



**Institutional uses of infrastructures:
A research strategy for studying European food chains**

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Working document no. 19

August 2007

Transnational Infrastructures
of Europe

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Eindhoven, August 2007

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1. Research aims

The aim of the TIE programme is to contribute to the understanding of transnational infrastructure development and its entwinements with the shaping of contemporary Europe. Such an inquiry obviously has to start with examining the shaping of transnational infrastructures themselves, a field of research, which is now producing results.¹ However, on the basis of existing literature one may expect that the economic, social and cultural meanings of infrastructures are not only shaped in such infrastructure building processes, but also in (often but not always subsequent) processes of use and symbolic interpretation, which lie outside the system building effort proper.²

¹ See most texts in this working documents series, as well as Van der Vleuten and Kaijser, eds. Networking Europe. Transnational infrastructures and the shaping of Europe, 1850-2000 (Sagamore Beach, MA: Science History Publications, 2006); Badenoch and Fickers (eds), Transnational Technologies, forthcoming; and forthcoming TIE books by Lagendijk on European electric power infrastructures; by Schipper on European road infrastructures; by Anastasiadou on rail infrastructures; and by Lommers on broadcast infrastructures.

² Schot, Johan 2003, Transnational Infrastructures and the Rise of Contemporary Europe, Project proposal, January 2003. TIE-working document no. 1. In so-called Large Technical Systems (LTS) research on this issue this point was elaborated in Erik Van der Vleuten, ‘Étude des conséquences sociétales des macro-systèmes techniques: une approche pluraliste.’ Flux. Cahiers scientifiques internationaux réseaux et territoires 43 (2001),

In this working document I develop a research strategy for investigating the uses of transport infrastructure for food supply. The so-called transition of food supply in the last two centuries, lifting (almost) entire societies out of endemic under- and malnutrition, is arguably one of the most important events in contemporary European social and economic history. Clearly, infrastructures had something to do with this: food historians invariably argue that next to increasing agricultural productivity and consumer incomes, the transport revolution was crucial to the shaping of modern food systems characterized by year-round, abundant and varied food supply, affordable to all social classes. I shall return to this transition below.

In this working document, food supply will be studied not only as a major historical topic in its own right, but also as a particular *use* of transport infrastructures. User studies have 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 (infrastructural) technologies has gained wide currency.³ 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 built by the food sector, banking infrastructure built by the banking sector, or military systems built by militaries.

This paper spotlights such ‘institutional uses’⁴ of infrastructures in Europe, and develops a research strategy to study them for the particular case of food. The goal is to inspire research into the questions whether or not any ‘food Europe’ emerged in at the intersection of transport infrastructure and food system building, what this Europe looked like, and how it affected daily food and meal patterns.

In the following, I first ask how the existing European food historiography relates food history to ‘Europe’ and transport infrastructures. This section concludes that both topics are deemed of huge importance, yet remain taken for granted. Critical examination (including problematization of the notion of Europe as well as the relationship between food and transport) is overwhelmingly absent. Then I address the question of how to set up an inquiry into the entanglement of infrastructure building, food system building, and changing food habits/patterns. The paper develops a ‘critical transactionist’ approach to think together relationships between infrastructure development, food chain building, and consuming food. Furthermore, it suggests to take international organizations as a suitable research entry; for

42-57 ; 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 Van der Vleuten, ‘Understanding Network Societies: Two decades of large technical systems studies’, in Van der Vleuten and Kaijser, *Networking Europe*, 279-314.

³ The study of users giving meaning to (infrastructural) technologies was pioneered in Ruth Schwartz Cowan, ‘The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology’, in Bijker, Hughes, Pinch, *The social construction of technological systems* (MIT 1987); Nye David 1990, *Electrifying America. Social Meanings of a New Technology* (Cambridge, Ma.: MIT, 1990); and Fischer Claude 1992, *America Calling. A social history of the telephone to 1940* (Berkeley: University of California Press, 1992). For a state of the art of use-studies see Oudshoorn, Nelly and Trevor Pinch (eds.), *How Users Matter: The Co-construction of Users and Technology* (Cambridge, Ma.: MIT Press, 2003) and Edgerton, David 2006, *The shock of the old* (OUP 2006).

⁴ 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.

the particular case of 'food Europe', the United Nations Economic Commission for Europe would be a favourite candidate that can profitably be studied as a 'European system builder.'

NB Note that the research in this working document is presented in an order and logic reflecting the research process. It is not necessarily tailored to the reading process.

2. Transport and transition: Searching "Europe" and "transport" in European food historiography

Does the existing European food historiography allow for an interpretation along TIE lines? Does it offer clues to the construction of transnational food networks in processes of mobilizing transport and communication infrastructures? Does it allow for an inquiry how 'food Europe' would look?

Food historians are quite clear about the main historical theme that demands explanation. In his long-term view of European food history from the 3rd century AD to the present, Massimo Montanari observes a radical break or 'revolution' in the last one and a half century.⁵ Since then, dreams of the Land of Plenty (that have a long history themselves and were particularly abundant in the 13th and 14th centuries) seem to have been actually accomplished (p. 180). At least in Europe, food became abundant, varied, and cheap. This seems to be one of the most important events in European food history and socio-economic history at large. Others speak of the 'nutritional transition' or the emergence and diffusion of the 'modern food culture'.⁶ Food abundance and variety can be closer defined as raising the daily per capita calorie intake from around 2000 to 3000, and replacing a monotonous diet of starchy staples (grains, potatoes) by variety including meat, fish, fruit, vegetables, and processed foods as sugar and butter, thus overcoming undernutrition as well as malnutrition.

Montanari and others have identified several drivers that jointly produced this revolution or transition. On the production side, next to productivity gains in agriculture and the marketing efforts of the new food industries, infrastructure is considered crucial: transport – and the necessary techniques of conservation (such as cooling & freezing, pasteurisation, packaging) - enabled extensive food trade over longer distances. This in turn loosened the traditional ties between food and territory: failing harvests and seasonal shortages could now be overcome by acquiring foods produced elsewhere: "the century-old hunger of Europeans was conquered by independence of the seasons" [NB my translation from Dutch version of

⁵ Montanari, Massimo 1996, The culture of food (Blackwell 1996; Italian orig. 1993).

⁶ Grigg, David, 'The nutritional transition in Western Europe', Journal of historical geography 22, 1 (1995) 247-261; Grigg, David, 'The changing geography of world food consumption in the second half of the twentieth century', The geographical journal 165 (1999) 1-11; Oddy, Derek and Lydia Petráňová, 'The diffusion of food culture', in Oddy and Petráňová, The diffusion of food culture in Europe from the late 18th century to the present day (Prague: Academia, 2005), 18-28.

the book]. Thanks to transport and trade, food supply became 'delocalised.'⁷ On the consumption side, key factors contributing to this process include rising real incomes following industrialization 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, trade in livestock and fish had momentarily flourished from the mid 14th century.⁸ The crises of hunger and the Black Death had cut down Europe's population and momentarily taken off pressure on food supply; fields became available for animal fodder, and livestock trade was set up for instance from Central to Western Europe. There was also trade in living fish (eel) as well as preserved (salted and gutted) herring from the Baltic Sea region, which contributed to the fortunes of the Hanze merchant town association in the 14th and 15th centuries. However, this trade remained marginal compared to local production and consumption of foods - and besides, in the following centuries a varied and to a large degree carnivorous diet again gave way to an increasingly monotonous diet for the masses based on locally grown starchy staples - cereals and potatoes. One may also observe that the long journey of corn and potatoes from the New World to the Old World was translated in a local food flows: these were locally produced and consumed, and by the mid 19th century they generally were considered 'local foods', not exotic foreign foods which were a privilege of the wealthy few.⁹ Undernutrition and malnutrition persisted until the modern era (some observe a slow start in the 18th C); only from the mid 19th the 'delocalisation of the food system' became structural and food abundant, varied, and widely available.

While the modern transport revolution is awarded a prominent place in explaining the modern food transition, it is hardly ever elaborated, let alone critically examined. Like Montanari's important work, recent overviews of Sarasúa and Scholliers (2004) and Oddy and Petráňová (2005) mention the 'transport revolution' as a driver of this transition or argue that "by the second half of the 19th century nowhere in Europe could escape totally from the influence of the railways."¹⁰ Transport is seen as a necessary precondition for building food systems or chains; an external force, an enabling infrastructure that is readily available, but not subject to inquiry itself. Tellingly, in the nearly 2000 pages of the *Cambridge World History of Food* (2000) the topic of transport is missing.¹¹

There are a few exceptions though, always on (sub)national scale, e.g. on German milk trains and 'rail milk', on trucks as 'political technologies' active in the 'privatising the politics of food' in the U.S., and the mobilization of transport systems in shaping a nationally integrated food system in the Netherlands. Such studies suggest that there is more to be said about the intertwinement of infrastructure and

⁷ Term derived from Pelto, Gretel 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.

⁸ Montanari, The culture of food, chapter 3.

⁹ Sarasúa, Carmen and Peter Scholliers, 'The rise of a food market in European history', in: 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), 13-29.

¹⁰ Oddy and Petráňová, 19.

¹¹ Kiple, Kenneth, and Kriemchild Coneè Ornelas eds 2000, The Cambridge World History of Food, 2 Vols (CUP, 2000).

food system development.¹² They suggest that the intersection of transport and food supply systems is a worthy field of research, an arena where a lot of work was done that helped shape modern food supply and its consequences.

What, then, about the 'Europe' in European food history? Clearly, European food historiography has boomed in recent decades, witness a large amount of books featuring 'food', 'history' and 'Europe' in their titles and the establishment of food history associations such as the *International Commission for Research into European Food History* (1989).¹³ This work does a great job assembling food historians from 'as many countries as possible' and developing new research themes, for instance carving out a space for the social and human sciences next to nutritional science in inquiring changing food and meal patterns.¹⁴ However, on closer inspection this literature has very little to say about what 'Europe' is. Like Montanari's book (note that it was published in Jacques le Goff's well-known *The making of Europe* series), the books consulted for this working document lack any 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 defined tacitly by practice: a 'European' development pattern is abstracted from national or subnational cases. If there is anything more than national about it, it is, according to Hans Teuteberg's (1992) influential research agenda a 'comparative European food history', the main aim of which is "to gather results of different areas of research and place them in a coherent framework".¹⁵ Since 'independent historical food research in the different European countries ... has obtained very similar results', this European food history is tacitly equated with the cumulated experience of national food histories.¹⁶ The biennial conference proceedings of the *International Commission for Research into European Food History* and similar volumes likewise illustrate this approach by juxtaposing of an abundance of national and micro-regional case studies. Very few of such studies exceed the national scale. Some do mention 'Europe', but if so, they tend to abstract a more general development pattern from a severely limited number of countries (sometimes consideration of three countries qualifies a 'European' pattern).¹⁷

¹² Barbara Orland, "Milky ways. Dairy, landscape and nation building until 1930", in Sarasúa, Scholliers & Van Molle, *Land, shops and Kitchens*, 212-254; Hamilton, Shane, "Trucking country: Food politics and the transformation of rural life in postwar America", *Enterprise & Society* 7 (2006): 666-67; Van der Vleuten, 'In search of the Networked Nation. Transforming technology, society and nature in the Netherlands in the 20th century,' *European Review of History* 10 (2003), 59-78.

¹³ Teuteberg, Hans ed., *European food history. A research overview* (Leicester 1992); Scholliers, Peter ed., *Food, drink, and identity. Cooking, eating and drinking in Europe since the middle ages* (Oxford: Berg, 2001); Jacobs, Marc and Peter Scholliers (ed), *Eating out in Europe. Picnics, gourmet dining and snacks since the late eighteenth century* (Oxford: berg, 2003); Oddy and Petráňová, *The diffusion. Compare the tables of contents of the following volumes on www.vub.ac.be/SGES/ICREFH.html*, consulted 19 March 2007.

¹⁴ Teuteberg, 'Preface', in Teuteberg, *European food history*, 1992.

¹⁵ *Idem*, 9.

¹⁶ *Idem*, 16.

¹⁷ E.g. van Otterloo, Anneke, 'Fast food and slow food. The fastening food chain and recurrent countertrends in Europe and the Netherlands (1890-1990)', in Sarasúa and Scholliers 2005, 255-277 even takes 1 country as a model for Europe. Lynn Martin, A. 'Old people, alcohol and identity in Europe 1300-1700' in Scholliers (ed), *Food, drink and identity*, 119-137 takes 3 countries; Den Hartog, Adel, 'technological innovations and eating out as a mass phenomenon in Europe: a preamble', in Jacobs and Scholliers, *Eating out*, 265-28 makes a larger but still exclusively Western-European selection. NB Global food historiography also shares this national approach,

Some nuance is brought into this picture by studies examining how the 'nutritional transition' or 'modern food culture' proceeded unevenly in Europe (as it did globally). It can be traced as largely following industrialization and urbanization patterns: This transition is visible first in mid 19th century Great Britain, Belgium, Northern France and Western Germany. It is observed in late 19th century Austria, Bohemia and Moravia, Scandinavia and parts of Russia. Non-industrialized and non-urbanized parts of especially Eastern and Southern Europe lagged behind 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 held responsible for such diffusion patterns.¹⁸

Beyond such comparative history, a systematic *transnational* history of the European food transition –to my knowledge is still lacking. Such a history would focus upon mechanisms connecting (or disconnecting) nations, systematically inquire how the national and the international became connected, preferably by simultaneously tracing transnational food chains, making visible the role of transport in their shaping, and discussing its national or local consequences.

3. Approach: A Critical Transactionalism and an international organization perspective

Critical Transactionalism

I propose an approach to inquire of the relationship between infrastructural change and the shaping of Europe, which I call for a critical transactionalism. In the case of food, this approach should critically examine causal relationships between (transport) infrastructures, food systems, and food habits.

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. Or, in this particular case of food supply, how the mutual connection of Europe's nations and peoples by transport infrastructures in one way or another helped shape the modern food transition and shape a kind of 'food Europe' in food supply structures and possibly even in national/local eating patterns. So far, Deutsch' transactionalism has hardly resonated in the mosaic of political science work on European Integration (perhaps partly because its object of inquiry was not political

e.g. Belasco, Warren and Philip Scranton eds, *Food nations. Selling taste in consumer societies* (New York: Routledge 2002).

¹⁸ Oddy and Petráňová, 'the diffusion', 18-28; Grigg, 1995 and 1999; For databases on national diets see Church, Susan, *The history of European food composition databases. First Eurofir synthesis report* (no place, Eurofir, 2005).

decision making per sé, as in most other theories in the canon).¹⁹ If it did, it was narrowed down to a form of 'neofunctionalism' and thus a theory of the formal (political) integration process (explaining the growth of the EC/EU in terms of competences and policy domains), rather than a theory of exchanges connecting of fragmenting Europe's peoples; also in its current form of 'supranationalism' or 'neo-transactionalism' aims at understanding polity building.²⁰ What is needed, then, is an approach inquiring connections between transnational infrastructures, transactions, and the shaping of Europe.

In addition, such a transactionalism spotlighting relationships between infrastructures, transactions, and Europe-building, needs a critical dimension. To say that infrastructures were important in the shaping of Europe, as the TIE project does, is not to take the harmonizing, integrating or unifying effect of transnational infrastructures and exchanges for granted, as much ideology of circulation does (which is an infrastructure-shapes-prosperous-and-peaceful-ideology dating back to the early 19th century, of which perhaps Deutsch' transactionalism, and certainly EU infrastructure programmes, are 20th century examples²¹). Instead, one needs to critically examine how infrastructural change entwined with European integration, which choices were made, by whom and how. This means being critical not necessarily in a normative sense, but certainly in spotlighting instances where the ideology of circulation breaks down, analysing power struggles and asymmetries between social groups that affect relationships between infrastructures and societal change, and examining ruptures and fractures in the seemingly progressive process of infrastructural integration. In our case of food, there may be a form of causal relation between infrastructural interconnection on the one hand and the shaping of a 'food Europe' on the other. But such relations, though causal, involve several moments of interpretation, possible contestation and choice. At these moments, food Europe could have evolved differently. With Fischer, I search for an approach that is both causal (i.e. specifies relationships between events, NOT monocausal or deterministic ones!) and accounts for moments of interpretation, contestation and choice.²²

In this document I mean by a critical transactionalist approach examining three arenas where such moments of choice can be studied.²³ 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-

¹⁹ Diez, Thomas and Antje Wiener, 'Introducing the mosaic of integration theory', in Wiener & Diez (eds), European integration theory (OUP 2004), 1-24 on 11-12. For a brief summary of Deutsch see Moxon-Browne, Edward, "New wine, old bottles, or both? Regional integration in the mediterranean", in Peter Xuereb (ed), Euro-med integration and the 'Ring of friends.' The Mediterranean's European challenge (University of Malta Press 2004), 85-100 on 91-92.

²⁰ E.g. A. Stone Sweet & W. Sandholtz, 'Integration, Supranational Governance, and the Institutionalization of the European Polity', in Brent Nielsen and Alexander Stubb, The European Union. Readings on the theory and practice of integration, 3rd ed (Palgrave, 2003); Andrés Malamud, 'Spillover in European and South American Integration. An assessment', Paper for the 2001 meeting of Latin American Studies Association (Washington DC, 2001).

²¹ For this ideology of circulation see Mattelart, Armand 1996, The invention of communication (Univ of Minnesota Press, 1996); Mattelart, Armand 2000, Networking the world 1794-2000 (Univ of Minnesota Press, 2000).

²² Fischer, America Calling, introduction.

²³ Following Van der Vleuten, 'Etude' and 'Infrastructures and societal change'.

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. This process of infrastructural integration displays clear asymmetries and ruptures and has been clearly spotlighted in TIE work so far.²⁴

The second arena is that of the institutional uses of infrastructures – the use and mobilization of infrastructures while building society-wide structures e.g. for food supply. Other examples would be banking, or military structures built literally on top of the former infrastructures (these superstructures have been called ‘second order’ large technical systems²⁵). Here once more, choices are made *how* to mobilize and use transport infrastructures, who to include and exclude, when setting up food chains.

The third arena concerns choices made at the local level by end users, for instance by consumers choosing from a wide variety of foods made available by extensive food systems in the local supermarket. They buy some and not others, prepare and eat them in specific ways, etc. The consumer junction if you will.²⁶

The first arena will not be addressed here. It is widely addressed in other TIE studies, producing the image that particularly Northern and Western Europe have been integrated earlier and more intensely than Southern Europe (save Italy) and Central/Eastern Europe. It also reveals that national networks were gravity points in transnational systems, compared to which cross-border connections were relatively weak. In turn, such transnational networks were often organised on meso-regional scales (the OEEC region, the COMECON region, the Iberian or Nordic regions, and currently the EU region) rather than a truly pan-European one, making links between regions much weaker than links within them. This working document takes this situation as a point of departure. It further extends the TIE agenda to the second and third arena of investigation: the mobilization of infrastructures while building up food supply systems, and the use of these systems by consumers. Notably, a similar inquiry has been made for the case of national integration in the Netherlands.²⁷ I shall now try it on ‘Europe.’

Dealing with complexity an international organization perspective on transnational food chains

The sheer volume of the subject matter, however, is now getting out of hand. First, the field of food history is extremely large, comprising agriculture, industrial processing, preservation and transport, retail, consumption, and regulation. Second, ‘Europe’, even if not a priori defined (it is treated as an outcome rather than a premise

²⁴ Explicitly so in Van der Vleuten, Erik, Irene Anastasiadou, Frank Schipper, Vincent Lagendijk 2007, ‘Europe’s system builders. The contested integration of transnational road, electricity, and rail infrastructures’, *Contemporary European History* 16, 3 (2007), in press.

²⁵ Braun, Ingo, ‘Geflügelte Saurier. Zur intersystemische vernetzung grosser technische Netze’, in Ingo Braun and Bernward Joerges (ed), *Technik ohne Grenzen* (Frankfurt: Suhrkamp, 1994), pp. 446-500.

²⁶ Schwartz-Cowan, ‘The consumption junction.’

²⁷ Van der Vleuten, ‘In search of the networked nation.’ and ‘Introduction. Networking technology, networking society, networking nature.’ *History and Technology* 20 (3) (2004), 195-203.

in this investigation), is – geographically - a very broad category defying detailed empirical analysis.

To cope with the broad field of food history, notions of ‘food systems’ or ‘food chains’ are quite helpful. They are similar to the notion of food supply as a second-order system suggested above. Such concepts, argue Sarasúa and Scholliers in the *Tensions of Europe* volume on food and agriculture (2004), may assist an integrated food historiography in a field which at present remains thoroughly fragmented: the topics of agriculture, retail, and food consumption history (and one should add the rise of the food processing industry) are studied by different communities of historians and rarely combined. This work, however, may be integrated via notion of food system or food chain focussing upon the entire constellation of food supply and consumption from agriculture to consumption.²⁸

Sarasúa and Scholliers see these concepts as rather recent, particularly as historical concepts. They are not. Notions like ‘cold chains’ were used in the early 20th century (and perhaps the late 19th century) by actors advocating the building of refrigerated chains enabling flows of perishable foodstuffs, including production, transport, storage, and places of retail or consumption; it is also in organizing principle in Thévenot’s detailed history of refrigeration (which deals a lot with foods).²⁹ The food system concept was likewise used at least in the 1970s, when *International Organization* published a special issue on the geopolitics of food. The concept here denoted ‘three interconnected functions – production, distribution and consumption – and .. their means of interconnecting via public and private transactions’, in which transactions stand for agreements that ‘initiate flows of commodities, capital, information, technology or personnel’.³⁰

A second challenge is to address *transnational* food chains or systems, not (sub)national ones. As noted above, there is hardly any scholarship doing this (with the obvious exception of trade history), including the mentioned *Tensions of Europe* volume. For setting up a transnational inquiry of food chain development, I will take as my research actors and flows transcending national borders.

In the TIE programme, international organizations proved a valuable research entry.³¹ Studying international organisations dealing with infrastructures has great advantages over studying the multitude of national actors, developments, and sources. The latter approach tends to be terribly selective when discussing ‘Europe’; in view of the sheer multitude of national viewpoints and sources, Europe is often practically represented by a narrow selection of supposedly representative national experiences, typically France, Germany and Great Britain, and often excluding Central/Eastern Europe. Even the most inclusive inquiries remain selective – they exclude more than they include.³² A second problem is that its historiographic format

²⁸ Sarasúa, Carmen and Peter Scholliers, ‘The rise of a food market in European history’.

²⁹ Thévenot, Roger 1979, *A history of refrigeration throughout the world* (Paris: International Institute of Refrigeration, 1979), 105-106.

³⁰ Hopkins, Raymond and Donald Puchala, ‘Perspectives on the international relations of food’, *International Organization* 32, no 3 (1978) 581-616 on 597.

³¹ For a discussion see Van der Vleuten, ‘Understanding network societies’; Van der Vleuten, Anastasiadou, Legendijk and Schipper, ‘Europe’s system builders’; and Schipper, Legendijk and Anastasiadou, ‘Between Universalism and Europeanism’.

³² E.g. Robert Millward, *Private and Public Enterprise in Europe: Energy, telecommunications and transport c.1830-1990* (Cambridge University Press, 2005).

often assumes rather than tests the significance national categories vs. international dynamics. This may be a conscious stance (e.g. intergovernmentalism in International Relations) or simply the remainders of a national bias that characterizes the discipline of historiography. Taking international organizations as research entry may bring in to vogue much more of Europe, and enables critical weighing of national versus international dynamics.

There are disadvantages to taking international organisations as a research entry, too. One may expect a reduced sensitivity to local developments, and there is possibly a danger of over-estimating the historical significance of international organizations – here, too, historians may take the views of their sources for granted. The literature on international organisation warns us against this fallacy. The above-mentioned special issue on the global political economy of food in *International Organization* (1978) cites a mid 1970s survey identifying no less than 89 IGO's and thousands of NGO's concerned with food, but this massive presence does not prove importance: 'redundancy .. is rampant, complementarity is often unrecognized or at least unexploited, responsibility and accountability are poorly defined, coordination is difficult, and political and bureaucratic competition further complicates the network....budgets are modest, authority limited, support from member states is uncertain at best...'³³ National food systems were deemed of much larger importance, although these international organizations did have some influence though: They regularly placed topics on national agenda's that leading national bureaucrats would prefer to avoid, were very good at information gathering, provided international services that governments did not provide, and legitimated unilateral and bilateral policies with multilateral flavour. Finally, as the historians in the fabulous United Nations intellectual history project argue, such organizations produced ideas and can have a moral legacy.³⁴

In line with this argument, we have suggested to treat these organizations as key witnesses to processes of transnational infrastructure (and in this case food chain) building. It is absolutely clear that international organisations dealing with 'Europe' and infrastructure had little formal power, but spent much effort in information gathering (monitoring progress as well as problems of international cooperation) as well as organizing meeting grounds where different interests (federalist, national, corporate) negotiated transnational system building. We suggested to use these organisations to inquire three dimensions of transnational system building: their rhetorical alignment of infrastructure and the shaping Europe (which were the aims of infrastructures, and what Europe were they thinking about?); their sociotechnical system building approach (engaging simultaneously in technical and organisational, political, marketing aspects of this challenge); and hosting negotiations and conflicts which ultimately produce winners and losers, inclusions and exclusions in infrastructural collaborations.³⁵

³³ Hopkins and Puchala, 'Perspectives', 610

³⁴ Louis Emmerij, Richard Jolly, Thomas Weiss, 'Economic and social thinking at the UN in historical perspective', *Development and Change* 36, no 2 (2005): 211-235; Thomas Weiss and Tatiana Carayannis, 'Wither United Nations economic and social ideas? A research agenda', *Global Social Policy* 1, no 1 (2001) 25-47. See the United Nations Intellectual History Project at www.unhistory.org.

³⁵ Van der Vleuten et. al., 'Europe's system builders'

I assume that this approach will work as well in studying European food chains. Just one brief example: in his 1955 outlook, FAO Director General Cardon could observe – from his organizations’ global point of view - that older economic or political groupings as the Commonwealth and the French Union had more influence on food flows than the new regional policies of international organisations such as the EC and COMECON. He could also observe how world trade in foods stagnated because of national policies of agricultural self-sufficiency.³⁶ In short, from his international organization point of view the fragmentation of the global food system became painfully visible.

4. The UNECE as a European (food) system builder

In this working document, I suggest taking the United Nations Economic Commission for Europe (UNECE, 1947) as a research entry. It is a suitable research entry for several reasons. First, this regional body of the United Nations worked simultaneously on transport and energy infrastructures as well as flows on these infrastructures. As such, the UNECE was a successor of the pre World War II functional organisations of the League of Nations.³⁷ This work included foods: Part of its secretariat as well as a Working Party under its Inland Transport Committee were dedicated to the Transport of Perishable Foodstuffs, thus worked at the transport-food intersection. They did so in close cooperation with the United Nations’ global food body, the Food and Agriculture Organization (FAO, 1945). Second, the UNECE explicitly insisted on an all-European perspective, unlike many other international organizations in the Cold War era; hence, it should give a broader view of however food-Europe looked like than for instance the OEEC, the COMECON, and the EEC. Even the FAO was less inclusive when Europe is concerned, since the Soviet Republics remained absent and several Central Eastern European countries withdrew for substantial periods during the Cold War (Czechoslovakia from 1950 to 1969, Hungary from 1952 to 1967, Poland from 1951 to 1957). The UNECE was one of the very few all-European platforms during the Cold War, and particularly in its early decades counted as an important arena for negotiation of all-European issues. Third, the UNECE secretariat was much praised as a superior observer and data-gatherer on economic issues in Europe, particularly in the 1950s and 1960s.³⁸

For this inquiry, a little background knowledge of the UNECE is useful, in particular regarding its mission, strategy, and the kind of Europe it observed and worked for.³⁹

³⁶ ‘Food and Agriculture Organization’, *International Organization* 9, no. 4 (1955) 534-540 on 534 and 537.

³⁷ Schipper et al, ‘Between universalism’.

³⁸ Siotis, Jean ‘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.

³⁹ There is not much recent historiography on the UNECE. Most recent is: 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. The ECE is compared to the other UN regional committees in Yves Berthelot, ‘Unity and diversity of development: The regional commissions’ experience’, *ibid* 1-50. For the 1950s and 1960s see David Wightman, *Economic Co-Operation in Europe. A study of the United Nations Economic Commission for Europe* (London: Stevens &

As for its mission: When the ECE was established as an organization under the United Nations Social and Economic Council in 1947, it was partly to concentrate the tasks of the emergency aid and reconstruction effort of temporary organizations as the Emergency Economic Committee for Europe (1945), the European Central Inland Transport Organization (1945), and the European Coal Organization (1946) in one all-European body. In addition, beyond mere emergency relief and foreign aid, it was also to work for a more durable economic system. Its prime objective was formulated as to "initiate and participate in measures for facilitating concerted action for the economic reconstruction of Europe, for raising the level of European economic activity, and for maintaining and strengthening the economic relations of European countries."⁴⁰

This aim covered over a mixture of national concerns, which were aligned with considerable difficulty; indeed, according to several observers the organization was close to not being established at all.⁴¹ The organization served security and economic interests of key proponents as the US and UK, to whom an all-European organization should help redevelop Germany and Austria and contain and control Soviet Union and – originally – prevent a split of Europe in an Eastern and Western bloc. The French, in particular, hoped that an ECE would keep the raw materials and productive capacity of Germany under international control. Central Eastern European governments like those of Poland and Czechoslovakia favored an all-European organization hoping not to be completely absorbed by the Soviet Union and obtaining economic assistance from the West, and in case of Poland, preserving the important Western coal export market– it was the Polish labor and social welfare minister Jan Stanczyk who formally placed the proposal for an ECE on the United Nations ECOSOC agenda in 1946. There were protests, too: The Ukrainian SKK and the Soviet Union voiced fears that a regional organization might pry into domestic affairs, not least regarding the occupation of Eastern Germany. According to Wightman, the USSR supported the initiative because of its interest in controlling American aid to Eastern Europe and preventing the emergence of a powerful Western coalition that could bypass Moscow.

Once established, the organisation's secretariat itself developed a strong sense of mission. The drive and leadership of its First Executive Secretary, the Swedish ex trade minister Gunnar Myrdal, is often cited in this respect, as is the team of economists that he assembled around him. For them, working for all-European economic cooperation meant working towards European economic integration in the service of joint prosperity and, ultimately, peace: in 1954 Myrdal particularly praised UNECE work on transport as '...the centre for practically all the real work of

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). NOT READ YET: 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)

⁴⁰ article 1a cited in ECE 15, 22

⁴¹ For negotiations behind the scene see particularly Wightman 11-51. see also W.W. Rostow, 'The economic commission for Europe', *International organization* 3 (1949) 254-268. (Berthelot, 57-58).

European integration in the transport field accomplished since the war.⁴² When the commission was evaluated and made permanent in 1951, the UN General Assembly accepted the ECE's self-assessment, which considered all-European economic cooperation essential to the maintenance of peace on the continent. Myrdal continued to promote this vision, condemning the rapid growth of what he called subregional organizations as the OEEC, EEC and COMECON, and particularly condemning the practice of Western Europeans to claim the term 'Europe' for their rather limited organizations. Such efforts increased instead of decreased the threatening cleavage between east and West, and ultimately of a Third World War.⁴³

Incidentally, Myrdal was well aware of the role of vision in international politics – 'we need a vision to give us faith in reason' as well as institutional work. After all, he received a Nobel Prize in economics (jointly with Friedrich von Hayek) for transcending neoclassical economics and spotlighting the interdependence of economic, social and institutional phenomena.⁴⁴ This brings us to the strategy of the organization. A good strategy to achieve its aims was badly needed, especially when it became clear that the UNECE would lack serious political and financial power. This lack was one of the major disappointments of the early years.⁴⁵ When the Marshall Plan was announced in the U.S. just after the UNECE was established, the ECE was seen by a number of politicians as the best place to administer the considerable funds. After all, the Marshall plan was initially intended for all of Europe, not just a Western European Recovery Programme that it became. The US left it to Europeans to develop an institutional structure, and especially the UK advocated a structure that kept the Soviet Union out. The exact course of the negotiations may be subject to historical debate, but in the end the OEEC (1948) would organize the European Recovery Programme and the Marshall funds, while Eastern countries withdrew under Soviet pressure and founded their own collaboration the COMECON. The UNECE was left empty handed. The ECE never became the regular meeting ground of national top-politicians nor had finances behind its work. Financial and administrative power was concentrated on the sub-regional level following the dynamics of the Cold War.

What was left, then, was soft power of persuasion and voluntary cooperation. Myrdal's strategy was to invite governments to a broad collaboration by emphasizing and making visible their common interest, as well as and organizing practical work on such issue. The internal organization of the UNECE reflects this approach. The highest level in the organization was the Commission - an annual public assembly of participating governments. Though formally in charge, it was considered the least important and least interesting body. Here the national politics that characterized the founding debate and many other international organizations played out: One expert called it 'merely another cockpit for waging the cold war.'⁴⁶

⁴² 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, quote on p. 181, note 9.

⁴³ Gunnar Myrdal, "Twenty years of the United Nations Economic Committee for Europe," *International Organization* 22, no.3 (1968): 617-628.

⁴⁴ Erik Lundberg, '1974: G Myrdal and F A Von Hayek', in Assar Lindbeck ed., *Prize lectures in economic sciences volume 1 1969-1980* (Singapore: World Scientific Publishing, 1992).

⁴⁵ Wightman, 50.

⁴⁶ Wightman 1957, 1.

The cooperation and integration efforts played out at two other levels of day-to-day activities: of the UNECE secretariat headed by Myrdal, and a whole subsystem of committees focusing upon particular topics for collaboration were praised for low-politics work. Both levels were highly autonomous from the Commission as well as the parent UN ECOSOC organization. Myrdal actively guarded their mandate to do research, publish results and set up multilateral collaborations without prior consent or interference from member governments or the UN. The secretariat, next to organizing collaborations, was highly respected in its role as scientifically independent truth-seekers, following the principle of basing policy on reliable information to support committee work.⁴⁷ The committees finally did the 'nuts and bolts' intergovernmental multilateral cooperation.⁴⁸ They worked on the bottleneck-issues in European collaboration like coal, electric power, housing, industry and materials, inland transport, and timber (inherited from the E-organizations), agriculture, gas, statistics, steel, and promotion of international trade. Contrary to the politicized Commission, at these levels political aspects of problems were minimized by breaking them down to technical components that were worked out in sub groups of national experts. Voting and veto's were avoided; Committee's worked by consensus, and national representatives (which had a mandate from their respective governments and thus decision power) objecting to a proposal would not stop those who agree. Committees had in turn working parties; this goes for work on perishable foodstuffs that I will address below.

Notably, UNECE's multidisciplinary and problem solving approach bears much resemblance to Tom Hughes' notion of sociotechnical system building in the shaping of large technical systems. It is unclear, however, how effective UNECE work really was – some commentators were extremely negative.⁴⁹ It remains a good research entry, however, because of its information gathering and all-European outlook.

Which Europe?

This brings us to the issue of what kind of Europe the UNECE promoted and represented. In the beginning, the ECE was presented as an all-European organization at a time that the defeated powers were still the main enemies to world peace – the Cold War had not yet presented itself as the dominant issue – and the stake was European wide recovery. In retrospect, the UNECE stands for a regional approach in contrast to the global, functional UN organizations; multisectoral regional bodies like the UNECE recognize the importance of regional historic, economic, social and cultural specificity as a precondition for development. In the original discussions not all parties agreed - Canada voiced the favor of global, functional organizations in line with the spirit of the UN as a universal organization vs. a regional approach, but the struggle for a regional approach was won.⁵⁰

⁴⁷ On the secretariat see especially Siotis 1965.

⁴⁸ Berthelot, 130.

⁴⁹ For a very negative assessment see Brian Tew, 'Review of David Wightman, Economic Co-operation in Europe', *The economic journal* 67 (1957) 110-111.

⁵⁰ Berthelot 2004 a.

The imperative to make the UNECE an all-European organization is visible in its original membership of 18 countries, which included– unlike many other international organizations at the time –UN members from the communist USSR and the Byelorussian and Ukrainian SSR as well as Western countries and even the United States (formally as administrator of the US zone of occupied Germany, informally perhaps as a largest source of funds⁵¹). During the first years of the Cold War many Central/Eastern European governments refrained from cooperation; at times, the ECE was almost a Western body save Poland’s activity in the Coal Committee. By 1953 the situation had improved, and, tellingly, from 1954 the Soviet Union participated in all committees.

In addition, this commitment also shows in finding workaround solutions to including representatives from countries which participation was politically sensitive.⁵² These include for instance countries that were non-UN members, such as Albania, Austria, Bulgaria, Finland, Hungary, Ireland, Italy, Portugal, Romania, and Switzerland. The ECE had the mandate – and decided to – involve them in consultative capacity in committee work on basis of a ‘de facto equality’⁵³ in all meetings of the Commission, its committees and their subsidiary bodies. From 1951 it was mandated to grant voting rights as well. This arrangement proceeded until these countries gained formal UN membership in 1955 (Switzerland in 2002).

More difficult was the inclusion of General Franco’s Spain and of course Occupied Germany. Contrary to other non-UN members, Spain did not participate in this early ECE work. Apparently, the highly profiled United Nations 1946 resolution for a total political isolation of the remaining Axis-ally and ‘fascist regime’, including withdrawal of ambassadors and barring from all UN bodies, was too much of an obstacle for an informal bypass. This situation lasted only briefly, however: the emerging Cold War was soon conceived as a bigger problem than an undemocratic Spain. Its diplomatic isolation was formally relaxed in 1950 (after the 1949 Chinese revolution and the 1950 Korean War), and in 1955 it became a full UN and UNECE member.⁵⁴

As for the different zones of Germany, experts from Western zones occupied by France, Britain and the UK (the Federal Republic of Germany from 1949) were involved informally in committee work (not in Commission work) from the beginning. Participants from Soviet zone (the German Democratic Republic from 1949) were involved as well, but only after East-West tensions eased after Stalin’s death in 1953. The ECE then boasted of being the only UN body where GDR representatives participated.⁵⁵ Formal *de jure* inclusion was more political and difficult, however. In 1954 and 1955 proposals to formally include both new states was submitted by the Soviet Union, but voted down by most Western delegations refusing to formally recognize the GDR as a state, which they insisted was an occupied zone. While in the past the East had been skeptical and the West had pushed the ECE as an all-European cooperation, now the Soviet Union relaunched

⁵¹ Wightman 1956,

⁵² berthelot, 58-59. ECE15, 25; Wightman 1957, 56-58

⁵³ ECE15, 24

⁵⁴ For 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.

⁵⁵ ECE15, 3

all-European cooperation idea while Western powers were obstructive, and even more so after the Soviet intervention in Hungary 1956. In 1956 the FRG gained full ECE membership. The number of 18 founding members had now grown to 29. As for the GRD, a draft resolution involving GDR representatives with consultative status was again rejected by Western delegates, Only in 1973 the GDR became a full ECE member, when both Germany's finally were allowed to join the UN.

UNECE work on perishable foodstuffs

I shall end this working document with a brief background discussion of UNECE body on perishable foodstuffs. In February 1948, at the initiative of the US and UK representatives, the UNECE'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."⁵⁶ 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."⁵⁷ 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. The FAO had already started work on European fisheries trade and transport problems in 1947, but now referred such work primarily to the ECE.⁵⁸ Thus developed a division of labour: The FAO would primarily work on food production and consumption issues, while the UNECE Working party would work on food transport issues.

It is 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, which makes it a suitable research entry. When it first convened in June 1949, 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. Furthermore, it involved other relevant organizations, including 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; later the list constantly expanded, witnessing the network of actors that the Working Party 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

⁵⁶ Ezekiel (FAO) to Doré (FAO), 5 february 1948. UNECE archives (Palais des Nations, Geneva), G.IX 13/5/2 box 1337 index 3352.

⁵⁷ 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.

⁵⁸ 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.

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.

Finally, it is important to ask if the UNECE's attempts to be an inclusive, all-European organization worked out for the case of perishable foods. 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.⁵⁹ By contrast, Southern Europe was poorly represented. Italy of course was present, supplied the first Working Party 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 11th 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 3rd session in June 1950 no eastern country participated. Except for Italy, the Working Party had become 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.

5. Prospect

This working paper has argued that in investigating the role of infrastructures in the shaping of contemporary Europe, one needs to look beyond processes of building roads, rails or electric power infrastructures (to mention but a few). In addition to these, one needs to inquire how and for what such infrastructures were used, both by individuals and in broader societal 'subsystems' or 'institutions', of which food supply serves as an example in this document.

I have also suggested interpreting the relationship between infrastructures, societal institutions characterized by '2nd order systems' (such as 'food chains' or 'food systems' in the case of food supply) and end uses (for instance domestic eating habits and diets) in a critical transactionalist perspective. In particular to inquire the mediating level of food chains, this paper suggested taking international organizations as a research entry. For the case of food, the UNECE's working party on perishable foodstuffs would be a suitable research entry to investigate the development of food chains for perishables, the so-called cooling chains. This organisation, though formally quite powerless, amply studied the topic of European

⁵⁹ 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.

food integration and fragmentation, organised a variety of initiatives and monitored their progress, and hosted negotiations between stakeholders. An empirical study following these guidelines is under way.⁶⁰

Finally, one could doubt that the consumer-end of the food chain can be appropriately studied via UNECE sources. Here, the wave of nation-level food studies produced over the last decade presumably provides a wealth of relevant historical data. Due to their a priori national (or subnational) focus, mechanisms of transnational convergence and divergence are poorly thematized. This would suggest drawing another international organization – the UN Food and Agricultural Organization – into the analysis, for instance to investigate how FAO nutrition standards were developed, and how the FAO pushed for the establishment of national food authorities to further promote these standards on national and local levels.

To be continued.

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⁶⁰ Erik van der Vleuten, 'Feeding the peoples of Europe. Transport infrastructures and the building of transnational cooling chains in the early Cold War, 1947-1960'. Paper for the 2nd TIE international workshop (Eindhoven, 26-28 April 2007).

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