sweden and Switzerland. While Austria, Spain and Portugal followed within a decade, Eastern and South-Eastern European states were absent and remain so today (though Albania joined in 2004). The corresponding Convention for containers (1956), signed when Cold War tensions had eased, added to the previous list Germany and the UK, but also Hungary and Poland among its original signers. (Former) Soviet republics never joined, though. For road traffic, the *TIR convention* (1959) was originally signed by nine usual suspects (Austria, the Benelux countries, West Germany, France, Italy, Switzerland and the UK), but within two years Southern (Greece, Spain and soon Portugal) and

Eastern European (Bulgaria, Czechoslovakia, Hungary, Poland and soon Rumania) participation was achieved. Turkey soon joined, but the USSR followed only in 1974 and exempted a few articles of the Convention, such as the passage allowing states to extend the provisions to their colonies (the USSR categorically condemned colonialism). By then over thirty countries had joined, including Canada, Iran, Israel, Japan and Jordan.

As in the Working Party representation, one may discern in these treaties a group of front-runners constituted by Northern, Western and Central European states and Italy. Southern and (Central) Eastern European states joined incidentally, mostly later, and often not at all. This pattern was repeated in the difficult treaty negotiations on standards for refrigerated transports. Most governments of Working Party members refused to sign the *General Agreement on Economic Regulations for Road Transport* (1954) annex C.1 on perishable food transports, which as a result never formally entered into force.⁶² After much debate the annex was signed only by Belgium, France, Luxembourg and the Netherlands, which desired to move ahead as quickly as possible. This schism continued when the Working Party tried to negotiate a new treaty valid for all transport forms, but proved unable to agree. Some members then proposed to weaken the standards of the 1954 annex, but here the front-runners protested because, in the words of the French delegates, this would entail a step backward rather than forward.⁶³ The story continued eight years later when the follow-up treaty *Agreement on Special Equipment for the Transport of Perishable Foodstuffs...* (1962) was soon signed by five usual suspects plus Bulgaria, Poland and Spain. However, it never entered into force since it was never ratified by at least five countries, as specified in the conditions. Finally, the successful *ATP Agreement* (1970) was rapidly accepted by seven usual suspects plus Portugal and the USSR. Although the number of contracting parties rose to forty-two today, except for Bulgaria (1978), Eastern European countries acceded with some delay.⁶⁴ Fourth and finally, the cooling chains as organized in practice by rail company *Interfrigo* and road carrier association *Transfrigoroute Europe* also show clear geographical selectiveness. Pending further research into these organizations, a few observations can already be made here.

The establishment of *Interfrigo*, as noted above, was proudly announced at the first Working Party session in 1949. Founding *Interfrigo* members were the railway administrations of the front-runner countries Belgium, France, Italy, the Netherlands, Switzerland and the United Kingdom. Membership was supposedly open to all European railway administrations, but most did not join. The opposition was articulated in reply to the Swiss delegate suggesting explicit Working Party approval of this initiative: a private company should not receive a near-monopoly position. For the US representative, Working Party support of *Interfrigo* would imply 'a recommendation that the virtual monopoly control of refrigerated transport in Europe should be invested in what was apparently a

private concern'.⁶⁵ Supporters of *Interfrigo* replied that the company was a 'quasi inter-governmental' body since the majority of members was state-owned, but to the US representative 'to regard such undertaking as an intergovernmental body was stretching the definition rather far'.⁶⁶ The Czechoslovakian and Polish representatives supported this critical stance. The Polish delegate went even further and articulated an Eastern European standpoint disapproving of the idea of an international company in the first place, instead placing the responsibility for building and controlling cold chains with national governments. The deadlock persisted and the Working Party decided not to mention *Interfrigo* explicitly in its session reports. The company was deliberately ignored until the mid-1950s, when it was finally acknowledged as an important ally in the construction of cross-border food chains. It remained a Western body, though.

Transfrigoroute Europe, too, started out as a Western European gathering. Its founding members were road carriers from Austria, Belgium, West Germany, France, the Netherlands, Spain and Switzerland. Almost immediately Italian, Danish and Swedish members joined. This geographical focus was reproduced in the envisioned *Transfrigoroute* distribution (compare Figure 5.1). It also showed in its lobby activities, for instance when requesting priority treatment at selected custom offices: a 1956 list focused entirely on border crossings in the West.⁶⁷

The case of *Transfrigoroute* also reveals another type of friction, namely between international food chains and national authorities, which were frequently mentioned as obstructive and unco-operative. One concern was the slow procedure for obtaining national transport permits, which allegedly 'jeopardized' the objectives of the association.⁶⁸ Another obstacle was the new ban on Sunday and holiday travel introduced in Germany in 1956, followed by Austria, some Swiss cantons, and others, which also 'constituted a serious threat to the European refrigerator chain'.⁶⁹ Persistent complaints and lobbying, however, soon exempted perishables from these bans. A third source of complaint was delays at customs offices. Thus, fresh strawberry and vegetable traffic from Brittany (France) to the Netherlands 'at present time usually takes three days...as carriers are too often compelled to wait at the French, Belgian and Netherlands frontiers until the customs offices open. But this journey should, on the face of it, take less than 48 hours'.⁷⁰ Myrdal and the UN ECE secretariat contacted national governments to discuss such problems and some of these were solved, but in the perception of road carriers tensions between international transport and national authority persisted.⁷¹

'Food Europe' around 1960

As noted earlier, this chapter aims for a transnational history of European food supply that looks at connections as well as fragmentations running

across, along or within national borders. One advantage of studying 'food Europe' through the eyes of the UN ECE is that it provides a research focus upon this privileged observer's identification of bottlenecks, initiation of solutions, witnessing of negotiations and fragmentations, and also monitoring the entire process on an aggregate level. Such monitoring included collection and interpretation of food production and trade statistics, in close co-operation with the UN Food and Agriculture Organization. The UN ECE secretariat's agriculture division published its first analysis of this kind in 1962, focusing upon nine important foods representing over two-thirds of Europe's trade in so-called temperate agricultural products, meaning foods that were (also) produced in Europe.⁷² These foods, the report suggested, could in theory form the basis of an integrated European food system: wheat, barley, maize, sugar, meat, butter, cheese, eggs and fresh fruit. Thus, thirteen years after the 1949 report calling for international perishable foods infrastructures to build a European food economy, the secretariat now presented data evaluating the circulation of the most important starchy staples and perishable foods, except, unfortunately, fish and vegetables. What kind of 'food Europe' did these figures show?

For the secretariat, they must have caused mixed feelings. On one hand, the domestic production of perishable foods as well as grains had greatly increased, implying rapid reduction of malnutrition and undernutrition (Table 5.2). As for wheat, by far the most important food in terms of weight, production had increased from about 91 million tons in the early 1950s to 125 million tons by 1960. Egg production rose from 3 to 5.7 million tons, butter production from 2 to 3 million tons, and the value of meat production (in Western Europe only) from under 8 to over 11 billion US dollars. The malnutrition enemy was being beaten.

On the other hand, in spite of the existence and continued growth of integrated transport networks for food supply, an integrated European food system clearly had not emerged. 'Agricultural products have become the

Table 5.2 Production of selected foods 1951–60 in 1,000 metric tons (millions of US dollars in the case of meat)

	Wheat		Meat		Eggs		Butter		Cheese	
	1951–3	1960	1951–3	1957–9	1951–3	1960	1951–3	1960	1951	1960
Western Europe	39,448	48,211	7,835	11,141	2,427	3,364	1,355	1,760	1,444	2,009
Eastern Europe and USSR	51,798	76,566	–	–	1,622*	2,326	876 [†]	1,293	–	–

Source: ECE, *Ten years of agricultural trade in Europe*, tables I-8, IV-7, VII-6, V-7 and VI-5.

Table 5.3 National self-sufficiency for selected foods: domestic production as % of available supply (production + net imports) in weight% (value% in the case of meat)

	Wheat (%)		Meat (%)		Eggs (%)		Butter (%)		Cheese (%)	
	1951-3	1960	1951-3	1957-9	1951-3	1960	1951-3	1960	1951	1960
Belgium-Lux	44	70	99	98	100	114	80	107	32	37
France	102	114	100	100	98	98	95	102	102	104
West Germany	58	80	95	89	74	61	96	95	85	77
Italy	85	96	94	87	95	81	83	71	100	96
Netherlands	25	36	151	161	237	226	288	166	213	216
EEC total	80	94	100	97	97	91	99	100	101	99
Austria	53	77	99	102	93	86	98	115	98	110
Denmark	88	71	267	321	350	259	485	342	277	301
Finland	47	72	100	101	100	127	98	138	181	221
Ireland	53	78	275	300	131	101	91	113	125	116
Norway	10	7	100	99	106	105	124	145	105	134
Sweden	90	103	98	101	111	111	121	116	100	93
Switzerland	42	46	91	86	70	56	82	99	145	154
United Kingdom	34	39	55	60	82	95	6	9	29	46
Other NW Europe total	42	50	86	89	99	103	76	70	81	99

Continued

Table 5.3 Continued

	Wheat (%)		Meat (%)		Eggs (%)		Butter (%)		Cheese (%)	
	1951-3	1960	1951-3	1957-9	1951-3	1960	1951-3	1960	1951	1960
Greece	74	97	84	86	95	99	98	98	94	100
Portugal	81	80	100	99	100	100	114	115	106	107
Spain	94	98	97	96	98	99	82	85	100	98
Turkey	105	99	101	100	120	102	100	101	-	-
Yugoslavia	81	100	105	111	100	115	88	100	101	101
Southern Europe total	94	98	100	101	101	103	97	101	99	100
Western Europe TOTAL	76	86	96	95	98	96	90	88	95	99
Bulgaria	102	96	-	-	164*	158	100*	130	-	112
Czechoslovakia	68	51	-	-	97*	102	80*	80	-	101
East Germany	80	49	-	-	91*	98	81*	80	67*	65
Hungary	110	86	-	-	113*	106	147*	129	-	146
Poland	93	58	-	-	110*	123	102*	120	100*	-
Rumania	103	98	-	-	100*	105	98*	108	-	-
Eastern Europe USSR	93	71	-	-	105*	112	91*	95	-	-
	103*	110	-	-	99*	100	103*	104	-	-

* 1954-6 (data lacking for 1951-3).

Numbers over 100% signify net exports.

Source: ECE, *Ten years of agricultural trade in Europe*, tables I-8, IV-7, VII-6, V-7 and VI-5. Regional groupings adopted from the original.

problem child of international trade,' read the opening sentence of the 1962 report.⁷³ Indeed, production and trade figures first of all revealed that 'food Europe' to a large degree was a 'Europe of individual states' which were overwhelmingly self-sufficient in terms of foods (Table 5.3).

With few notable exceptions, the majority of countries were approaching self-sufficiency by 1951; that is, domestic production largely made up total domestic supply (production + net imports). By 1960 the degree of self-sufficiency had often increased rather than decreased; there was little evidence of an emerging system of international specialization and trade replacing the primary organization of food supply within individual countries. By 1960, domestic production of individual countries in Western Europe made up 86% of their total wheat supplies, 95% of meat supplies, 96% of egg supplies, 88% of butter supplies and 99% of cheese supplies. For countries in Eastern Europe the corresponding figures were 71% for wheat, 112% for eggs (figures over 100% denote a modest net export) and 95% for butter; for the Soviet Union 110%, 10% and 104% respectively. Although individual export-oriented countries (e.g. Denmark and the Netherlands) or import-dependent ones (notably the UK) might deviate significantly from the pattern, the main conclusion is that Europe's post-war malnutrition enemy was beaten primarily by national food supply systems rather than by international ones.

The 1962 report was quite explicit about explanations for this strong national dimension in European food supply. Unlike in the 1949 report, transport and quality control issues no longer figured as prominent bottlenecks to international specialization and co-operation. Neither did world market prices, company behaviour, or food production problems – after all, food *had* become abundant in Europe. In the final analysis, the explanation was of a political nature. In all countries in Europe, as the secretariat and the Working Party had already feared back in 1949, national governments had heavily intervened in the agricultural sector. Their agricultural policies were committed to supporting domestic farming sectors by means of financial, technical and educational support, and the creation and protection of domestic food markets. Thus, while international food transports did increase vastly in absolute terms (see below), they were outgrown by even faster increasing food production and distribution within national boundaries.

As for trade that did occur, this massive state interference allegedly made the agricultural sector the most regulated in world trade. Indeed, the 1962 report characterized European trading countries by either 'more or less regulated and protected trade in agricultural products' or by 'outright state trading', categories roughly corresponding to West and East of the Iron Curtain.⁷⁴ In the West, national governments supported their domestic agriculture by means of import barriers and export subsidies. In the East, world market prices played an even smaller role as national governments centrally planned

their foreign trade (volume, distribution and composition). Nevertheless, the report observed, the absolute volume of trade was expanding, probably even faster than the rise of incomes. The volume of Western European agricultural imports increased by 50% between 1951 and 1960; in Eastern Europe it also grew rapidly, though exact figures were missing.⁷⁵

Who, then, traded with whom? In terms of mesoregional groupings, the report first of all addressed the East–West cleavage, and its conclusions were rather negative. Indeed, one may discern a ‘Cold War Europe’ in food trade (Table 5.4). In the late 1950s the OEEC countries (a category then overlapping with some 90% of the category ‘Western Europe’) acquired some 27 value% of its imports from the OEEC area, a mere 3% from Eastern Europe, and no less than 70% from outside Europe. The report lacked comparable data for Eastern Europe, but estimated that most agricultural trade took place within that region, followed by trade with the rest of the world and, finally, Western Europe. East–West trade, then, was marginal. The pattern, of course, did not fit all countries and commodities; for instance, 82% of Poland’s meat exports, 77% of its butter exports and 94% of its egg exports went to Western Europe.⁷⁶

Three more conclusions were drawn from the table. First, intra-regional trade in both Eastern and Western Europe was substantial for all perishables. In Eastern Europe, this was also the case for wheat. Second, especially for Western Europe, imports from the ‘rest of the world’ were substantial. Wheat, predominantly imported from the United States and Canada,

Table 5.4 Imports in Western and Eastern Europe by origin 1957–60

	Western European imports from (dollar%)			Eastern European imports from (weight%)		
	Western Europe	Eastern Europe	Rest of the world	Western Europe	Eastern Europe	Rest of the world
Wheat	10.4	8.3	81.3	0.8	82.1	17.1
Meat	51.8	8.2	40.0			
Butter	44.7	3.7	51.6	17.3	75.0	7.7
Cheese	67.2	0.6	32.2			
Eggs	71.1	11.9	17.0	5.8	36.6	57.6
Fruits	43.2	0.8	56.0			
All agricultural products*	28.7*	2.3*	70.5*			

* Figures for the OEEC area, then comprising over 90% of the category ‘Western Europe’.

Source: ECE, *Ten years*, tables 3, 4 and 5.

dominated the aggregate figure. As for perishables, the significance of overseas trade fluctuated. The figure for meat imports, for instance, is misleading because it was largely made up by British imports (some 70–80% of this figure); much meat (particularly Irish, Danish, Yugoslavian, Austrian and French) was traded within the region. Fruits, by contrast, were predominantly imported from overseas. The most traded commodity, citrus fruits, arrived from North and South Africa, Latin America, Israel and the US, in addition to regional suppliers such as Spain, Italy and Greece. Ninety % of all bananas, the second biggest group, came from overseas (and 10% from Spain's Canary Islands). Transatlantic and post-colonial food relationships, too, heavily characterized the 'food Europe' of 1960.

Third and finally, the 1962 report found the impact on food supply of organizations such as the Council of Mutual Economic Assistance CMEA (1949) and the European Economic Community EEC (1957), forerunner to the European Union (1992), quite limited so far. The 1960s might produce a turning point: the 1962 CMEA congress in Moscow promised a change from bilateral to multilateral co-ordination of food supply in Eastern Europe. In the same year the six EEC members agreed on a Common Agricultural Policy. The UN ECE report, however, was sceptical on both initiatives, and expected a food Europe of relatively autonomous states to endure for some time to come. Either way the EEC certainly was not responsible for beating Europe's malnutrition enemy in the 1950s, though today EU proponents regularly claim the credit for bringing peace and prosperity to the subcontinent.

Conclusion

Conventional wisdom, cited in the introduction to this chapter, holds that the nutritional transition in Europe was brought about by the mobility of food enabled by global transport and communication revolutions. This chapter has shown, however, that mediations between 'food', 'transnational infrastructure' and 'Europe' were much more complicated. We may conclude, especially from the 1962 statistical survey on European agricultural trade, that Europe's post-Second World War malnutrition enemy was beaten not by the new international cold chains constructed in the 1950s, but by national ones – although international food chains certainly gained in prominence later on. By 1960 national cold chains still constituted the gravity points in Europe's transnational cold chains, while linkages between them were relatively weak. We may also conclude that, if international infrastructure did not initially create European diets of variety and abundance, the reverse relationship can be documented: visions of a healthy European diet inspired and helped shape cross-border European food infrastructure, in particular the construction of an international cold chain.

This chapter took a particular organization – the UN ECE – as a privileged research entry. If historiography is about drawing conclusions from

well-defined sources, the present study demonstrated that investigating this organization as a food system-builder brings into view a number of food–infrastructure–Europe mediations on a pan-continental scale. For instance, at the discursive level the UN ECE incessantly promoted the notion of ‘all of Europe’, in this case by posing a pan-continentally integrated food economy as the solution to the endemic malnutrition problem of the late 1940s. According to several UN historians, keeping this broad notion of Europe alive in severely adverse times of nationalism and Cold War tensions, when ‘Europe’ was increasingly equated with states in Western Europe, may have been a major contribution to the course of contemporary European history.⁷⁷ Furthermore, at a practical level this research strategy made visible how an array of international organizations collaborated on international cold chains. The role of international organizations in food supply has regularly been criticized for overlap and redundancy, poor exploitation of complementarities, bureaucracy, and lack of power and impact.⁷⁸ Yet it was precisely the overlapping effort of multiple organizations that produced the context in which international cold chain-building was possible, rather than a single strong organization such as the EEC. Third, this research strategy provided at least some insights into the negotiated and uneven character of this system-building effort. As a weak yet centrally positioned agency, the UN ECE monitored and articulated who was in and who was out. It observed a group of front-runners, including major food exporting countries from North-Western Europe plus Italy, which stood to gain economically from increased food trade. Southern and Eastern European countries joined later, if at all. Fourth and finally, UN ECE data gathering and analysis allowed us to find ‘Europe’ in food flows by 1960, revealing a transnational configuration of cold chains with gravity points in national food systems, clear Cold War features, and notable impacts of transatlantic and post-colonial relations.

Other features of Europe’s emerging transnational food system were not found in the selected sources. Though a qualified pan-European observer, the UN ECE typically missed those voices not represented in the organization, such as nations without a state (Catalonia or Cold War Slovakia) or social groups with low political representation. A transnational European history of food and infrastructure should certainly be aware of such categories, which merit further investigation. Still, this chapter demonstrated how a research focus on pan-European organizations such as the UN ECE can bring into view a much broader picture of European food infrastructure integration and fragmentation than has hitherto been the case in existing national comparative studies.

Notes

1. Secretariat of the Economic Commission for Europe, ‘Survey on transport of perishable foodstuffs’ (2 May 1949, restricted document E/ECE/TRANS/WP.11/1), annex 2, p. 2. UNECE archives (Geneva), G.IX 13/5/1/7 Box 1338 Index 6567.
2. *Ibid.*, chapter VIII, p. 1 and annex 8.

3. For a vivid articulation see Gunnar Myrdal, 'Twenty years of Economic Commission for Europe', *International Organization* 22(3) (1968): 617–28. For a recent UNECE history and further references see Yves Berthelot and Paul Rayment, 'The ECE: a bridge between east and West', in Yves Berthelot (ed) *Unity and diversity in development ideas. Perspectives from the UN regional commissions* (Bloomington: Indiana University Press 2004), pp. 51–131.
4. See Schipper et al., in this volume
5. For this approach see Erik van der Vleuten, Irene Anastasiadou, Frank Schipper and Vincent Lagendijk, 'Europe's system builders', *Contemporary European history* 16 (2007), pp. 321–47. It builds on Thomas Hughes, *Networks of power. Electrification in Western society 1880–1930* (Baltimore: Johns Hopkins University Press 1983).
6. For example, the *International Commission for Research into European Food History* (1989); see www.vub.ac.be/SGES/ICREFH.html (accessed 25 February 2009).
7. For a masterful narrative see Massimo Montanari, *The culture of food* (Blackwell 1996; Italian orig. 1993), published in Jacques le Goff's *The making of Europe* series.
8. David Grigg, 'The nutritional transition in Western Europe', *Journal of historical geography* 22(1) (1995), pp. 247–61; Grigg, 'The changing geography of world food consumption in the second half of the twentieth century', *The geographical journal* 165 (1999), pp. 1–11; Derek Oddy and Lydia Petrářnová, 'The diffusion of food culture', in Derek Oddy and Lydia Petrářnová (eds) *The diffusion of food culture in Europe from the late 18th century to the present day* (Prague: Academia 2005), pp. 18–28.
9. John Kim, 'Nutrition and the decline of mortality', in Kenneth Kiple and Kriemchild Conée Ornelas (eds) *The Cambridge world history of food*, Vol II (Cambridge: Cambridge University Press 2000), pp. 1381–9; William Muraskin, 'Nutrition and mortality decline: Another view', *Ibid.*, pp. 1389–97.
10. Gretel Pelto and Pertti Pelto, 'Diet and delocalization: Dietary changes since 1750', in Robert Rotberg and Theodore Rabb (eds) *Hunger and history. The impact of changing food production and consumption patterns on society* (Cambridge: Cambridge University Press 1983), pp. 309–30.
11. This comparative agenda was defined in Hans Teuteberg (ed.), *European food history. A research overview* (Leicester: Leicester University Press 1992). It characterizes, for example, John Burnett and Derek Oddy (eds), *The Origins and Development of Food Policies in Europe* (Leicester: Leicester University Press 1994); Adel P. den Hartog (ed.), *Food Technology, Science and Marketing: European Diet in the Twentieth Century* (East Linton: Tuckwell Press 1995); Peter Scholliers (ed.), *Food, drink, and identity. Cooking, eating and drinking in Europe since the middle ages* (Oxford: Berg 2001); Marc Jacobs and Peter Scholliers (eds), *Eating out in Europe. Picnics, gourmet dining and snacks since the late eighteenth century* (Oxford: Berg 2003); Carmen Sarasúa, Peter Scholliers and Leen van Molle (eds), *Land, shops and kitchens. Technology and the food chain in twentieth-century Europe* (Turnhout: Brepols 2005); and Oddy and Petrářnová (eds), *The diffusion of food culture in Europe* (Prague: Academia 2005). Beyond Europe the nation-centred framework of analysis is also dominant, for example Warren Belasco and Philip Scranton (eds), *Food nations. Selling taste in consumer societies* (New York: Routledge 2002).
12. Anneke Van Otterloo, 'Fast food and slow food. The fastening food chain and recurrent countertrends in Europe and the Netherlands (1890–1990)', in Sarasúa et al., *Land, shops and kitchens*, pp. 255–77, takes one single country as a model for 'Europe'. A. Lynn Martin, 'Old people, alcohol and identity in Europe 1300–1700', in Scholliers, *Food, drink and identity*, pp. 119–37, takes three countries. Adel den

- Hartog, 'Technological innovations and eating out as a mass phenomenon in Europe: a preamble', in Jacobs and Scholliers, *Eating out*, pp. 265–80, makes a larger but still exclusively Western European selection.
13. For further discussion and references see Erik van der Vleuten, 'Toward a Transnational History of Technology', *Technology & Culture* 49 (2008), pp. 974–94. See also the introduction to this volume.
 14. Carmen Sarasúa and Peter Scholliers, 'The rise of a food market in European history' in Sarasúa *et al.*, *Land, shops and kitchens*, pp. 13–29; Van Otterloo, 'Fast food'.
 15. The concept is thus much older than often assumed: Roger Thévenot, *A history of refrigeration throughout the world* (Paris: IIR 1979), pp. 105–6.
 16. Explicitly in Erik van der Vleuten, 'In search of the Networked Nation', *European Review of History* 10 (2003), pp. 59–78. Compare Barbara Orland, 'Milky ways. Dairy, landscape and nation building until 1930', in Sarasúa, Scholliers and Van Molle *Land, shops and Kitchens*, pp. 212–54; Shane Hamilton, 'Trucking country: Food politics and the transformation of rural life in postwar America', *Enterprise & Society* 7 (2006), pp. 666–74.
 17. Van der Vleuten, 'In search of the Networked Nation'. Inspired by Ingo Braun, 'Geflügelte Saurier. Zur intersystemische vernetzung grosser technische Netze' in Ingo Braun and Bernward Joerges (eds) *Technik ohne Grenzen* (Frankfurt: Suhrkamp 1994), pp. 446–500.
 18. 'Institutional uses' here refers to the dictionary meaning of formal, real organization structures (as opposed to informal institutions) that structure social order, possess a social purpose and permanence, and transcend the individual level. It adds to a large literature on the uses of technology that predominantly studies individual end-users and their representing organizations. Van der Vleuten, 'In Search of the Networked Nation.'
 19. This form of transnational history is contrasted with other forms (cross-border studies and international organization studies) in Van der Vleuten, 'Towards a transnational history of technology.' Another example from infrastructure history is Van der Vleuten *et al.*, 'Europe's system builders.'
 20. Ezekiel (FAO) to Doré (FAO), 5 February 1948. UNECE archives (Palais des Nations, Geneva), G.IX 13/5/2 box 1337 index 3352.
 21. Inland Transport Committee, 'Transport of perishable foodstuffs. Resolution No. 18' (6 February 1948, restricted document E/ECE/TRANS/64). UNECE archives, G.IX 13/5/1/1 box 1337 index 3323.
 22. David Wightman, 'East-West cooperation and the United Nations Economic Commission for Europe', *International Organization* 11(1) (1957), pp. 1–12, on p. 1.
 23. For a survey see David Wightman, *Economic Co-Operation in Europe. A study of the United Nations Economic Commission for Europe* (London: Stevens & Sons 1956); Jean Siotis, *ECE in the emerging European system* (New York: Carnegie endowment for international peace 1967); ECE, *ECE, The first ten years 1947–1957* (Geneva: United Nations 1957); ECE, *Fifteen years of activity of the Economic Commission for Europe 1947–1962* (New York: United Nations 1964). For a sceptical view see Brian Tew, 'Economic co-operation in Europe', *The economic journal* 67(265) (1957), pp. 110–11.
 24. ECE Secretariat, 'Note on short-term problems raised by the transport of perishable foodstuffs' (20 February 1948), sent as annex to request to governments concerned. The replies were analysed in ECE Secretariat, 'Transport of perishable

- foodstuffs. Note by the Secretariat' (28 April 1948, restricted document E/ECE/Trans/85). UNECE archives, GIX 13/5/1/1 box 1337 index 3323.
25. Food and Agriculture Organization, *European programmes of agricultural reconstruction and development* (Washington: FAO 1948), p. 5.
 26. *Ibid.*, annex 2, p. 2.
 27. ECE Secretariat, 'Survey on transport of perishable foodstuffs', chapter II, p. 1.
 28. J.M. Latsky, 'The nutritional importance of perishable foods', in ECE 'Survey on transport of perishable foodstuffs', Annex 2 B.
 29. ECE Secretariat, 'Survey on transport of perishable foodstuffs', annex 2, p. 1.
 30. *Ibid.*, annex 2A.
 31. *Ibid.*, annex 2, p. 2.
 - AQ2 32. Yves Berthelot, 'Unity and diversity of development: The regional commissions' experience' in Berthelot (ed.) *Unity and diversity in development ideas*, pp. 1–50.
 33. Jean Siotis, 'The secretariat of the United Nations Economic Commission for Europe and European economic integration: the first ten years', *International Organization* 19(2) (1965), pp. 177–202.
 34. Incidentally, trade made up a minor part of supply. For instance, fish trade made up some 20 per cent of fish supply. Calculated on the basis of fishing totals of 4,326 thousand metric tons in Nils Jangaard, 'Preliminary statement by FAO fisheries division regional office for Europe on European fisheries' interests in the inter-European transport question' (March 1948). UNECE archives, GIX/13/5/2 box 1337 index 3352.
 35. ECE Secretariat, 'Survey on transport of perishable foodstuffs', Preface and summary, p. 3.
 36. *Ibid.*, chapters IV and V and annexes 4, 4A, 5 and 5A.
 37. *Ibid.*, Preface and summary, p. 4. For the following see particularly chapter VII.
 38. 'Miscellaneous notes on the refrigerator chain', *ibid.*, annex 7, p. 1.
 39. ECE Secretariat, 'Survey on transport of perishable foodstuffs', chapter I, p. 1.
 40. Historians in the UN Intellectual History Project count producing and propagating such *ideas* among the most important UN contributions to development: for example Louis Emmerij, Richard Jolly and Thomas G. Weiss, 'Economic and social thinking at the UN in historical perspective', *Development and change* 36(2) (2005), pp. 211–35.
 41. Hughes, *Networks of power*.
 42. Working party on the Transport of Perishable Foodstuffs, 'report by the working party on its first session' (11 June 1949. Restricted document E/ECE/Trans/WP.11/3). UNECE archives, G.IX 13/5/2/2 box 1342 index 6688.
 43. Nils Jangaard (FAO), 'Statement on trade and transport of fishery products in Europe' (not dated; early 1948). UNECE archives, G.IX 13/5/2 box 1337 index 3352.
 44. See session reports 1949–60 in Working Party on the Transport of Perishable Foodstuffs, UNECE archives, G.IX 13/5/2/2 box 1342 index 6688.
 45. ECE Secretariat, 'Review of progress made in other studies initiated by the working party or by its sub-groups' (31 May 1950, restricted document TRANS/WP11/14) and 'Review of the Working Party's programme and of the possibility of concentrating the studies at present in progress' (18 April 1951, Restricted document TRANS/WP11/32). UNECE archives, G.IX 13/5/2/2 box 1342 index 6688.
 46. International Chamber of Commerce, *International transport of Perishable Foodstuffs. ICC Brochure no. 149* (Paris: ICC 1951). Thanks to Frank Schipper for providing this document.

47. 'Report by the Working party on its third (special) session' (30 June 1950, restricted document E/ECE/TRANS/225). Ibid., Index 6688. 'Elimination of, or reduction in, delays at frontiers' (5 April 1951; restricted document TRANS/WP11/28), Ibid. Index 6688. *International Convention to Facilitate the Crossing of Frontiers for Goods carried by Rail* (UNECE: Geneva 10 January 1952).
48. UNECE, *TIR Handbook* (New York/Geneva: United Nations 2002). For Conventions and signatory lists see www.unece.org/trans/conventn/legalinst.html (accessed 21 April 2007).
49. For the troubled early history of this committee see Wightman (1956), pp. 144–53. See also ECE, *Fifteen years*, pp. 40–5.
50. ECE, *Fifteen years*, p. 44.
51. For example, 'Recommendations concerning the standardization of packaging for fruits and vegetables grown in Europe...', annex to 'Report by the Working party on its fourth session' (23 May 1951, Restricted document E/ECE/TRANS/278).
52. *Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP)* (New York/Geneva: United Nations 1976); *Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP) as amended on 7 November 2003*. ECE/TRANS/165 (New York/Geneva: United Nations 2003), pp. 73, 81.
53. 'Report of the first meeting', p. 14 ff.
54. 'Report of the Working Party on its seventh session' (2 April 1953, restricted document TRANS/WP11/84), *ibid.* Index 6688, p. 8.
55. *Transfrigoroute Europe* (Brochure, Basel, no date, presumably late 1950s). UNECE archives, G. IX 13/5/2/11 Box 1345 Index 13106.
56. Beatrice Rohen, *50 years of Transfrigoroute International. A retrospective of the early years and the most important developments* (Bern: 2005); *Statutes 29 June 2005*, available on www.transfrigo.com (accessed 25 February 2009).
57. Compare Van der Vleuten *et al.*, 'Europe's system builders.'
58. Myrdal, 'Twenty years', pp. 618–19.
59. For a survey see Erik van der Vleuten, 'Institutional uses of infrastructures: a research strategy for studying European food chains. TIE working document no. 19' (Eindhoven 2007), p. 11 ff. Available at www.tie-project.nl.
60. For the following see the individual session reports in 'Transport of perishable foodstuffs. Working Party: Record of meetings and reports 1949–1960.' UNECE archives, G. IX 13/5/2/2/ box 1342, index 1342.
61. The contracting parties to UNECE legal instruments are listed at <http://www.unece.org/trans/conventn/legalinst.html> (accessed 25 February 2009).
62. *General Agreement on economic regulations for international road transport and set of rules. Protocol relating to the adoption of annex C.1: Transport of perishable foodstuffs* (Geneva, 1 July 1954). The British declined because regulation of road traffic would hamper, not stimulate, this form of transport. 'Comment of her Majesty's Government on the draft annex C.1...' (3 June 1954). UNECE archives, G.IX 13/5/2/12 Index 16031.
- AQ3 63. 'Report of the Working Party on its eight session' (11 March 1954, restricted document TRANS/135). 'Draft report of the working party on its eleventh session' (14 June 1956, restricted document TRANS/WP11/Conf.Room Doc 3).
64. Czechoslovakia 1982; Poland 1983; Hungary 1987; Rumania 1999. *Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP)* (New York/Geneva: United Nations 1976).
65. 'Report of the first meeting', p. 14 ff.

66. Ibid., p. 17.
67. 'Intra-European list of customs offices en route at which TRANSFRIGORROUTE requests priority clearance and frontier checking of special vehicles', annex to ECE, 'Difficulties encountered'.
68. 'Granting of facilities to "Transfrigoroute Europe" vehicles. Note by the Secretariat' (21 November 1956, restricted document W/TRANS/230). UNECE archives, 13/5/2/11 Box 1345 Index 13106.
69. Ibid., p. 3.
70. ECE, 'Difficulties encountered by "Transfrigoroute" vehicles at frontiers. Note by the Secretariat' (28 February 1957, restricted document TRANS/WP30/Conf.Room Doc. 19), p. 2; compare 'Transfrigoroute. Communication from the International Road Transport Union' (14 May 1956, restricted document W/Trans/WP11/65). UNECE archives, index 16031.
71. 'Difficulties encountered at frontiers by road vehicles transporting perishable foodstuffs' (15 October 1957, restricted document W/TRANS/WP30/82). UNECE archives, *ibid.*
72. ECE, *Ten years of agricultural trade in Europe 1951–1960* (United Nations: Geneva 1962). The following data are taken from this report unless otherwise noted.
73. Ibid., p. 4.
74. Ibid., p. 5.
75. Ibid., pp. 15–16.
76. Ibid., p. 13.
77. Berthelot (ed.), *Unity and diversity*; Emmerij et al., 'Economic and social thinking at the UN.'
78. For a discussion see Raymond Hopkins and Donald Puchala, 'Perspectives on the international relations of food', *International Organization* 32(3) (1978), pp. 581–616, on p. 610.