Mapping foodscapes

Peter Atkins

Dr P.J. Atkins,
Department of Geography,
University of Durham,
Durham DH1 3LE,
United Kingdom
email: p.j.atkins@durham.ac.uk

Mapping past foodscapes

'Maps encourage boldness. They're like cryptic love letters. They make anything seem possible' (Jenkins 1997).

Introduction

At present it seems that maps are not a priority for food historians. This is regrettable because, first, they are valuable as primary source materials in themselves (Black 1997), where cartographers, particularly in the nineteenth and twentieth centuries, have depicted various thematic elements of the food chain; and, second, they are also tools for present-day historians to use in the analysis of the spatial patterns that may be discerned in a wide variety of historical data. In this article I will explore some of the technicalities of maps and the meanings that they convey. I will also provide a number of examples of the problems and possibilities raised by their use in food history. First, I begin with some thoughts on why maps should not be taken for granted. I argue that their complex process of compilation leaves them open to critical interpretation, as much as any of the textual materials that we use as historians. Second, the mapping of food production is considered because this is the element of the food chain given most attention by cartographers in the past. Third, I propose that observed shortages or the absence of food stimulated the cartographic imagination in the nineteenth century. The mapping of famine was an early example of how governments reflected on their obligations of monitoring the welfare of their people, what Michel Foucault has called 'biopower'. Interestingly, through attention to vulnerabilities of families in poor countries, this type of cartography remains at the innovative cutting edge. Fourth, I take commodity flows as illustrative of past attempts to depict connexions in the food chain. The maps of Minard and Gill are indicative examples. Fifth, I touch on efforts from the early nineteenth century onwards to map restaurants and I discuss the recent conceptualization of 'food deserts', blanks in terms of retail access to healthy food. Finally, the end of the food chain is consumption; here I look at efforts to map cuisines and diet, none of them wholly satisfactory. This is an area of cartography begging further development.

Maps: medium or message?

Food cartography falls into the category of special purpose mapping that first arose in the nineteenth century for the portrayal of themes such as agriculture, the transport of foodstuffs to market, the sale of food in restaurants and retail shops, and also cuisines and diets. This was largely in the age of the map printed on paper, although there are countless earlier manuscript maps on parchment that record various aspects of food production. More recently, of course, we have progressed to viewing maps across the internet and the producing them on Geographical Information Systems using the latest computer technology. The number of maps explicitly addressing food has increased noticeably in the Anglophone world in line with a growing interest in the links between food and place.[1]

Map data comes in areal form (often based on administrative divisions), in points (specific locations identifiable by coordinates), or in lines (such as transport arteries). Over the centuries the basic form of data available has influenced the design of maps, prompting the invention of symbolisations such as choropleths (shaded areas), isopleths (contoured surfaces), dots or some other proportional symbol, and flows (Robinson et al. 1995). Many ways have been developed to enhance the quality of the resulting visualization, such as careful data classification, colour, and third-dimension effects.[2] Recently, multivariate

mapping has helped our understanding of the relationships between different aspects of the food system and reduced the need for series of maps of single variables. Crop combination regions, for instance, have been widely used to capture statistical complexity in this way (Weaver 1954).

Despite these sophisticated innovations, maps remain technically limited in many ways. Thus map projections are necessary to enable locational information that in reality is wrapped around a sphere to be printed on a two-dimensional sheet. These mathematical conventions are pure artifice yet they provide representations that have ready, naturalised meanings for the viewer (Cosgrove 1999). Scale is another major issue because the need to optimise readability means that only so much information can be included. The cartographer must therefore decide how much of the earth's surface will be covered and what data to leave out. Maps are samples and the information they leave out, their silences and pauses, is often as significant as their principal messages.

Maps employ a coded, visual language that must be interpreted by the reader. A 'key' to the conventional symbols is usually provided but there are other, hidden, messages and meanings that require deconstruction. Its use of symbols makes cartography susceptible to analysis by semiotics, a science pioneered by Saussure and Peirce and recently popular for reading visual images as a form of text (Keates 1996; Rose 2001). This textual and linguistic analogy has proved to be exceptionally fertile and maps are now seen as loaded with meaning and discursively active. Brian Harley (2001) is the scholar most associated with the idea of 'reading between the lines' of a map in order to understand the interests of its makers and their intentions, and then the implications for the map user. He saw maps as having a hidden agenda beyond their apparently innocent, positivist face, and he sought to 'break the assumed link between reality and representation'.

Maps, then, are partial, because they serve a purpose. The Enlightenment vision of maps as objective and democratic knowledge for all to view and to utilise was a dream that could never be fulfilled. Maps are far from neutral, objective mirrors of the world. Rather they serve interests and are powerful weapons, not only in military campaigns but also in the struggles that we fight daily at every level from the geopolitical frameworks of national territories and identity, to the boundary disputes that we have with our next door neighbours. The British were especially aware of the power inherent in spatial knowledge in their surveying and mapping of the empire. Geographical skills were very much in demand in the nineteenth and early twentieth centuries and cartography was a key facilitator of the expansion in British economic and political influence. It should be no surprise at all that the Map Room at the Royal Geographical Society has been a focus for generations of explorers and travellers, for maps were their key resource and making new maps was a much valued activity. The recent refurbishment and extension of the Society's building in London, opened in June 2004, placed special emphasis on improving access to its one million maps. In exploring the richness of this archive, one can get a feel for the significance of cartography as the hand maiden of empire (Driver 2001).

Food production

By far the greatest proportion of cartographic energy devoted to food history has been in the mapping of food production. Agriculture as a primary activity remained of major economic significance even in developed countries well into the twentieth century, and it was among

the first economic sectors to be thematically mapped (Burnett et al. forthcoming). In the early modern period land use maps performed an inventory function and were sometimes used as tools in the collection of taxes. The enclosure and tithe maps of England and Wales, for instance, are a magnificent source of information about agriculture in the eighteen and nineteenth centuries, drawn at a large scale (Kain 1986; Kain et al. 2004; Kain & Prince 1995), with details at the local level of divisions between arable and pasture and sometimes even the crops found in individual strips and fields. There have been many other surveys of land use and agriculture that have yet to be exploited for their economic history value, such as the wartime National Farm Survey (1941-3)(Short 2000).

Modern mapping of historical data has accelerated in recent decades, ranging from maps of the origins of agriculture, and the reflexive embodied relationships between food production and evolving human physical anthropology (Simoons 1994), to the historical geographies of individual products in sources as varied as the Domesday Book (A.D. 1086)(Darby 1977), and the computer mapping of agriculture (Coppock 1976). Most recently, Geographical Information Systems software such as ArcInfo and ArcView, has revolutionalised the cartographic treatment of the large historical datasets on agriculture and food, for instance those held by the Arts and Humanties Data Service History portion of the Economic and Social Research Council's UK Data Archive at Essex University.[3]

Famine

The European imperial powers took a close interest in the productive capacity of their dominions and colonies, for two reasons. First, they wished to understand and exploit the natural resources and local skills and, second, they sought to monitor the conditions under which their subject peoples lived. This latter concern was partly a utilitarian consideration that undernourished farmers might not produce sufficient of the raw materials required by the factories of the home country, and partly a concern for the possible political consequences of food riots. As a result, to take the example of British South Asia, there is a rich vein of information on hunger and famine in the India Office Collections of the British Library. Gazetteers, compiled for every district, record details of the farming and food habits in each group of villages. There are also many official reports and maps. Among the most revealing are the series of famine maps that illustrate the failure of entitlements over vast swathes of India in the nineteenth century. Wyld's famine map published in 1878 thus shows the catastrophic famines of 1860-1 (Delhi), 1865-6 (Cuttack), 1873-4 (West Bengal), and 1877 (southern India).[4] Similar maps were published for the Irish famine of the 1840s. Such mappings may be seen as detached indifference, or as the kind of surveillance that Foucault associated with power/knowledge (Harley 2001; Wood 1992). Another view is that these maps were a form of modern technology that provided a shortcut to the efficient implementation of the humanitarian elements of the 1883 Indian Famine Code, which in conditions of dire necessity was the basis for arranging the provision of food for work, and of food distribution in the worst affected areas.

Such food histories of famine and scarcity have much relevance to present concerns. The famine maps of the nineteenth century are the forebears of modern attempts to understand shortages and to design effective interventions. Vulnerability mapping uses the geo-referenced databases and spatial modelling capabilities of Geographical Information Systems and these are particularly powerful when they are used in conjunction with Environmental Remote Sensing. Satellites can automatically gather information about rainfall, vegetation biomass and other surrogate indicators of the likely success of a harvest

and on this basis the authorities can plan for possible relief works by building up emergency food supplies in regional stores (Cicone & Miller 2002).

Commodity cartographies

The mapping of commodity flows has a history stretching back to 1837 (Robinson 1982) but it has been less prominent than cartographies of points and areas.[5] For food, this is because there are fewer records of trade and transport that do full justice to the complexities of historical patterns than there are for agriculture. National trading accounts provide a starting point but at the sub-national scale it is rare that one can reconstruct the routes of food product movements from farms to market, thence to warehouse or processing factory, and onwards to the consumer. Information exists at various points in the chain but linking the whole is problematic.

One solution to the technical difficulties of flows is to map the sources of goods that were transported to a single place. This might be, for instance, any of the food commodities supplying a large city. Minard produced an early example of this in 1858 with his 'carte figurative et approximative des quantités des viandes de boucherie envoyées sur pied par les départements et consommées à Paris' (Robinson 1967).[6] It showed the outer boundary of the supply area, and he inserted the quantities sent from each department in the form of proportional circles, divided into slices according to the type of meat. This is a cartographic elaboration of the statistical 'pie charts' first used by William Playfair (Friendly & Dennis 2004). Another approach was to use lines of varying thickness to depict the quantities of a commodity moving along a particular road, railway, river or canal. Again Minard was a pioneer, with an 1862 map of livestock carried to Paris by rail, followed in 1864 by a map of wines exported by sea from France to countries all over the world (Figure 1).[7] Both are clearly and carefully drawn. After his death, Minard's work was carried on by others in the annual *Albums de statistique graphique* (1879-97) of the Ministère des travaux publics (Palsky 1996).

< Figure 1 here >

Such maps are not just technical curiosities. They served the purpose of visualising the assembly of raw materials that were essential to the economic development of the advanced industrial powers. In Britain commercial and commodity geographies were taken seriously, resulting in many books and articles richly illustrated with maps (Stamp 1937-80). Trading food was especially important for Britain because of her decision in the 1840s to prioritise free trade over protectionism. This favoured her industry and consumers but agriculture in the arable districts suffered from the competition of cheap foreign imports. She enthusiastically sourced foodstuffs from the Empire and beyond, therefore globalizing her diet at an early date.

One example of a global food flow map that had implications for the politics of Empire was Macdonald Gill's 'Highways of the Empire' published in 1927. This was a poster 6 by 3 metres in size, printed in 48 sheets commissioned by the Empire Marketing Board. It was displayed on billboards nationwide. Gill had been asked to show the links between Britain and her overseas territories by mapping the commodity trade routes, mainly food. His colourful design was popular and proved to be one of the most successful graphics ever published by the EMB, furthering its goal of emphasising the continuing ties between centre and periphery. This was an Empire that was being restructured as an economic entity to replace its flagging political and military raison d'être.

Restaurants and retail

The French love affair with food extended to cartography from an early period. The idea of a 'carte gastronomique', for instance, was established in the early nineteenth century. The Bibliothèque Nationale de France has one dated 1800, and another from 1810 that was already in its sixth edition.[8] An 1825 map was part of the long-running *Almanach des gourmands*.[9] There are seventeen other such maps in the collection of the BNF up to 1939, with those after the First World War catering increasingly for tourists, particularly gourmands in cars who were sufficiently mobile to seek out high quality restaurants. There is a lot of scope for further research on the cartography of 'eating out', for instance in Great Britain using the rich series of commercial directories that record the locations of restaurants, cafés and pubs, and specialist publications such as *The Good Food Guide* (Warde 2003).

Historical geographers have already taken an interest in evolving retail spaces from the early nineteenth century (Benson & Shaw 1992) but a great deal more needs to be done. An exceptionally interesting recent development has been the investigation of the relationship between retail provision and demand. It has been found for the modern era of supermarket dominance that store locations are often so inconvenient for certain groups in society, principally those without cars (elderly, disabled or poor), that one might reasonably describe certain parts of our large cities as being 'food deserts', where disadvantaged people have poor access to food and a limited choice of the items that make for a healthy diet (Whelan et al. 2002). The situation is equally serious in some rural areas, especially where village shops have closed. Using a Geographical Information System and a knowledge of the food habits of certain immigrant groups, Donkin et al. (2000) have taken this a step further by looking at the accessibility to particular ethnic foods of individual households. While such a level of detail will be difficult to reproduce in an historical situation, nevertheless historians could profitably employ the general approach of GIS to plot the changing provision and accessibility of various food services, such as markets, fixed shops, and catering establishments.

Consumption: mapping the super-organic

Fifty years or so ago, geographers tended to see food habits as outcomes of regionalized 'cultures' that had evolved over centuries. This work drew inspiration from Paul Vidal de la Blache (1845-1918) and Carl Sauer (1889-1975). The approach, sometimes called 'super-organic' cultural geography (Duncan 1980) had a rather static view of a society in which 'typical' foods and dietary regimes could be associated with localities and regions and therefore mapped. We are still used to thinking in these terms with maps of cheese and wine regions (for instance Johnson 1971-2001; Eekhof-Stork 1976; France 1989; IGN 1989) and, in one sense, this version of food geographies has a nostalgic charm. It values the deeply rooted traditions of the *pays*, rural communities that represent an antidote to the rapid and unsettling changes of urban-industrial modernity.[10] There are still ethnographers who have maintained an interest in the links between material cultures and place, and some of the cultural atlases produced in the twentieth century are now so old that they might be considered historical documents in their own right.[11]

Even now, a vision of the correlation between locality and traditional products has resonance among those consumers who seek out food from high quality, possibly organic, small-scale, artisanal producers as an alternative to industrially intensive supermarket products that lack a geographical identity. A debate has arisen about 'food miles' and

whether there should be a reduction of long-distance food trade in order to save on carbon emissions and to re-establish links in the consumer's mind with their own regional suppliers. In support of the high quality food and drink that is typical of particular regions, the European Union in 1992 introduced lists of 'protected designations of origin', 'protected geographical indications', and 'certificates of specific character'. Foods on these lists are legally protected from unfair competition, for instance Parma ham, brioche Vendéenne or Roquefort cheese, and the process of designation performs a function similar to that of the French Appellations d'Origines Controlées, which have played a major role in fixing the spatial specificities of wine (Larmat 1960).

Claude Thouvenot (1978) used a super-organic framework in his study of food habits in Alsace-Lorraine, a region divided between French and German linguistic groups. He assumed food to be a cultural marker, especially the differing preparation of the same raw materials. His survey of 30,086 families who had children in primary school found that many traditional dishes had survived. In the francophone region, red cabbage was still used in salad, soup was consumed in the evening and a regional cheese (cancoillotte) remained a typical food (Figure 2). In teutonic Alsace, red cabbage was cooked as a vegetable, soup was a midday item, and typical foods included naveline (turnips fermented like sauerkraut) and onion tart. None of these differences has any nutritional significance as far as we can tell, but Thouvenot argued that they represent, and reproduce on a quotidian scale, the deep cultural divisions in this part of the Franco-German borderland that have their origins hundreds or even thousands of years ago.

< Figure 2 here >

An alternative and more powerful approach might be to map the changing geographical patterns of food purchases that are discernible in the various official, national and international databases. The National Food Survey in Britain, for instance, has data going back to 1942, and there are other household databases that allow the statistical analysis of changing patterns of household consumption by variables such as income, family size and composition, and geographical location (Slater 1991). One such, as yet undervalued by social scientists, is data collected by market research companies for the information of the food industry.

Conclusion

Postmodern/poststructuralist cultural geographers regard Thouvenot's type of analysis as naïve, uncritical and potentially misleading. They have long since abandoned the routine mapping of cultural objects and behaviours, regarding such activity with a degree of what Gregory (1994) calls 'cartographic anxiety'. Greater emphasis is now placed on spatial processes that are not necessarily 'mappable' in the traditional two-dimensional sense. Recent developments have preferred instead the theorizing of the network connexions between actors in the food chain (Goodman 1999), the geographical biographies of commodities as a means of understanding consumption (Cook et al. 1998.; Castree 2004), and the hybrid, non-human geographies of GM food (Whatmore 2002). In short, human geography has moved on from its previous constitutive reliance on maps.

My guess is that most historians will be reluctant to follow their cultural geographical colleagues into the deeper realms of theory. They may well wish instead to make common cause with those historical geographers who continue to value mapping, and who

increasingly are turning to Geographical Information Systems to answer the 'where?' question. If so, there is a rich cartographic tradition to draw upon, but maps can never again be seen as neutral and objective. Our new awareness of their rhetorical power and their hidden agendas (Monmonier 1996) is a strength, not a weakness, and provides a platform for their critical use in food history.

Acknowledgements
My thanks are due to Peter Scholliers for suggesting this paper. I am also grateful to Nicholas Cox for introducing me to the work of Tufte and to Paul Laxton for encouraging an interest in Harley. An anonymous referee helpfully suggested some improvements.

References

Benson, J. & Shaw, G. (Eds)(1992) *The Evolution of retail systems c. 1800-1914* Leicester: Leicester University Press

Black, J. (1997) *Maps and history: constructing images of the past* New Haven: Yale University Press

Burnett, D.G., Edney, M. & Sponberg Pedley, M.G. (forthcoming) *The history of cartography. Volume 4: Cartography in the European Enlightenment* Chicago: University of Chicago Press

Castree, N. (2004) The geographical lives of commodities: problems of analysis and critique, *Social & Cultural Geography* 5, 21-36

Cicone, R., Way, D., Parris, T., Miller, J., Cunningham, D. & Koeln, G. (2002) *Geospatial indicators of food security, Pecora 15/Land Satellite Information IV/ISPRS Commission I/FIEOS 2002 Conference Proceedings* http://www.isprs.org/commission1/proceedings/paper/00036.pdf (accessed 25th January 2005)

Cook, I., Crang, P. & Thorpe, M. (1998) Biographies and geographies: consumer understandings of the origins of foods, *British Food Journal* 100, 162-67

Coppock, J.T. (1976) *An agricultural atlas of England and Wales* London: Faber

Cosgrove, D. (1999) Introduction, pp 1-23 in Idem. (Ed.) *Mappings* London: Reaktion Books

Darby, H.C. (1977) *Domesday England* Cambridge: Cambridge University Press

Donkin, A.J.M., Dowler, E.A., Stevenson, S.J. & Turner, S.A. (2000) Mapping access to food in a deprived area: the development of price and availability indices, *Public Health Nutrition* 3, 31–38

Driver, F. (2001) *Geography militant*: *cultures of exploration and empire* Oxford: Blackwell

Duncan, J. (1980) The superorganic in American cultural geography, *Annals of the Association of American Geographers* 70, 181-98

Eekhof-Stork, N.M. (1976) *The world atlas of cheese* London: Paddington Press

France, B. (1989) *Carte de la France avec ses vignobles en 1789 et 1989* Paris : IGN

Friendly, M. & Denis, D.J. (2004) Milestones in the history of thematic cartography, statistical graphics, and data visualization http://www.math.yorku.ca/SCS/Gallery/milestone/milestone.pdf

Funkhouser, H.G. (1938) Historical development of the graphical representation of statistical data, *Osiris* 3, 269-404

Goodman, D. (1999) Agro-food studies in the 'age of ecology', *Sociologia Ruralis* 39, 17-38

Gregory, D. (1994) *Geographical imaginations* Oxford: Blackwell

Gregory, I.N., Bennett, C., Gilham, V.L. & Southall, H.R. (2002) The Great Britain Historical GIS: from maps to changing human geography, *Cartographic Journal* 39, 37-49

Harley, J.B. (2001) *The new nature of maps: essays in the history of cartography* Baltimore: Johns Hopkins University Press

Institut Géographique Nationale (1989) *Alliance mets et vins de France* Paris: IGN

Jenkins, M. (1997) *To Timbuktu: a journey down the Niger* New York: William Morrow & Co

Johnson, H. (editions 1971, 1977, 1994, 2001) *The world atlas of wine* London: Mitchell Beazley
Kain, R.J.P. (1986) *An atlas and index of the tithe files of mid-nineteenth-century England and Wales* Cambridge: Cambridge University Press
Kain, R.J.P., Chapman, J. & Oliver, R.R. (2004) *The enclosure maps of England and Wales, 1595-1918: a cartographic analysis and electronic catalogue* Cambridge: Cambridge University Press
Kain, R.J.P. & Prince, H.C. (1995) *The tithe surveys of England and Wales* Cambridge: Cambridge University Press
Keates, J.S. (1996) *Understanding maps* 2nd edition Harlow: Addison Wesley Longman
Larmat, L. (1960) *La France Vinicole. Carte publiée sous le haut patronage de l'Institut National des Appellations d'Origine* Paris: Larmat
Monmonier, M. (1996) *How to lie with maps* 2nd edition Chicago: University of Chicago Press
Palsky, G. (1996) *Des chiffres et des cartes: naissance et développement de la cartographie quantitative français au xix* e *siècle* Paris: Éditions de CTHS
Robinson, A.H. (1967) The thematic maps of Charles Joseph Minard, *Imago Mundi* 21, 95-108
Robinson, A.H. (1982) *Early thematic mapping in the history of cartography* Chicago: University of Chicago Press
Robinson, A.H., Morrison, J.L., Muehrcke, P.C., Kimerling, A.J & Guptill, S.C. (1995) *Elements of cartography* 6th edition New York: Wiley
Rose, G. (2001) *Visual methodologies: an introduction to the interpretation of visual materials* London: Sage
Short, B. *et al. (2000) The National Farm Survey, 1941-3: state surveillance and the countryside in England and Wales in the Second World War* Wallingford: CABI
Simoons, F.J. (1994) *Eat not this flesh: food avoidances from prehistory to the present* 2nd edition Madison: University of Wisconsin Press
Slater, J.M. (Ed.)(1991) *Fifty years of the National Food Survey 1940-1990* London: HMSO
Stamp, Sir L.D. (20 editions 1937-1980) *Chisholm's handbook of commercial geography* London: Longmans, Green & Co.
Thouvenot, C. (1978) Studies in food geography in France, *Social Science and Medicine* 12, 43-54
Tufte, E.R. (1983) *The visual display of quantitative information* Cheshire, CT: Graphics Press
Tufte, E.R. (1990) *Envisioning information* Cheshire, CT: Graphics Press
Tufte, E.R. (1997) *Visual explanations: images and quantities, evidence and narrative* Cheshire, CT: Graphics Press
Wallis, H.M. & Robinson, A.H. (Eds)(1987) *Cartographical innovations: an international handbook of mapping terms to 1900* Tring: Map Collector Publications
Warde, A. (2003) Continuity and change in British restaurants, 1951-2001: evidence from the Good Food Guide, pp 229-43 in Jacobs, M. & Scholliers, P. (Eds) *Eating out in Europe: picnics, gourmet dining and snacks since the late eighteenth century* Oxford: Berg
Weaver, J.C. (1954) Crop-combination regions in the Middle West, *Geographical Review* 44, 175-200
Whatmore, S. (2002) *Hybrid geographies* London: Sage
Whelan, A., Wrigley, N., Warm, D. & Cannings, E. (2002) Life in a 'food desert', *Urban Studies* 39, 2083-2100
Wood, D. (1992) *The power of maps* New York: Guilford Press

Figure captions

Figure 1
Wine exports from France, 1864
Source: Minard (no date).

Figure 2
Food maps of Alsace-Lorraine
Source: redrawn after Thouvenot (1978).

Footnotes

[1] For a discussion of an historical GIS project, see Gregory et al. 2002. This is of technical interest but the GIS is not food-orientated.

[2] For an excellent series on graphical effects, see Tufte (1983, 1990, 1997)

[3] For European data archives, see: http://www.data-archive.ac.uk/findingData/map.asp

[4] *Map of India shewing the famine districts of 1860-1, 1865-6, 1873-4 and 1877* London: James Wyld.

[5] For more on the early history of statistical mapping see Funkhouser 1938.

[6] Published in Paris by Régnier et Dourdet.

[7] *Carte figurative et approximative des poids des bestiaux venus à Paris sur les chemins de fer en 1862*; *Carte figurative et approximative des quantités de vin français exportés par mer en 1864*.

[8] The 1800 maps is at a scale of 1 : 4,800,000. The 1810 *Carte gastronomique de la France* was drawn in Weimar by the Institut géographique and was published in Reichard's *Guide des voyageurs en France*.

[9] The *carte gastronomique de France* in de Perigord, A.B. (1825) *Nouvelle almanach des gourmands* Paris.

[10] See also the visually attractive maps produced by the Institut International du Fromage: *Les fromages traditionnels français*.

[11] For instance the *Atlas der deutschen volkskunde* (Leipzig and Marburg, 1937-39, new edition Marburg, 1957-73), which has a number of interesting food maps.