

The background of the page is a close-up photograph of a leaf, showing its intricate vein structure. The leaf is a pale, yellowish-green color. At the bottom of the page, there is a horizontal band of a blue, textured surface that resembles a wave or a piece of fabric, providing a color contrast to the leaf above.

**Feeding the peoples of Europe.  
Transport infrastructures and the building of transnational  
cooling chains in the early Cold War, 1947-1960**

Erik van der Vleuten

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Transnational Infrastructures  
of Europe

# **Feeding the peoples of Europe**

## **Transport infrastructures and the building of transnational cooling chains in the early Cold War, 1947- 1960**

Erik van der Vleuten

PLEASE NOTE: THIS IS THE VERY FIRST DRAFT OF THIS PAPER AND COMPLETED IN SOMEWHAT OF A HURRY. IT NEEDS EXTRA RESEARCH, INTERPRETATION AND STREAMLINING. I APOLOGIZE TO THE READER FOR THE INCONVENIENCE THIS CAUSES, AND HOPE IT GIVES AT LEAST SOME IDEA OF WHERE THIS PROJECT IS GOING- EV

### **I. Introduction**

“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.”<sup>1</sup>

Secretariat of the United Nations Economic Commission for Europe, 1949

This quote points at one of the major problems in Europe after the Second World War: the poor state of food supply. During and immediately after the war there regularly were outright food shortages, mainly due to the collapse of grain production and imports, and many of Europe’s inhabitants had considerable difficulty reaching their daily intakes of 3000 calories. However, such undernutrition is not what the quote is about. Instead it is about malnutrition: by 1949 endemic hunger was about to be over, at least in Europe, but malnutrition persisted. It was caused by overly monotonous

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<sup>1</sup> 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.

diets; in particular, the problem was to increase the intakes of foods providing a wider variety of nutrients. Such foods were at the time often labelled 'perishable foodstuffs', the most important of which were meat, fish, eggs, dairy products, and fruits and vegetables.

The quote does more than suggesting that the lack of such foods constituted 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. It is this junction of food and transport that is the subject central to this paper.

The aim of this inquiry is to contribute to the main TIE research question of how transnational infrastructures entwined with the shaping of contemporary Europe, and, indeed, what kind of 'Europe' was produced in this process. A first and arguably most important step was to write a history of transnational infrastructures themselves, a step that is now beginning to yield results. Beyond the building process of transnational infrastructures, however, the societal meanings of such infrastructures are shaped in – often but not always subsequent - processes of use and cultural appropriation. This paper explores a particular use of transport infrastructures that may claim a substantial role in the shaping of contemporary Europe as the quote above suggests. In short, it is about building 'Europe' in processes of mobilizing and using transport infrastructures for food supply, and perishable foods in particular. Much of this effort was categorized under the building of so-called cooling chains, some of which (the deep freezing chain) had to be built practically from scratch before they could start "feeding the peoples of Europe".<sup>2</sup>

User studies have, of course, boomed in science and technology studies in the last decade, and the argument that users and uses are key determinants of the societal meaning of technical change has gained wide currency.<sup>3</sup> However, existing studies overwhelmingly address local users and uses, typically end-users as 'consumers' or 'women/households', and sometimes factories and towns. They have scarcely looked at society-wide structures built on top of infrastructures, such as food chains, banking infrastructure, or military systems. The purpose of this paper is to spotlight such 'institutional uses' of infrastructures in Europe.

As such, it contributes to a broader inquiry of the relationship between infrastructural change and the shaping of Europe, which I have proposed to call for a critical transactionalism. It is a transactionalism because, in the wake of particular the studies by Karl Deutsch, it inquires how exchanges and transactions between Europe's peoples produce some kind of coherence and some kind of 'European' community or society. It is critical because it does not take the harmonizing, integrating or unifying effect of transnational infrastructures and exchanges for granted. There may be a form of causal

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<sup>2</sup> Ibid., chapter VIII, p. 1 and annex 8.

<sup>3</sup> The study of users giving meaning to infrastructures was pioneered in David Nye, Electrifying America. Social Meanings of a New Technology (Cambridge, Ma.: MIT, 1990) and Claude Fischer, America Calling. A social history of the telephone to 1940 (Berkeley: University of California Press, 1992). A state of the art was represented in Nelly Oudshoorn and Trevor Pinch (eds.), How Users Matter: The Co-Construction of Users and Technology (Cambridge, Ma.: MIT Press, 2003). Still need to read Edgerton, The shock of the old.

relation between infrastructural interconnection and individual thought, or in this case food patterns and habits, as many authors and organizations have asserted over the last two centuries. But such relations involve several moments of interpretation, possible contestation and choice. I distinguish three arena's where such moments of choice can be studied. The first is the design of infrastructures itself, connecting some and passing by others, producing several Europe's of varying intensity – an all-European interconnection, a Europe of meso-regional alliances (e.g. the CMEA and EEC regions), a Europe with gravity points of interconnection at the levels of nation states, urban centres, and corporations.<sup>4</sup> The second arena is the design of society-wide structures for food supply, banking, military force etc on top of such infrastructures (which are sometimes also called 'infrastructures' or, in the specialist literature, second order large technical systems; compare Paul's internetworks). The third is choices made at the local level of end users, for instance by consumers choosing from a wide variety of foods offered in the local supermarket to buy some and not others, prepare and eat them in specific ways, etc.<sup>5</sup>

This paper explores the second arena, examining how food distribution systems were constructed in processes of mobilizing and using transport networks for food flows. The lead question is if any 'food Europe' emerged in at the intersection of transport infrastructure and building food systems, and what this Europe looked like. Before proceeding, however, something must be said about the current situation of European food historiography and strategies to develop a transnational inquiry of the shaping of European food systems.

## **II. Approach: Towards a transnational history of European food systems**

Does the existing 'European food historiography' allow for an interpretation along these lines? Does it offer clues as to the construction of transnational food networks in processes of mobilizing transport and communication infrastructures, perhaps making selective use of these infrastructures, connecting some more than others? Does it allow for an inquiry how 'food Europe' would look?

The main event in European food history is perhaps best addressed in Massimo Montanari masterful long-term view of European food history from the 3<sup>rd</sup> century AD to the present. Montanari observes a radical break or

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<sup>4</sup> For such an inquiry some of the TIE work is combined in Erik van der Vleuten, Irene Anastasiadou, Frank Schipper and Vincent Lagendijk, "Europe's system builders. The contested integration of transnational road, electricity and rail infrastructures", *Contemporary European history*, forthcoming.

<sup>5</sup> This framework is developed in Erik van der Vleuten, "Infrastructures and societal change. A view from the Large Technical Systems field", *Technology Analysis & Strategic Management* 16 (3) (2004), 395-414 and tried for, among others, food supply in the Netherlands in "In search of the Networked Nation. Transforming technology, society and nature in the Netherlands in the 20<sup>th</sup> century", *European Review of History* 10 (2003), 59-78; and "Introduction. Networking technology, networking society, networking nature", *History and Technology* 20 (3) (2004), 195-203. I speak of 'institutional' users and users in the sense of formal, real organization structures (as opposed to informal institutions) that structure social order, are identified by a social purpose and permanence, and transcend the individual level.

‘revolution’ in the last one and a half century.<sup>6</sup> Century-old dreams of the Land of Plenty were actually accomplished: at least in Europe, food became abundant, varied, and cheap. This seems to be one of the most important events in food history and socio-economic history at large. Montanari and others have identified several drivers that jointly produced this transition. Next to productivity gains in agriculture and the marketing efforts of the new food industries, infrastructure is considered crucial: transport and the associated techniques of conservation (cooling & freezing, pasteurisation) than enable long distance transport of foods – enabled an extensive food trade, which loosened the traditional ties between food and territory: failing harvests and seasonal shortages could now be overcome by acquiring foods produced elsewhere. Thanks to transport and trade, food supply had been ‘delocalised.’<sup>7</sup> On the consumption side, industrialization produced rising real incomes and falling real food prices, allowing people to buy more expensive foodstuffs and diversify their diets. This transition, and in particular the role of transport and trade, had some forerunners, for instance in the increased livestock and fish trade from the mid 14th century, but trade remained marginal compared to local production and consumption of foods - and besides, in the following centuries diets for the masses became increasingly monotonous causing widespread malnutrition rather than undernutrition. Foreign foods were always available, but remained a privilege of the wealthy few until the transport revolution.

How, then, was transport involved in this transition, and what was ‘European’ about it?

Concerning the latter issue, it is remarkable that a field called European food historiography has boomed in recent decades, witness a large amount of books featuring food and ‘Europe’ in their titles and the establishment of food history associations such as the *International Commission for Research into European Food History* (1989) (CHECK FRENCH COUNTERPART).<sup>8</sup> What kind of ‘food Europe’ do they portray? This work does a great job assembling food historians from ‘as many countries as possible’ and developing new research themes, carving out a space for the social and human sciences next to nutritional science.<sup>9</sup> However, it has little to say about what Europe is. Like Montanari’s book (published in Jacques le Goff’s *The making of Europe* series), the books consulted for this paper lack any explicit reflection of what Europe is, how it can be interpreted or studied, and how it mattered to food. Their ‘Europe’ is taken as a self-evident category and tacitly equated with the

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<sup>6</sup> Massimo Montanari, *The culture of food* (Blackwell 1996; Italian orig. 1993).

<sup>7</sup> Term derived from Gretel Pelto and Pertti Pelto, ‘Diet and delocalization: Dietary changes since 1750’, in Robert Rotberg and Theodore Rabb ed., *Hunger and history. The impact of changing food production and consumption patterns on society* (Cambridge: Cambridge University Press, 1983), 309-330.

<sup>8</sup> Hans Teuteberg ed., *European food history. A research overview* (Leicester 1992); 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 (ed), *Eating out in Europe. Picnics, gourmet dining and snacks since the late eighteenth century* (Oxford: berg, 2003); Derek Oddy and Lydia Petránová eds., *The diffusion of food culture in Europe from the late 18<sup>th</sup> century to the present day* (Prague: Academia, 2005); Compare the tables of contents of the following volumes on [www.vub.ac.be/SGES/ICREFH.html](http://www.vub.ac.be/SGES/ICREFH.html), consulted 19 March 2007. CHECK OTHER TITLES IN THIS SERIES. See also the tensions of Europe publication 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).

<sup>9</sup> Hans Teuteberg, ‘Preface’, in Teuteberg, *European food history*.

cumulated experience of national food histories, and all volumes cited reflect this by juxtaposing an abundance of national (and sometimes or micro-regional) case studies. Very few of such chapters even mention the word 'Europe', and if so, they tend to abstract a more general development pattern from a severely limited number of countries.<sup>10</sup>

However, a cross-border perspective on 'Europe' is occasionally visible in studies of the diffusion of the 'nutritional transition' or 'modern food culture' of abundance and variety through Europe, which proceeded quite unevenly (as it did globally). Operationalized in terms of raising the calorie intake per capita per day from around 2000 to 3000 and replacing the monotonous diet of starchy staples by variety (meat products, fish, fruit, vegetables, processed foods as sugar and butter), it can be traced as largely following industrialization and urbanization patterns. It is visible first in the mid 19<sup>th</sup> century in Great Britain, Belgium, Northern France and Western Germany, and is observed in late 19<sup>th</sup> century Austria, Bohemia and Moravia, Scandinavia and parts of Russia. Non-industrialized and non-urbanized parts of especially Eastern and Southern Europe lagged significantly and were sparsely affected until the 1930s. Concerning (Central) Eastern European countries, the Cold War build a new barrier to diffusion, and according to a recent review these countries only made the transition from 'traditional' to 'modern' food culture very recently and rapidly in the 1990s. Rising incomes and mechanisms (which we might label 'transnational') as home economics, marketing efforts of the food industry, and railways were responsible for such diffusion patterns.<sup>11</sup>

But a diffusionist account is not a transnational history, and to my knowledge, such a transnational history of European food transition, focusing on circulation of foods across national borders and inquiring *how* national and international food systems became interconnected, is still lacking. This includes *Tensions of Europe* exploratory work on food.<sup>12</sup> Thus, existing scholarship is particular suited to inform for the third arena mentioned above – nationally or locally inspired choices and interpretations by end-users choosing from the available food assortment. It provides few clues as to the second arena, of building the transnational food systems behind this assortment.

A similar conclusion goes for the relationship between food and transport. Food historians often invoke transport infrastructures as a necessary precondition, but how transport infrastructures were used or mobilized and how this process of mobilization affected food distribution systems rarely

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<sup>10</sup> E.g. Van Otterloo, 'fast food' takes 1 country as a model for Europe. A. Lynn Martin, 'Old people, alcohol and identity in Europe 1300-1700' in Scholliers (ed), *Food, drink and identity*, 119-137 takes 3 countries; Adel den Hartog, 'technological innovations and eating out as a mass phenomenon in Europe: a preamble', in Jacobs and Scholliers, *Eating out*, 265-280 makes a larger but still exclusively Western-European selection. NB Non-European food historiography also takes this national approach, e.g. Warren Belasco and Philip Scranton, *Food nations. Selling taste in consumer societies* (New York: Routledge 2002).

<sup>11</sup> Derek Oddy and Lydia Petráňová, 'The diffusion of food culture', in Oddy and Petráňová, *The diffusion*, 18-28; David Grigg, 'The nutritional transition in Western Europe', *Journal of historical geography* 22, 1 (1995) 247-261; idem, 'The changing geography of world food consumption in the second half of the twentieth century', *The geographical journal* 165 (1999) 1-11; For databases on national diets see Susan Church, *The history of European food composition databases. First Eurofir synthesis report* (no place, Eurofir, 2005).

<sup>12</sup> Sarasúa, Scholliers and van Molle., *Land, shops and kitchens*.

merits any actual description and analysis. Transport infrastructures are seen as an external force, an enabling infrastructure that is readily available. A few studies that do address the issue, always on (sub)national scale, e.g. on German milk trains and 'railmilk', and particular Shane Hamilton's work on trucks as 'political technologies' active in the 'privatizing the politics of food' in the U.S., suggests that there is more to be said.<sup>13</sup>

How to overcome this national historiographical bias and address the junction of transnational transport infrastructures and the shaping of Europe's food systems? To develop a grip of as much of Europe as possible, I choose an international organization perspective for a research strategy.<sup>14</sup> The argument is that existing research departing from national subjects or sources usually fails to bring into vogue 'Europe', which is often tacitly reduced to 'Western Europe' or even a smaller selection of countries, or to individual countries only. This paper takes as its research entry the United Nations Economic Commission for Europe (UNECE, 1947). My interest in this organization does not derive from an assertion that it actually built Europe's food distribution systems, nor from a desire to evaluate its success or failure (as does the limited historical research on this organization<sup>15</sup>). Instead, I aim to look over the shoulder of this actor for two reasons. First, it was one of the very few international organizations during the period under consideration that stubbornly insisted to work and reflect on what it called 'all of Europe', as part of a broader conception of its mission to help forge Europe as one interdependent economic unit and work against nationalisms or Cold war divisions that might ultimately cause a Third World War. Accordingly, it was one of the few international organizations that incessantly strove the Soviet Union, other communist governments, and even (informal) representatives from the Eastern Germany (which would only be formally recognized as a state by the UN in 1973).<sup>16</sup> And second, among many other themes, it explicitly worked on the transport of perishable foods. Indeed, it was the intimate relationship of transport and food chains that inspired the UNECE Secretariat to take for up this issue instead of leaving it to the UN Food and Agriculture Organization. Indeed, the UNECE's Working Party devoted to this subject still operates today. The assumption is that this

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<sup>13</sup> Barbara Orland, "Milky ways. Dairy, landscape and nation building until 1930", in Sarasúa, Scholliers & Van Molle, *Land, shops and Kitchens*, 212-254; Shane Hamilton, "Trucking country: Food politics and the transformation of rural life in postwar America", *Enterprise & Society* 7 (2006): 666-674; Erik van der Vleuten, "In search of the networked nation."

<sup>14</sup> For this argument see Van der Vleuten, Anastasiadou, Schipper, Lagendijk, "Europe's system builders."

<sup>15</sup> Most recent: 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), 51-131. Early studies include 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); and the ECE's own studies: 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). Incidentally, none of these examine the UNECE work on transport of perishable foodstuffs, although some do mention it. STILL HAVE TO READ: Václav Kostecký, *The United Nations Economic Commission for Europe: The beginning of a history* (Göteborg: 1989) and UNECE, *Three decades of the United Nations Economic Commission for Europe* (New York, 1978)

<sup>16</sup> The only exception seems to be the following of the U.N. boycott of General Franco's Spain until 1955. UN politics on Spain see Edward Johnson, 'Early indicators of a freeze: Greece, Spain and the United Nations, 1946-47', *Cold War history* 6, no. 1 (2006) 43-61

Working party provides insights on the building of transnational food chains at the European level that would otherwise be difficult to bring into vogue; contrary to a national comparison approach or focussing on the history of the European Union, it should provide overall picture of European food collaboration - and fragmentation, for such organizations as the UNECE typically observed, regretted, and studied barriers to international collaboration, in which national barriers as well as the Iron Curtain figured prominently.

### **III. Point of departure: Vision and analysis of the situation in 1948-1949**

In February 1948, at the initiative of the US and UK representatives, the 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."<sup>17</sup> The Working Party obtained a mandate to, without prior consent of the ECE Commission, "take any immediate action which might improve or facilitate the transport of perishable foodstuffs."<sup>18</sup> It was to be composed of national representatives as well as transport experts, refrigeration experts, and delegates of international transport organizations and the Food and Agricultural Organization, with which it was to maintain a particular close interaction. This latter organization had already started work on European fisheries trade and transport problems in 1947, but now referred such work primarily to the ECE.<sup>19</sup>

Before the Working Party started, the UNECE's much praised Executive Secretary Gunnar Myrdal decided to do some preparatory work and make a general survey on the state of transport of such foodstuffs.<sup>20</sup> Governments were asked to report role of perishables in national diets, the main flows of existing traffic, and their quality control and pre-transport operations affecting the preservation of foods in transit. They were specifically asked to report on facilities for refrigerated transport and quick freezing. The inquiry immediately revealed that these countries felt no immediate problems in international transport of fruit and vegetables; by contrast, refrigerated transport was seen as a major bottleneck, hampering for instance the promising trade in fresh fish.<sup>21</sup> The Secretariat then developed a more

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<sup>17</sup> Ezekiel (FAO) to Doré (FAO), 5 february 1948. UNECE archives (Palais des Nations, Geneva), G.IX 13/5/2 box 1337 index 3352.

<sup>18</sup> 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.

<sup>19</sup> 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.

<sup>20</sup> On the UNECE Secretariat see Jean Siotis, 'The secretariat of the United Nations Economic Commission for Europe and European Economic Integration: The first ten years', International Organization 19, no 2 (1965) 177-202.

<sup>21</sup> 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.

thorough analysis, which was available for the first session of the new Working Party in May 1949. The report analysed the food situation of Europe after the war, identified a number of issues that demanded immediate attention, and proposed a number of organizational measures. Moreover, it articulated what perishable foods were, why they were so terribly important for Europe, and how this 'Europe' should be conceived. In short, it produced a vision for building a Europe of perishable foods.

*Beating the malnutrition enemy: Perishable foods and international trade*

The definition of perishable foodstuffs was not at all trivial, since all foods are more or less perishable. The report quite pragmatically tied its definition to transport: it distinguished between foods like wheat or wine that do not pose challenges to transport in European trade, and others that do: "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."<sup>22</sup> In the annex it elaborated the 'perishable character' of such foods, supposedly distinguished by

their natural freshness, their vitamin content and by the fact that they can be consumed in their original state without any other treatment than, possibly, ordinary cooking ... fruits and vegetables, freshly caught fish, meat of newly slaughtered animals, eggs collected as soon as possible after laying, cream straight from the separator and butter straight from the churn are all perishable foodstuffs which call for consumption immediately after procurement or production, at their peak of freshness. If left to themselves in normal atmosphere and at normal temperatures, these foodstuffs, within a matter of hours, become a prey to mould, fermentation and decay.<sup>23</sup>

Neither was the subject at large- perishable foods - trivial; instead, it was of major importance for Europe and its people. So were the transnational transport infrastructures that would facilitate the distribution of such foods throughout Europe.

The main problem, FAO nutrition reports and surveys had amply highlighted, was that malnutrition was endemic in many parts of post-war Europe. During and immediately after the war there had been quantitative undernourishment in some regions, that is, a deficit in calorie-intake.<sup>24</sup> More widespread, however, were qualitative nutritional deficits. Here perishable foodstuffs came in, supplying key ingredients "for the maintenance of human life itself and man's energy requirements for the performance of various functions."<sup>25</sup> Contemporary insights in nutritional science, developed considerably during the war, had attributed a leading role of perishable foods in food rationing. Indeed, according to the attached report of FAO

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<sup>22</sup> ECE Secretariat, "Survey on transport of perishable foodstuffs", chapter I, p. 1.

<sup>23</sup> Ibid., annex 1, p. 1.

<sup>24</sup> In Germany the wartime daily per capita calory intake of 2800 fell to 1500 in several periods of 1946/47. Food and Agriculture Organization, European programmes of agricultural reconstruction and development (Washington: FAO, 1948), 5.

<sup>25</sup> ECE Secretariat, "Survey on transport of perishable foodstuffs", chapter II, p.1.

nutrition expert dr. J.M. Latsky, “it is unfortunate that the most nutritious, and therefore the most expensive, foods should be so highly perishable.” In the Secretariat’s reformulation, “the foodstuffs most necessary to man are unfortunately those which are normally the most perishable and the most dearest.”<sup>26</sup> Thus, fresh milk and cheese, meat, fish and eggs supplies needed to rise 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 was deemed necessary to 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 matter was particularly urgent as the recent war had significantly reduced such intakes. According to FAO data, annual per capita meat intakes had remained relatively stable at 50-60 kg only in countries specialising in animal husbandry, like Ireland and France. In other countries meat intakes sharply declined: In the United Kingdom it dropped from 60 kg in the period 1934-1938 to 48 kg in 1947-48. Others were off far worse: Austrians experienced a decline from 54 to 25 kg, Germans from 51 to 12-16 kgs (depending on which occupied zone they inhabited), and Italians from 20 to 14 kg. In Eastern Europe, the already low pre-war meat consumption 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. Regarding fish, for instance, Scandinavian countries like Norway and Denmark were able to raise their annual per capita consumption to 27-28 kg, while German intakes dropped from 12 to 6 kg, and Bulgarian, Hungarian, and Rumanian intakes dropped from a mere 1 kg to 500-700 grams.<sup>27</sup> Europe’s endemic food problem, it was concluded, was not starvation but malnutrition, “which eventually slows down the activity of a whole nation.” In short: “endemic malnutrition ... is the enemy.”<sup>28</sup>

How to beat this enemy? In proposing a solution to the question of how to increase perishable foods intakes, the Secretariat immediately made the link with transport: “Victory lies not only in increasing production..., 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, and in preserving surplus food which needs to be transported and distributed.”<sup>29</sup>

In the Secretariat’s vision, however, not just any transport and distribution system would do. Here we find the ECE vision of what ‘food Europe’ should and could be:

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.

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<sup>26</sup> Compare the Secretariat’s version *ibid*, annex 2, p. 1 to J. M. Latsky, “The nutritional importance of perishable foods.” In ECE, “Survey on transport of perishable foodstuffs”, Annex 2 B.

<sup>27</sup> Data from *ibid*, Annex 2A.

<sup>28</sup> *Ibid*, annex 2, p. 2

<sup>29</sup> *Ibid.*, annex 2, p. 2.

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.<sup>30</sup>

This proposal of international collaboration in Europe, requiring international transport, was typical of the UNECE Secretariat's vision of rebuilding Europe in general. The idea of a regional organization of the United Nations in the first place was that Europe, through its history and geographical scattering of resources, would benefit from treatment as a region: it saw a Europe that could perform as one economic system, in which the geographic distribution of natural resources and historically acquired competences were exploited in a system of international specialization combined with international exchanges. [EXPAND THIS ARGUMENT] Even more than for other commodities, hampering trade in perishable foodstuffs was morally despicable: while other goods might be taken of the commercial trade to balance national trade, this can and should not be done with perishable foodstuffs due to their vital function in human nutrition. Economic barriers to consumption of perishable foodstuffs should be removed.

Here, again, the contemporary situation was not promising. In the ECE vision, there once was a large-scale intra-European trade in perishable foods. The Great Depression and associated protectionism policies had already reduced this trade in the 1930s. The collapse of production of meat, eggs and dairy products caused by the war, of vegetables due to the bad harvests of 1946 (Eastern Europe) and 1947 (Western Europe), and trade barriers caused by post-war policies of currency and tariff protection (lack of hard currency for buying imports) caused record-low levels of trade in perishable foods in 1947.

*Table 1: Annual imports/exports of perishable foods by 18 European countries\* in order of volume traded in 1947. Source: ECE, Survey, chapter III, p. 2.<sup>31</sup>*

<b>Most traded perishable foods:</b>	<b>1934-38</b>		<b>1947</b>	
	<b>Exports</b> x 1000 tons	<b>Imports</b> x 1000 tons	<b>Exports</b> x 1000 tons	<b>Imports</b> X 1000 tons
Fruits	628	2940	510	1763
Meat	327	1255	98	1125
Vegetables	573	611	588	637
Fish	433	397	458	538
Butter & Cheese	410	718	133	493
Eggs	204	257	55	112
<b>All perishable foods:**</b>	2737	6517	1951	4969

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

<sup>30</sup> Ibid., annex 2, p. 2

<sup>31</sup> Compare figures for individual countries in "Notes concerning imports and exports of perishable foodstuffs", ibid. annex 3.

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

Table 1 portrays international trade of the most-traded perishable foods in 18 European countries, for which data were available. These commodities made up 94% of the overall trade in perishable foods (and flowers) in 1947. Several countries are missing from the survey, most notable the USSR, but the messages were clear. First, in terms of volume, fruits, meat, vegetables, fish, dairy products and eggs were the dominant perishables traded, in that order. Second, the total exchanges fell from an annual nine million tons in the pre-war period to under seven million tons. While trade in vegetables had recovered by 1947 and trade in fish had slightly inclined, trade in eggs and dairy products had collapsed, while trade in fruits and to a lesser degree meat had been reduced significantly.<sup>32</sup>

### *The state of quality control and transport*

The challenge for Europe, then, was to step up the intake of perishable foods and in the ECE vision, this should be done by increasing domestic production as well as international trade. This demanded concrete action in the realm of transport and transit. In addition, there was also a “social problem” of enlightening consumers of the insights of nutritional science: they should be taught to use dietary cards as guidelines in assembling their menu’s, and be made aware of which foods that were particularly important. This work was particularly taken up by the FAO, UNESCO and the WHO, which organized information campaigns and mobilized national governments to set up national nutrition councils and bring the results of nutritional science to schools, home economics, and agricultural training.<sup>33</sup>

To facilitate a desired and expected increase in trade and transport of perishable foods, the Secretariat identified two key issues. First, to set up common European standards for quality and quality control of products, 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.”<sup>34</sup> The secretariat proposed to formulate common quality standards for preparation and packing of these foods and the specification of their transport conditions, preferably in an international convention, which would secure an international quality guarantee for European traders. The preparatory work should be carried out by experts, and could make use of existing national experience: a number of countries had compulsory quality control of export products for some or all product categories, often accompanied by a national trademark. Others had set up research centres for testing different packing methods. Notably, next to serving preservation, standardization of packaging would have economic benefits, which in itself would boost international trade of perishable foods.

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<sup>32</sup> Incidentally, trade made up a minor part of supply. For instance, fish trade made up some 20% of fish supply. Calculated on the basis of fishing totals of 4326 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.

<sup>33</sup> Ibid., chapter II, p. 2.

<sup>34</sup> Ibid, Preface and summary, p. 3.

Finally, dispatching warehouses lacking mechanical equipment for handling perishable foods should be abolished, while mechanically equipped packing and transshipment stations should be encouraged at road stations, railway stations, sea and airports, etc.<sup>35</sup>

As for transport itself, as stated, participating governments in the survey felt that transport of non-refrigerated products was not the key problem, although there were bottlenecks. These particularly pertained to the requirements to transport of perishable foods: speed and good travelling conditions. The Secretariat presented a state-of-the-art overview of such transport: At the moment, rail transport greatly dominated perishable food transports by land. It was incapable of door-to-door delivery, the preferred modus for perishables because it reduced transshipments to a minimum, but had the advantage of reliable timetables. The existing wagon park seemed sufficient for the time being, although it might not keep up with expected increases in perishable food trade. Several provisions for perishable foods existed, such as efforts of the International Freight Time-Table Conference to improve timetables and thus shorten transit time for perishable foods.<sup>36</sup> Contrary to rail, road transport by motor lorries made up a minor share of international transport of perishables. Such traffic could benefit from freedom of movement work of the ITC and had the advantage of door-to-door services, but it still operated on a highly irregular basis. Lorries were mostly used for fish and butter exports from Scandinavia and fish, mussels and vegetables exports from the Netherlands. Indeed, small countries as Denmark, Norway and the Netherlands operated Europe's largest lorry fleets. Inland waterway and air transport of perishable foodstuffs were negligible, although they had some potential. Air transport was beginning to be used for such high value, early fruits and vegetables as strawberries, cherries, apricots, peaches, asperges and melons as well as some diary products, meat and fish. As for intermodal freight transport, that is, transport combining different types of infrastructures, containers were a promising option: they enabled door-to-door delivery as well. But containers were not yet used for perishable foodstuffs, since provisions for special transport lacked. Also, international through-tariffs for combined transport modes was lacking almost completely, and international through rail tariffs lacked on some major routes.

These comments had to do with better using and mobilizing existing infrastructure; there was little comment on infrastructure itself. It was merely noted that the transport of perishable foods provided an important additional arguments for finally constructing a Channel Tunnel, as well for other bridges and tunnels; these would speed-up transports as well as eliminate moments of transshipment.

For refrigerated transport the situation was much more problematic. Here the Secretariat observed a "more or less general inadequacy" of the entire so-called refrigerator chain.<sup>37</sup> Indeed, the promise of this refrigerator chain was wonderful:

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<sup>35</sup> *Ibid.*, chapters IV and V and annexes 4, 4A, 5 and 5A.

<sup>36</sup> See also "Note on certain aspects of the work of the International freight Time-Table conference", *Ibid.* annex 6A.

<sup>37</sup> *Ibid.*, Preface and summary, p. 4. For the following see particular chapter VII.

Even the most perishable foodstuffs can be stored in their natural state at production centers, transported over long distances, and warehouses near the consumption centers 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.”<sup>38</sup>

The ideal refrigerator chain ran from production via transport to consumption, including refrigerator equipment in the consumers’ homes. Practice, however, was completely different: in each link in the chain, the availability of equipment was deemed grossly inadequate. As for transport, European railway companies in 15 countries examined owned about 16.5000 wagons with temperature-controlling facilities (a term that took into account that some (tropical) foods actually should be heated during transport in cold weather to prevent freezing). This seems considerable, but withered in comparison to the United States. There, refrigerator chains had been set up in the first half of the 20<sup>th</sup> century and now carried nearly all long-distance and medium-distance traffic in perishable foods. The US had 135.000 controlled-temperature wagons or 1 for every 1.000 inhabitants; when taking into account the 3 times higher payload of US wagons, the ration was 1 for every 330 inhabitants. The figure for the 15 European countries examined was 1 for 12.000 inhabitants. Furthermore, these European wagons were highly unevenly distributed: Italy, France and Germany owned over 80% of this wagon park, and the latter two countries used them mainly for internal transport, not for exports. Importing and transit countries had practically no rolling stock with temperature control equipment.

There was also a qualitative issue. The existing European facilities included insulated (isothermic) wagons (one-fifth) and ice-refrigerated wagons (the rest), but mechanical refrigeration was largely lacking. Most temperature-controlled transport thus required an infrastructure of ice factories and bunkers supplying the ice to refrigerate perishables. Such facilities should be available at big dispatch centres in exporting countries, at re-icing stations in transit countries, and cold storage near consumer centres. Re-icing *en route* was particularly cumbersome, causing significant delays and extra handling operations of perishable foods.

The situation in other transport modes was worse. There existed less than a thousand lorries with temperature-control equipment (excluding privately owned vehicles), and these almost exclusively served Danish and Dutch long-distance export traffic. There were reports of a few insulated barges navigating the Rhine and Donau rivers. Airways nearly completely lacked facilities for transport at controlled temperatures.

A special case of the refrigerator chain was quick freezing. In practice in the US since the late 1920s, quick freezing had been introduced in Europe just before and during the Second World War. Quick frozen foods (frozen as fast as possible to temperatures under -18 degrees Celsius) promised much extended preservation, since the procedure did not change the cell structure of vegetables or meat; and when unfrozen, it could be consumed in roughly

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<sup>38</sup> “Miscellaneous notes on the refrigerator chain”, *ibid.* annex 7, p. 1.

its natural state. Quick freezing, however, demanded additional treatment before transport (the quick-freezing process), and further demanded an absolutely unbroken new refrigerator chain operating at at least –18 degrees Celsius (compared to 0 degrees for chilled transport and –10 degrees for frozen transport) including transport, retail and household facilities for cold storage. This chain had to be built practically from scratch before it could start “feeding the peoples of Europe.”<sup>39</sup>

From this state-of-the-art review, the secretariat deduced a number of actions, especially focusing upon building the refrigerator chain and quality control and packing standards. Most far-ranging perhaps was the idea to set up a new international railway organization for refrigerated transport to plan, build and operate a park of rolling stock dedicated to chilled, frozen and deep frozen products. An international road transport organization should likewise inquire vehicle construction and operation. Ocean shipping should, for the time being, be left to national governments since it always concerned specific routes, and air transport should be further examined. The Working Party on Transport of Perishable Foodstuffs might take the burden of coordinating different modes of transport.

#### **IV. Building the cooling chain 1949-1960**

The Working Party first convened in June 1949. In many ways it took the Secretariat’s study as its point of departure. It adopted its sense of urgency and mission, as well as its definition of the subject matter in direct relation to transport challenges: perishable foodstuffs are “foodstuffs, which by reason of their fragility or susceptibility to change in temperature, require special precautions in transport.”<sup>40</sup> Moreover, it defined an impressive array of problems that stood in the way of feeding Europeans with perishable foods, and developed a wide variety of strategies to address these.

The point of the following is not, however, to evaluate the work of this Working Party. Rather, I shall use the Working Party’s self-acclaimed role as a spider in the web of actors building transnational perishable food systems – as a food system builder - firstly, to give the reader a sense of the sheer variety of actions involved in mobilizing refrigerated transport infrastructures for the transnational distribution of perishable foods, as well as the extensive network of actors on which this activity relied. Second, I will focus on organisations called for by the secretariat that actually translated all this preparatory work into operational transnational refrigerated distribution systems for perishables: the International Railway Company for Refrigerated Transport *Interfrigo* and its roadway cousin *Transfrigoroute Europe* build transnational cooling chains for the transport of perishables using the rail and road networks, respectively.

Before doing so, however, any inquiry of European system builder like the Working Party should consider issues of inclusion and exclusion – if only not to reproduce a narrative tacitly equating ‘Europe’ to ‘Western Europe’,

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<sup>39</sup> Ibid., chapter VIII, p. 1 and annex 8.

<sup>40</sup> 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.

which remains a major trap for much European integration history.<sup>41</sup> Mechanisms of inclusion and exclusion begin with the participation in Working Party deliberations. It should be recalled here that the explicit aim of the ECE, as voiced time and again by Myrdal and his Secretariat, was to build an all-European cooperation of European nations, which was translated in continuous efforts to include as many national representatives as possible. However, this did not always work out in the early Cold War. ...[EXPAND]

When the Working Party gathered for its first session, it associated representatives of 14 governments under the chairmanship of Italian mr. F. Martin and Dutch O. Schoenewald - representing two countries with major export interests in perishables. Scandinavia and North-Western Europe were very well represented from the beginning, and would remain so throughout the 1950s.<sup>42</sup> By contrast, Southern Europe was poorly represented. Italy of course was present, supplied the first WP chair, and took a leading role throughout the period under investigation. A Yugoslavian representative participated in the first session, but only attended incidentally since. The Italian representative got company of Spain only the 11<sup>th</sup> session in 1956, when the U.N. boycott to Franco was lifted. Portugal remained absent and Greece only participated incidentally. As for what was increasingly called Eastern Europe, only Czechoslovakia, Hungary and Poland participated at the first session, but by its 3<sup>rd</sup> session in June 1950 no eastern country participated. Except for Italy, the WP was a Northwestern and Central European body. Only when the Cold War tensions eased from 1953/1954 distribution would be more even geographically. Participation varied from session to session, but in 1954 Poland, the USSR, and even the Eastern zone of Germany were represented, followed in 1955 by Bulgaria, Czechoslovakia, Hungary and Romania.

We should also observe the increasing participation of international organizations providing particular expertise, and in most cases representing business interests. In the first session the International Chamber of Commerce, the International Freight Train Timetable Conference, the International Road Transport Union, and the International Air Traffic Association were present. Later the list constantly expanded, witnessing the network of actors that the WP was building around the theme of transnational exchanges of perishable foodstuffs. Just to give an impression: regular participants included, next to the UN Food and Agriculture Organization, the International Railway Union, the International Institute of Refrigeration, the International Container Bureau, the European Union of Coachbuilders, the World Meteorological Organization, the International Organization of Forwarding Agents, the European Federation of Wooden Box and Packaging Manufacturers, the European Federation of Corrugated Manufacturers, and the International Railway Company of Refrigerated Transport Interfrigo. All these to a higher or lesser extent cooperated in supporting flows of perishable foodstuffs in Europe.

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<sup>41</sup> Van der Vleuten et. al., "Europe's system builders."

<sup>42</sup> 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.

### *Sociotechnical system building: a wide range of activities*

The Working Party from the start identified two factors which were of pivotal importance to trade in perishable foods, on which it had virtually no influence, and which the Secretariat had also observed: national production and trade policies. It focused upon what it could do in the international arena: The WP identified key problems and deployed a variety of strategies to deal with them. For most problems it tried to identify and seek collaboration of international organizations that possessed relevant expertise, such as the organizations mentioned above, or directly approached governments concerned. The WP itself set up subcommittees of experts of certain topics: a Sub-group on Refrigerated Transport by Rail (1949, soon renamed Sub-group on Transport of Perishable Foodstuffs by Rail), a Sub-group on Road Transport, and a Sub-group on Standardization of Packaging and Conditions of Transport (1949). These carried out their own research, but also referred much work to expert third parties. Whether referred to others or addressed by the WP itself, all actions had to do with the mobilization of transport infrastructures to set up increased transnational flows of perishable foods. At its sessions, the Working Party reviewed progress on in these questions and defined actions, which often had the form of urging other organizations or national governments to take action.

It is in the accumulated list of activities, that we find an insight into the nature of the work that went into refrigerated food system building.<sup>43</sup> By 1951, a list of questions addressed with by the Working Party counted 33 items.<sup>44</sup> From the point of view of mobilizing transport systems for transnational circulation of perishables, we may organize these activities into a few main categories.

A first set of problems and tasks centred on designing appropriate transport vehicles for perishable foodstuffs; this work dealt directly with designing interfaces or gateways between the transport systems and perishable food distribution systems. Thus the International Railway Union and the International Institute of Refrigeration were asked to jointly examine designs of insulated, refrigerated and mechanically refrigerated railway wagons as well as so-called 'fruit and vegetable wagons'. Already by 1950 the UIC could suggest specifications for insulated and refrigerated wagons of SS-class, that is, allowing speeds of up to 120 km/h. For fruit and vegetable wagons, involving special shock-absorbing equipment and ventilation facilities, wagons of the S-category (100 km/h) were proposed.

#### ILLUSTRATION OF A WAGON DESIGN??

Next to complete wagon designs, these organizations researched specific elements and aspects. These included for instance designs of inside walls of wagons, which should not involve major cleaning operations after fish or

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<sup>43</sup> See session reports 1949-1960.

<sup>44</sup> For early overviews and attached reports of specialized organizations see 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.

fruit transport; metal-lined walls of stainless steel or aluminium alloy, neutral to chemical affection by cleaning agents, were soon proposed as a solution to this problem. Furthermore, the International Railway Union worked on shock-absorbing devices and ways of securing loads on wagons, standards for air-tightness of vehicles and of imperviousness of their floors to water. For temperature control, the International Institute of Refrigeration proposed a sealable passage with a diameter of 20 mm for insertion of a thermometer from the outside.

Similar work went on for lorries and for containers. For lorries, the responsible sub-group worked with International Institute of Refrigeration, the International Road Transport Union, and the European Union of Coachbuilders to develop classifications and minimum standards for special vehicles. They also worked on methods of checking these standards. Specific research questions concerned insulating materials, ventilation systems, and vehicle fittings. For containers, likewise, the International Union of Railways and the International Container Bureau – which set up a subcommittee for perishable foods as well - were requested to research standardized container types for perishable foods transport, and engaged in examination of insulated and refrigerated containers.

Next to this technical research, these actors worked on auxiliary infrastructures such as icing and re-icing facilities. The UIC examined the facilities along the main international transport arteries for perishable foodstuffs with a view to concentrating re-icing stations at compulsory stopping points such as customs, frontiers, and locomotive changing points. The International Road Transport Union was asked to develop a list of ice factories and icing stations that might be available to international road transport. Further work went into examining ice production costs and prices, and ice plant modernization.

A second realm of activity was not concerned with gateway designs, but with organizational measures to speed-up or improve the flows of perishables. By the early 1950s there were still major asymmetries in European transport; for example, in 1951 the ICC observed that the perishables journey Hamburg-Prague took 2 days, while Rotterdam-Prague, a shorter distance, took 6-8 days.<sup>45</sup> For instance, the Working Party pushed the International Freight Train Time Table Conference to further reduce transport times for transports of perishable foods. It also lobbied with the Swiss-based International Rail Transport Committee (*Comité International des Transport ferroviaires*, CIT), an association of national railway administrations that worked on international legal issues, to decrease the maximum legal time allowed for transport of perishables; the existing ones (by the end of 1949 legal time limits were a day for dispatching and one day for each 200 kms of transport) were far too high, also competed to actual practice. It encouraged the International Chamber of Commerce' initiative to device a transport document applicable on all forms of transport, and took up communication with governments on special fares for transit traffic of perishable foodstuffs.

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<sup>45</sup> International Chamber of Commerce, International transport of Perishable Foodstuffs. ICC Brochure no. 149 (Paris: ICC, 1951). Thanks Frank.

Much attention was paid to elimination or reduction of delays at frontiers, and this work was ultimately embedded in the international legal instrument of International Conventions – which requires government as well as Parliamentary ratification. Such conventions were prepared by other bodies of the UNECE Inland Transport committee, but the WP secured the interests of perishables. At its third session, it drew up a long list of recommendations concerning railway traffic, most of which were implemented in a draft *International Convention to Facilitate the Crossing of Frontiers for Goods carried by Rail*, drafted by another ITC Working Party. This draft convention took into account the demands that the WP had set forward as important for perishables. This included issues as 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; this required harmonizing opening hours of these customs offices, as well as post and telegraph offices at these sites which played an important role in acquiring additional information in completing formalities. Specifically for perishable foods, it included a passage stating formalities and examination of perishable goods crossing a frontier under international through transit procedure should be given priority. Maximum times were not specified though, but referred to bilateral agreement. The Convention was accepted in January 1952 and went into force in 1953. Only the usual suspects signed it though (the Benelux countries, France, Italy, Norway, Sweden and Switzerland; Austria, Spain and Portugal followed within a decade)<sup>46</sup>

For road transport, the *Customs Convention on the International Transport of Goods by Road* (June 1949) addressed similar issues. It was a draft convention of a provision nature only, used in merely five countries. Still, for perishables it arranged clearing outside official customs working times, synchronization of customs of neighbouring countries, the possibility of customs procedures in the interior of countries, and mutual respect for original seals. Here it introduced the so-called TIR (*Transports Internationaux Routiers*) arrangement: cargo's were sealed and only checked at the country of origin and destination, not in transit countries. The WP wished to make this more generally applicable, but a general TIR carnet was delayed however due to problems by several countries, and the WP repeatedly stressed parties involved of the importance for the transport of perishable foods to introduce the individual carnet as soon as possible. The expanded TIR convention was finally signed in 1959 and within two years was signed by 17 governments, including - next to the usual suspects - Southern European (Greece, Spain, and soon Portugal) and Eastern European (Bulgaria, Czechoslovakia, Hungary, Poland and soon Rumania) participants. 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 argued for an end to colonialism). By then over 30

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<sup>46</sup> "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).

countries had joined, including Canada, Iran, Israel, Japan, and Jordan. Still today it counts as one of the ECE's most important contributions to international freight traffic. In 1952 just over 3000 TIR Carnets were issued for individual transports; the number increased to a 100.000 in 1960 and 800.000 in 1970, and 2.7 million (representing 34.000 companies) in 2001.<sup>47</sup> A *Customs Convention on Containers* was signed in 1956 and went into force in 1959, and counted next to the usual suspects also Hungary and Poland among its original signers.

A final set of actions addressed standards of produce before transport and standards pertaining to goods in transit. Those standards for the produce and its preparation prior to packing and transport were a concern of producers and exporters, and therefore referred to the ECE Committee on Agricultural problems, where these groups were represented. This Committee was not an unproblematic one.<sup>48</sup> Established on Russian initiative in September 1948, it aimed to restore European agriculture soonest and 'ensure the restoration of equilibrium in the European balance of payments', meaning reducing dependency on imports from dollar areas, and 'to raise the standards of living of the European peoples.'<sup>49</sup> However, when communist countries refused to provide cheap food in return for fertilizers and agricultural machinery, seeking to avoid a new dependency on imperialist kind of arrangement and certainly a new monoculture of grain production and exports. Work in this committee deadlocked, as did the work of the UNECE Trade Committee. These fell victim to the Cold War. There were no meetings until the atmosphere improved after trade Commission got on its way in 1953-54.

Work by a Working Party on standardization of perishable foodstuffs in intra-European trade, was the only exception: it continued to operate in close cooperation with the ITC working party. It worked on quality standards of fruits and vegetables and to a lesser degree on eggs and fish. By 1958 it was able to lay down general provisions for all fruit and vegetables in a protocol (a less heavy yet legally binding instrument than a Convention) accepted by most countries. By the mid 1960s it had also issued recommendations for standards of 20 individual perishables. Such recommendations suggested standards on size, colour, etc and classification of produce in several classes. In the early 1960s it decided to henceforward call the standards it developed for 'European standards.'<sup>50</sup>

By contrast, issues regarding standards on quality preservation in transit were dealt with by the WP itself, which established a subcommittee - the Subgroup on Standardization of Packaging and Conditions of Transport (1949). The International Chamber of commerce studied user requirements, the subgroup worked out standards for packaging fresh fruits and vegetables, eggs in shell and other produce in collaboration with a number of

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<sup>47</sup> UNECE, *TIR Handbook* (New York/Geneva: United Nations, 2002). For Conventions and signatory lists see [www.unece.org/trans/conventn/legalinst.html](http://www.unece.org/trans/conventn/legalinst.html), consulted 21 April 2007.

<sup>48</sup> For the troubled early history of this committee see Wightman 1956, 144-153. See also ECE, Fifteen years, 40-45..

<sup>49</sup> Wightman 1956, 147

<sup>50</sup> ECE 15, 44.

national governments and transport organizations for railways, roads, aviation, containers and the International Standards Organization. By the early 1950s it was able to issue draft-recommendations. It for instance held that packaging used in international transport should be new and non-returnable, parallelepiped in shape (no baskets etc), tested for sturdiness, load stability and ventilation, provided with devices for interlocking and reinforcement, and designed for use with or without lids, and conform to standard dimensions, and marked by an official control stamp certifying its quality and non0returnable character. As well as a stamp identifying the manufacturer. For instance, sawwood fruit boxes could be of five sizes with specified weights.<sup>51</sup>

Work on standards during transport also concerned handling operations. The International Railway union and the International Standards Organization worked on the mechanization of handling operations to eliminate handling by hand which might damage perishables. They worked on standardized pallets and fork lift trucks, which was aided by Swedish government, and on cleaning procedures. Furthermore, the subgroup worked on standard methods for determining and controlling insulating properties of special wagons, lorries and containers involving the International Institute of Refrigeration, the International union of Road transport, the International Railway Union, the International Container Bureau and the European Union of Coachbuilders.

From the mid 1950s, the Working Party and the secretariat worked on standards on the meaning and testing of international transport of perishable foodstuffs itself, but quarrels abounded. The first general provision in international law on such standards was to be an annex on perishables to the UNECE *General Agreement on Economic Regulations for Road Transport* (signed 1954). Most governments refused to sign, however. The British position summed up the argument: first, the Working party had not finished its work so the provisions were premature. Second, because the standards were to be included in an agreement on road transport, imposing them would rather pointless, as they were not valid for other modes of transport. Worse: additional regulation of road transport would mean a competitive disadvantage for this form of transport, which had the opposite effect of what the agreement tried to accomplish, namely to stimulate international road transport.<sup>52</sup> This was the view of most governments and of course road interests; the annex was signed only by Belgium, France, Luxembourg and the Netherlands, which desired to move ahead as quickly as possible. The understanding was, however, that soon a new Agreement valid for all transport forms would be prepared, but the Working party was not able to agree on one; the other option to weaken the standards of the annex was also rejected by front runners as the French delegates, complaining that this would entail a step backward rather than forward. The

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<sup>51</sup> E.g. “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).

<sup>52</sup> “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. Compare 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 Juli 1954).

third option was to legally nullify the annex.<sup>53</sup> By 1962 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* was signed by 6 parties (and soon joined by 3), but it never entered into force since it was never ratified by at least 5 countries as specified in the conditions. Ultimately, these various aspects of standards during transit, including standards for the very designation of ‘insulated’, ‘refrigerated’, ‘mechanically refrigerated’ and ‘heated’ (and procedures for their verification) would be accumulated in a UNECE International Agreement, the only exclusively dealing with perishables: the *Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP)*. It was finally signed in 1970 by seven countries including the USSR, and went into force in 1976. Its number of contracting parties has risen since to 42.<sup>54</sup>

### *The cooling chain in practice: Interfrigo and Transfrigoroute*

Much preparatory work facilitating flows of perishable foods in Europe was done during the late 1940s and 1950s. Wagon designs, customs procedures and quality standards were in place (more or less), but someone still had to build the cooling chain. The 1949 Secretariat report had recommended to set up a new international railway organization for refrigerated transport to plan, build and operate a park of temperature-controlled rolling stock dedicated to perishables, and perhaps make a similar arrangement for road transport. Such organizations would take the idea of the unbroken transnational cooling chains outside the laboratories and meeting rooms, into practice. They would be decisive instruments in mobilizing transport infrastructures for perishable food flows. In this final section I shall briefly discuss two of these organizations.

The Secretariat’s wish for a railway company dedicated to temperature-controlled transport was immediately served. At the first session of the Working Party, the Belgian representative Mr. Nicolas could report that such a body was already in the process of being created: the International Railway Company for Refrigerated Transport, *Interfrigo*. His French colleague mr. Boyaux, deputy director of the French railways elaborated: *Interfrigo* had begun in April 1948 simply as a body studying refrigerated transport problems, but it was currently drafting statutes for commercial operation. Its members were the railway administrations of Belgium, France, Italy, the Netherlands, Switzerland and the United Kingdom, but, he emphasised, membership was open to all European railway administrations, and there was no monopoly; it would exist next to other companies offering refrigerated transport services. The aims of the new company were to create a European park of refrigerated rolling stock; the innovative move was to have importing

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<sup>53</sup> “Report of the Working Party on its eight session” (11 March 1954, restricted document TRANS/135), *ibid.* Index 6688. “Draft report of the working party on its eleventh session (14 June 1956, restricted document TRANS/WP11/Conf.Room Doc 3.

<sup>54</sup> *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).

countries share in the costs. The company would also take responsibility of refrigerated rolling stock outside the country of origin.<sup>55</sup>

When his Swiss colleague suggested that the Working party expressed its approval of this initiative, he stirred a small row. The United States representative opposed such an expression since this would imply “a recommendation that the virtual monopoly control of refrigerated transport in Europe should be invested in what was apparently a private concern.”<sup>56</sup> Nicolas replied that *Interfrigo* was a “quasi inter-governmental’ body since the majority of members was state-owned, and argued that the WP could either approve and support the initiative or establish a rival organization, which he found “obviously most undesirable.” The United States representative, however, found that “to regard such undertaking as an intergovernmental body was stretching the definition rather far”, since it made a profit; the Czechoslovakian and Polish representative supported this stance.<sup>57</sup> The Polish delegate did not like the idea of an international company at all and wished the building and control of such vehicles to be the responsibility of national governments. The Working party, then, could not agree upon how to treat the new company. The diplomatic solution was not to mention *Interfrigo* explicitly in the session report, and instead form a Sub-Group on this issue. Until the mid 1950s, the WP talked of *Interfrigo* in general terms only. From then on, the company was accepted and even invited as a steady participant in the Working Party sessions.

*Transfrigoroute Europe* was a comparable initiative in the realm of road transport, which was set in motion by the ECE. At its 9<sup>th</sup> session in July 1952, the Inland Transport Committee requested the International Road Transport Union to consider establishing an international body to assist the development of intra-European road transport facilities for perishable foods. Both the IRU and the WP on transport of PF argued that an official international body was not the best way forward; instead they suggested strengthening the international bonds between road transport enterprises.<sup>58</sup> The IRU then founded *Transfrigoroute Europe* in 1955 as an association of the most prominent road carriers of nine countries. The association was headquartered in Basel (later Bern), Switzerland, and IRU ‘s president, the Swiss refrigerated transport entrepreneur Paul Schweizer, became its first president.

The association set up a Technical Advisory Committee representing the most important manufacturers of road transport refrigeration equipment and developed standards for refrigeration equipment, the first of which were published in 1957. Vehicles of carriers complying with these standards could get *Transfrigoroute Europe* membership. They received an identity card from the association and were allowed to carry the clearly distinguishable *Transfrigoroute* sign (figure 1).

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<sup>55</sup> Report of the first meeting, p. 14 ff.

<sup>56</sup> Ibid, 14.

<sup>57</sup> Ibid., 17.

<sup>58</sup> “Report of the Working Party on its seventh session” (2 April 1953, restricted document TRANS/WP11/84), ibid Index 6688, p. 8.

*Figure 1: Four Transfrigoroute lorries in the late 1950s, clearly identified by the Transfrigoroute logo. According to the ... they served national routes connecting major harbours and consumption centres (Stockholm-Helsingborg in Sweden, Marseille-Lyon-Paris in France, Barcelona-Madrid-Gerona in Spain), as well as truly international routes (Amsterdam, the Netherlands – Düsseldorf, Germany -Frankfurt -Munich-Vienna, Austria). Source: Transfrigoroute Brochure.*

By the late 1950s, *Transfrigoroute* claimed in its advertisings that it had “created the unbroken cooling chain on roads.”<sup>59</sup> Its refrigerated lorries or “rolling refrigerators” allowed door-to-door transport of perishables, from ships to cold storage, ship to importer, cold storage to ship, or producer to consumer. Due to its flexibility, it would even secure supply in case of catastrophes. Beside its lorries, the *Transfrigoroute* network relied on a multinational service network with refrigeration service stations.<sup>60</sup> This network had been set up and managed from 1957 by the international service provider DKV (*Deutscher Kraftverkehr GmbH*, 1934), which in the 1950s was building a network of truck stops and services along international routes in Western and Central European countries provided services such as fuel and tyres sales, a fuel check system for cash-free purchase of diesel, repairs, etc.

Since then the non-profit association continued to grow, and still exists today. By 1976 it had 1175 valid ID cards registered. In that year the ID requirements were adapted to the ATP Agreement mentioned above on technical characteristics of refrigerated transport, regulating the minimum standards of insulation, refrigeration, heating equipment, testing procedures, and classification of vehicles, and prescribing that the cold chain shall not be broken at any time. 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, which jointly associate about 1.700 firms and organisations involved in the temperature-controlled transportation of foodstuffs. It claimed to cover some 80% of the transport market in this domain. Today, the association remembers itself as having laid “the cornerstone for the creation of a multinational road transport cold chain to ensure fast, safe and reliable carriage of solid and liquid foodstuffs and frozen goods in specially equipped vehicles.”<sup>61</sup>

However, two aspects of this story should be noted. First, *Transfrigoroute*, too, started out as a Western-European gathering. Its founding countries were Austria, Belgium, West-Germany, France, the Netherlands, Spain and Switzerland, and almost immediately Italy, Denmark, and Sweden joined. Incidentally, its service provider DKV had a similar geographical focus. The shape of the distribution network

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<sup>59</sup> Brochure Transfrigoroute Europe (Basel, no date, presumably late 1950s). UNECE archives, G. IX 13/5/2/11 Box 1345 Index 13106.

<sup>60</sup> Beatrice Rohen, 50 years of Transfrigoroute International. A retrospective of the early years and the most important developments (Bern 2005).

<sup>61</sup> 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.transfrigoroute.com](http://www.transfrigoroute.com), consulted 20 April 2007.

*Transfrigoroute* had in mind is also illustrated by its advertisings (figure 2), as well as a list of custom posts where the association would like to receive priority treatment, which was submitted to the ECE in 1956 (see below): the list included 4 offices at the German-Austrian border; 3 at the German-Dutch, German-French, and Dutch-Belgian borders; two at the German-Danish, Belgian-French, French-Spanish, Austrian-Italian, French-Italian, Italian-Swiss, and Danish-Swedish borders; and 1 at the Belgian-German border.<sup>62</sup>

*Figure 2: Transfrigoroute's representation of its service area in its advertising. Source: Brochure late 1950s.*

Second, as this example also suggests, *Transfrigoroute* too immediately ran into what they perceived as uncooperative attitude by the national authorities. As the association complained to the UNECE through its direct channel, the International Road Transport Union: The carriers associated in *Transfrigoroute* had now taken steps to fulfil the UNECE's wish for establishing a cooling chain, even if this involved financial risks and considerable difficulty and discipline in technical and organizational requirements. In return for this effort, they would like to see some cooperation from the side of public authorities, if the initiative was to be a success. Among its complaints, the slow procedure of obtaining national transport permits "jeopardized" the objectives of the association; for instance, transports from Denmark to Portugal would require five permits, which could take weeks to obtain, during which the foods were warehoused. The problem of permits could be solved if *Transfrigoroute* was recognized as a "European carrier", so that the *transfrigoroute* ID card served as a pass for all countries. When not possible, *Transfrigoroute* asked for procedures for easier access to permits.<sup>63</sup>

A second, rather new obstacle was the ban on Sunday and holiday travel introduced in Germany in 1956, followed by Austria, some Swiss cantons, and others, which allegedly "constituted a serious threat to the European refrigerator chain". Indeed, perishable foods transports were soon exempted from these bans.

Finally, *Transfrigoroute* emphasises that its very aims were seriously hampered by delays at customs offices. It presented the example of fresh strawberry and vegetable traffic from from Brittany (France) to the Netherlands, which "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."<sup>64</sup> As a solution, *Transfrigoroute* wished

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<sup>62</sup> "Intra-European list of customs offices en route at which TRANFRIGORROUTE requests priority clearance and frontier checking of special vehicles", annex to ECE, "Difficulties encountered"

<sup>63</sup> "Octroi d'autorisation de transports aux vehicules speciaux affectes aux transports internationaux de denrees perissables », 10 December 1958, restricted document W/TRANS/WP11/91). UNECE archives, index 16031.

<sup>64</sup> 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) and "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.

priority clearance for its members, by day and by night. This should not be too complicated as *Transfrigoroute* trucks were clearly recognizable by their signs (see figure 1). Requested by Myrdal to report on the measures taken in their specific countries, governments overwhelmingly replied that they did everything within their power to speed up traffic of perishables. The Dutch government replied that it was a “long established rule in the Netherlands to grant priority to all international transport of perishable foodstuffs”, which counted as an excuse to dispense with the WP requests to further instruct countries to speed up such traffic; it also discussed sanitary regulations of meat imports, which caused a lot of delay but were still conducted as fast as possible. Switzerland argued the other way round: by Swiss law goods had to be declared in the order of handing over declarations to the customs office, so giving priority was impossible. On the other hand, it tried to support this flow in other ways. For instance, it arranged for clearing of perishables outside custom working hours against a special fee.<sup>65</sup> The TIR convention would solve some of this delay problem; furthermore, the UNECE WP on Transport of Perishables developed its own range of symbols for wagons, lorries and containers carrying perishables for recognition at borders.<sup>66</sup>

## **V. Results: ‘Food Europe’ around 1960**

“Every time consumer revenue expands by 1 per cent, consumption of perishable foodstuffs increases by 2 per cent, and transport of these foodstuffs increases still more.”<sup>67</sup>

Thus observed the ECE Secretariat at the occasion of the organization’s fifteenth anniversary. It suggested that the intakes of perishable foods had indeed increased with the post-war rise of national incomes, and with it trade and transport of perishables.

What, then, had become of all efforts described above? How did ‘Food Europe’ evolve in the first decade of the Cold War? Above we observed a lot of work put into the mobilization of transnational transport infrastructures for enhanced flows of perishable foods. We also observed recurrent problems of priorities given to national concerns as well as asymmetries in the distribution system over Eastern and Western Europe. How did this clash of forces work out?

In 19??, the UNECE Committee on Agricultural Problems asked the Secretariat to map and evaluate the development of European agricultural trade in the past decade. The secretariat’s agriculture division – which was also an ECE-FAO collaboration - published its results in 1962.<sup>68</sup> It analysed production and trade for nine important commodities, which represented over two-thirds of Europe’s trade in so-called temperate agricultural products, meaning foods that were (also) produced in Europe. These foods

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<sup>65</sup> “Difficulties encountered at frontiers by road vehicles transporting perishable foodstuffs”(15 October 1957, restricted document W/TRANS/WP30/82). UNECE archives *ibid* .

<sup>66</sup> “Distinctive symbols to be affixed to special equipment” (11 september 1959, restricted document W/TRANS/WP11/103).

<sup>67</sup> ECE, *Fifteen years of activity*, 84.

<sup>68</sup> ECE, *Ten years of agricultural trade in Europe 1951-1960* (United Nations: Geneva, 1962). The following data are taken from this report unless otherwise noticed.

could in theory form the basis of a European food system: wheat, barley, maize, meat, butter, cheese, eggs, sugar and fresh fruit. In short, it presented data for the most important starchy staples and the most important perishable foods, except, unfortunately, fish, fruits and vegetables. The analysis excluded tropical (coffee, tea, cocoa) and industrially processed foods (butter and cheese, though industrially processed, were apparently viewed as agricultural produce).

*National self-sufficiency and trade in foodstuffs by 1960*

From a Myrdal and a Secretariat point of view, its results must have caused mixed feelings. On one hand, the domestic production of perishable foods as well as grains had greatly increased. On the other hand, integrated European food system had not emerged. “Agricultural products have become the problem child of international trade”, read the opening sentence of the report.<sup>69</sup> The detailed statistical analysis, based on published import statistics from a number of sources (Albania was excluded in want of reliable data), first of all revealed that ‘food Europe’ to a large degree as a ‘Europe of nation states.’ Table 2 reproduces these data for four perishable foods as well as wheat, the most important commodity in terms of volume.

*Table 1: National self-sufficiency of European countries for selected foods: domestic production as % of available supply (production + net imports) in weight%, or value% in the case of meat. 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.*

	Wheat		Meat		Eggs		Butter		Cheese	
	1951 - 1953	1960	1951 - 1953	1957 - 1959	1951-1953	1960	1951 - 1953	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%
W-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%
<b>EEC total</b>	<b>80%</b>	<b>94%</b>	<b>100%</b>	<b>97%</b>	<b>97%</b>	<b>91%</b>	<b>99%</b>	<b>100%</b>	<b>101%</b>	<b>99%</b>
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%

<sup>69</sup> Ibid, p. 4.

			%	%				%		
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%
<b>Other NW-Europe total</b>	<b>42%</b>	<b>50%</b>	<b>86%</b>	<b>89%</b>	<b>99%</b>	<b>103%</b>	<b>76%</b>	<b>70%</b>	<b>81%</b>	<b>99%</b>
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%
<b>Southern Europe total</b>	<b>94%</b>	<b>98%</b>	<b>100%</b>	<b>101%</b>	<b>101%</b>	<b>103%</b>	<b>97%</b>	<b>101%</b>	<b>99%</b>	<b>100%</b>
<b>Western Europe TOTAL</b>	<b>76%</b>	<b>86%</b>	<b>96%</b>	<b>95%</b>	<b>98%</b>	<b>96%</b>	<b>90%</b>	<b>88%</b>	<b>95%</b>	<b>99%</b>
Bulgaria	102%	96%	-	-	164%*	158%	100%*	130%	-	112%
Czechoslovakia	68%	51%	-	-	97%*	102%	80%*	80%	-	101%
E-Germany	80%	49%	-	-	91%*	98%	81%*	80%	67%*	65%
Hungary		86%	-	-	113%*	106%	147%*	129%	-	146%
Poland	110%									
Rumania	93%	58%	-	-	110%*	123%	102%*	120%	100%*	-
Rumania	103%	98%	-	-	100%*	105%	98%*	108%	-	-
<b>Eastern Europe</b>	<b>93%</b>	<b>71%</b>	-	-	<b>105%*</b>	<b>112%</b>	<b>91%*</b>	<b>95%</b>	-	-
USSR	103%*	110%	-	-	99%*	100%	103%*	104%	-	-
Absolute production x 1000 metric tons, or millions of US dollars in the case of meat										
Western Europe	39448	48211	7835	11141	2427	3364	1355	1760	1444	2009
Eastern Europe & USSR	51798	76566	-	-	1622*	2326	876*	1293	-	-

\* 1954-1956 (data lacking for 1951-53).

As for absolute production quantities (lowest in the table), domestic outputs greatly increased for all product categories. As for wheat, by far the most important food in terms of quantity, production increased from 91 to 125 million tons by 1960 or by 137%. For eggs the figure was 3 to 5.7 million or 190%, for butter from 2 to 3 million tons ((150%). For meat in Western Europe, the rise in value from under 8 to over 11 billions of US dollars accounted for an increase of 140%.

The rest of the table shows developments in national self-sufficiency in these foodstuffs in the 1950s. Most countries approached self-sufficiency by

1951, and this hardly changed by 1960. Often the degree of self-sufficiency had merely increased; certainly a system of international specialization and trade had not emerged. By 1960 domestic production of Western European countries made up 86% of wheat supplies, 95% of meat supplies, 96% of egg supplies, 88% of butter supplies and 99% of cheese supplies. In Eastern Europe the corresponding figures for wheat, eggs and butter were 71%, 112%, 95%; in the Soviet Union 110%, 100% and 104%. Figures over 100% denote a modest net export. The main conclusion, then, is that the importance of specialization and trade in these agricultural products was of minor importance in this period, when compared to domestic circulation of these foodstuffs.

Having said that, some international division of labour did exist. Small countries like Denmark and the Netherlands specialized in producing animal products for export markets, at the expense of self-sufficiency in cereals; in 1960 the Netherlands imported two-thirds of its wheat supplies. Most of these exports went to the United Kingdom and Germany, respectively.<sup>70</sup> The former stands out as the only country, which was tremendously dependent on agricultural imports. In 1960 the UK produced only 39% of its wheat supplies, 60% of its meat, 9% of its butter and 46% of its cheese. Compare France, which was (nearly) self-sufficient and often an exporter of these products. Southern European countries were nearly completely self-reliant, featuring neither remarkable net imports nor exports. As for Eastern Europe, the USSR, Bulgaria, Hungary and Rumania were largely self-reliant and even produced for exports, while Czechoslovakia Eastern Germany and Poland were dependent on imports for about half of their wheat imports.

The report was quite explicit about explanations for this strong national dimension in European agricultural foods. Transport and quality control issues no longer figure as a prominent bottleneck to international specialization and cooperation. Neither did world market prices, company behaviour, or food production problems – food had become abundant in Europe. In the final analysis, the explanation was of a political nature. In all countries in Europe, national governments had heavily intervened in the agricultural sector. Their agricultural policies prioritised supporting their own farming sectors by means of financial, technical, and educational support. The results were market in terms of productivity increases in individual countries – the yields of production rapidly increased, as the tables also show: wheat outputs in all of Europe increase.

### *International trade*

As for trade that remained, the report observed that the agricultural sector now was the most regulated in world trade. Here state interference was again clearly discernable: Indeed, the ECE report only distinguished between European trading countries with ‘more or less regulated and protected trade in agricultural products’ and those ‘with outright state trading’, categories roughly corresponding to the countries West and East of the iron curtain.<sup>71</sup>

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<sup>70</sup> Ibid, p. 17.

<sup>71</sup> Ibid, 5.

In the West, national governments supported their domestic agriculture by means of import barriers and export subsidies. In the East, foreign trade (volume, distribution and composition) was centrally planned. World market prices here, the report argued, played even a smaller role Western countries. All in all, international negotiations on agricultural trade were difficult and quarrelsome.

Nevertheless, the report observed, the volume of trade was expanding, probably even faster than the rise of incomes. The volume of Western European agricultural imports increased with 50% between 1951 and 1960; in Eastern Europe it also grew rapidly, though exact figures are missing.<sup>72</sup> For specific foodstuffs see table 3.

Table 3: Changes in volume of national imports for several commodities 1951-1960. 1951=100. Source: ECE, *Ten years*, p. 16, table 6 and IX-1.

	Western Europe	Eastern Europe
Wheat	78	370
Meat	162	(<100)
Butter	131	97
Cheese	124	302
Eggs	175	78
Fruit	170*	-

\* Calculated for selected fruits (apples, pears, grapes, raisins, citrus fruits and bananas).

In Western Europe, trade increased significantly except in wheat. In Eastern Europe, wheat trade expanded rapidly because of increasing exports from the USSR. The rapid increase in eggs imports is explained by the very low level in the early 1950s. Clearly, however, net imports or exports did not keep up with productivity gains. In wheat, Western European output increased from 39 million metric tons in 1951 to 48 in 1960; net imports/exports in the region fell from 11 to 8. In Eastern Europe and the USSR, by contrast, net imports in eastern Europe rose from .8 to 5 million tons, roughly corresponding to USSR export rise from 1.7 in 1954-56 to 5.5 in 1960.(p. 34)

As for mesoregional groupings, the ECE report explicitly addressed the East-West cleavage. Again, its conclusions were rather negative. By no means had the pre-war collaboration been re-established. East-West trade continued to reflect the problems in the international political scene. In 1957-1959 the OEEC countries, a category then covering 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 was marginal, and more important to Eastern than to Western Europe: the 3% of W-European agricultural imports made up one-fifth of eastern

<sup>72</sup> Ibid., p. 15-16.

Europe's agricultural exports. Conversely, 4 % of Western Europe's exports went to Eastern Europe, making up almost 10% of eastern European imports. The pattern did not fit all countries; and commodities: Western Europe received 82% of Polish meat exports and 77% of butter and 94% of egg exports; 88% of Hungarian eggs exports and 57% of Bulgarian egg exports.<sup>73</sup>

This visibility of a 'Cold-war Europe' was quantified for the foodstuffs mentioned above, see table 4.

*Table 4: Imports in Western and Eastern Europe by origin 1957-60. Source: ECE, Ten years, tables 4 and 5.*

	Western Europe 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'.

As for Eastern Europe, cereals and butter were predominantly traded within the region, while eggs (and sugar, too) were imported mostly from outside Europe. In Western Europe, animal products were mostly traded within the region, while cereals in particular were imported from overseas – the US and Canada.

Again, there were variations by country, Finland imported over 85% of its wheat from the Soviet Union for most of the period; by 1960, the Swedish share had increased to over 70% as well.

### *Prospects*

The prospects for an all-European food system, involving national specialization and international trade, then, were dim. Yet the years around 1960 might spark off a new era: both the EEC and the CMEA stepped up their attempts for transnational collaboration on foods trade. The centrally planned economies in the CMEA (1949) had used this forum primarily for bilateral negotiations (bilateral trade made up 70% of their trade in 1959).

<sup>73</sup> Ibid, p.13.

The policies of these countries had been suspicious to international specialization and trade, and aimed primarily for national independence. Only in the early 1960s the CMEA started to develop this; at its 1962 Moscow meeting it adopted the “fundamental principles of the international socialist division of labour”, holding, as the *Pravda* announced, that “because of differences in soil and climatic conditions, the exchange between socialist countries of agricultural products will continue to take place and to be further developed. This leads to the necessity of co-ordinating plans aiming at further development of specialisation between socialist countries in the field of agricultural production...”<sup>74</sup>

As for the EEC (1957), it aimed for a rather different type of integration: not bilateral trade, but forming a Common Market, which would convert external trade to intra-EEC trade. This common market was scheduled for 1970. In the mean time, in 1962 a Common Agricultural Policy was implemented for a number of products, introducing levies to increase prices of imported foods from outside the EEC to or above the internal price level. This would make EEC products competitive in its internal market irrespective of world prices.

The ECE was sceptical, however. The then-known CMEA plans on bilateral trade addressed such division of labour only for fresh fruits and vegetables, appointing Bulgaria as prime supplier of the region. Concerning other products countries were still striving for self-sufficiency. As for the EEC, it expected that productivity gains in individual countries would reduce import possibilities in the first place. This will be, however, the subject of a subsequent study (perhaps).

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<sup>74</sup> Cited in *Ibid*, 7.