European food cultures:
An exploratory analysis of food related preferences and behaviour in European regions
Executive summary

1. Despite what may on the face of it seem like an increasing globalization of consumer patterns within the food area, it is relatively clear that major national and regional differences persist. However, in the light of the establishment of the European Single Market from 1993 and its potential expansion, the relative importance of national boundaries must be expected to diminish whereas other boundaries will become more apparent. One type of boundaries of vital importance to international marketing is the cultural boundaries dividing Europe into regions with individual cultural background and different consumption patterns.

2. It follows from this that further insight in the food consumption patterns might be gained by considering Europe from a regional perspective rather than in more traditional terms of nation-states.

3. Food consumption patterns make up a cultural system, which can be analyzed very much as a language, with its own syntax and grammar. These ‘cuisines’ or food cultures are very dependent on geographic and climatic conditions as well as on social and historical factors, even if we are witnesses to an increasing internationalization of our food cultures to the point where some people talk about a ‘world cuisine’. However, local, national, and regional differences continue to play a decisive role in the way elements, products, and ingredients are combined, and when, how, with what, and with whom they are eaten.

4. This paper explores information about such cultural patterns of food consumption based on information from an existing database originating from a 1989 pan-European lifestyle survey questioning around 20,000 people in 16 European countries divided into 79 regions.

5. A factor analysis reduced the number of variables from 138 to 41, discovering the latent factors structuring the Europeans’ responses to questions about their food behaviour and preferences.

6. On the basis of the factor variables, a cluster analysis was made in order to produce a picture of the groupings of the individual regions, thus getting a picture of the type of European food cultures which could be drawn from this material. A cluster solution with 12 clusters (7 national, 4 transnational, and 1 subnational cluster) was kept as the basis for further analysis. The clusters were portrayed according to their factor scores on each of the factor variables. Likewise, the degree of homogeneity in the various national states was analyzed in order to detect more or less regionalized countries in Europe in terms of food culture.

7. It was analyzed to what extent the other eleven clusters differ from Denmark, which alone represents a cluster. Sweden and to some extent the clustered British/Irish food culture revealed themselves to be closest to the Danish food culture.

8. Finally, some general consequences concerning the export of Danish food producing companies were drawn.
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1. Introduction

In a time of internationalization and global exchange of communication and commodities, the traditional boundaries between states become relatively less important and other boundaries become more important. A hitherto rather neglected set of boundaries of vital importance to international marketing is the cultural boundaries dividing Europe into regions with specific albeit overlapping, historical backgrounds and different cultural systems.

Regional patterns are particularly relevant for food products. We all know that tourists want to try ‘local specialities’ in the different parts of Europe and its countries. The wish ‘to take in some of the local culture’ tells us something very important about food products, namely that they do not only fulfil biological needs. We have a biological need to consume a certain amount of calories and quantity of liquid; this need, however, does not define what to eat and with what, how to cook it, when to eat it and in what social circumstances.

Disciplines such as psychology (personality traits, attitudes,….) and economics (the role of prices, allocation of resources,….) have contributed substantially to the understanding of the complexity of food consumption (cf. Ritson, Gofton & McKenzie, 1986; Grunert, 1989). Sociology, on the other hand, has had surprisingly little to say about food consumption (Gofton, 1986; Grunert, 1989). Mennell, Murcott and van Otterloo (1992), however, underline how the subject of food has grown in importance within the field of sociology during the last decade. This said, they also demonstrate how sociologists have had to gather material from many other disciplines in order to contribute to the task of constructing a sociology of food.

Especially in the chapter on The development of culinary cultures, Mennell et al. (1992) reflect on geographical differences in food cultures. One of their points is a difference in the historical development of different food cultures: Whereas Great Britain and France are characterized by national food cultures where the most important differences are defined in terms of class, Germany on the contrary showed rather pronounced regional food cultures which makes it hard to speak of one German food culture if one goes just a few decades back. Right or wrong, the arguments touch upon the key subject of this paper: The existence of different national and/or regional ‘culinary cultures’ in Europe and their similarities and differences.

Even though the different social science disciplines all have contributed to an understanding of the social aspects of food consumption, hardly any discipline matches anthropology in contributing to our understanding of food consumption, the perhaps most classic and cited example being the culinary triangle of Levi-Strauss (1968 p 406) Anthropologists, such as eg Farb and Armelagos (1980) or Douglas (1982), have extended such structural-anthropological studies, underlining the role of food consumption as a central part of social rituals. The metaphor of language has often been used in order to evoke the highly structured, formal and norm-based character of food-intake (Fischler, 1990).

From an anthropological point of view, food culture can be defined as a culinary order whose traits are prevalent among a certain group of people. Food cultures may be distinguished from the micro-level (family) to the macro level (countries, regions, social classes,…). Since the
categories of a culinary order are used to structure events involving the intake of food, food products are important cultural modes of expression used for communication purposes (Douglas, 1982). They may indicate whether it is an everyday, special or perhaps even festive occasion; the degree of formality expected, the solidarity of a group (and distance from other groups); one’s emotional involvement in the situation; one’s own emotional condition; sense of adventure or regard for traditions, etc.

The most basic distinction in the culinary order is the categorization of what is edible from a social point of view and what is not. But other distinctions such as taste criteria, the relationship between certain food items and certain consumption situations, timing, the associations pertaining to food products, eg in terms of gender (cf. Heisley, 1990), and the values attached to food also contribute to constituting the richness of a food culture (Fischler, 1990). The more specific term cuisine is often used to denote special typical ingredients, combinations of ingredients and preparation methods belonging to a certain country, region or ethnic group (Fieldhouse, 1986).

It is beyond the scope of this paper to go into detail with this rich literature. However, one main point to retain is that the focus of this literature is often on nutritional and other health problems rather than on consumer research per se. Moreover, since especially the theories of Levi-Strauss and Douglas have been discussed in another paper from this MAPP project (Bouchet, forthcoming), we will not elaborate further on the anthropology of food in this context.

The scope of this paper is empirical rather than theoretical. As already stated, assuming that Europe for many analytical purposes could be considered from a regional perspective, we are interested in the existence of different national and/or regional ‘culinary cultures’ in Europe and their similarities and differences. In other words, we will try to draw a ‘map of European food cultures’ that does not a priori operate with existing state boundaries only. This will be done through the analysis of data extracted from a European lifestyle survey conducted in 1989. One univariate example from that database will provide the reader with an idea of the type of regional patterns of food culture that are analyzed in this paper in a multivariate context. One particular question dealt with a binary choice of a preference for either a meal consisting of one proper dish with meat and accompanying vegetables as opposed to a ‘composite meal’ consisting of many small dishes. The response pattern to this question is depicted in figure 1.

By analyzing the variations in terms of a 10 percent divergence from the European average percentage, a border between Latin European and Anglo-Saxon and Germanic food cultures becomes clearly visible. It runs between Germany and France, through the southern part of Belgium, northern France and western Switzerland. North of this line, there is an overwhelming preference for the ‘single dish’ meal, whereas south of the line there is a general majority in favour of the ‘composite meal’, corresponding to some of the differences described by Kittler and Sucher (1989) under the notions of the food cultures of ‘Northern Europeans’, ‘Central Europeans’ and ‘Scandinavians’ versus ‘Southern Europeans’. One can also note the apparent existence of a more ‘Latin European’ preference pattern in three capitals of central and northern Europe: Vienna, Brussels and Copenhagen. This could be
Figure 1. Preferences in Europe for one proper dish with vegetables versus many small dishes

Percentage in favour of one proper dish
(European average score = 60%, 2% n.a.)

- < 50%
- 50-70%
- >70%
interpreted as a sign of a more ‘cosmopolitan’ food culture in these highly urbanized regions compared to their respective countries.\(^1\)

What we wish to explore is a set of such regional patterns of food related preferences and behaviour. However, before proceeding with that task, the region concept will be elaborated on briefly.

2. Europe in a regional perspective

Considering how frequently the word ‘region’ is used in modern European languages, there seems to be no doubt that we live in an age of regionalization. However, there seems to be much doubt about what this actually means. First of all, it is not clear, whether regions are smaller or larger units than the hitherto dominant nation-states. Sometimes ‘region’ refers to the former, stressing the need for supporting local (underdeveloped) communities whereas in other cases, the concept refers to the latter, for example when we talk about marketing to regions of a certain cultural similarity or cities becoming regional centres within the European Community.

The region concept basically refers to a geographical area that is characterized by sharing a set of specific traits. These similarities can be of both a cultural (linguistic, commercial, political,…) and a natural (landscape, climate,…) nature, where sometimes it can be difficult to determine the scope of the interactions and the interrelatedness of those two ‘sources’. Indeed, in the human world even ‘natural’ regions only exist through human interpretation of some natural differences being important and others not.

The most important type of region that has existed and has operated as the basic model for the construction of a society during the last 200 years has been given a special name: the nation-state. This special type of social and cultural entity has been so dominant that at a certain point in time we have stopped considering them as regions and reserved this term to less important entities, either smaller or larger than the nation-states. Even in parts of the world where no tradition pertains to the concept of nation-state, the model has been implemented with the consequence of internal and external strife in these new ‘nation-states’, sometimes bordering on genocide. Language bears witness to the primary role of this conception of modern societies: we speak of ‘international’ relations, the most prestigious (if not the most powerful) club of societies in this world is the ‘United Nations’, etc.

The modern democratic nation-state is based on a conception of free and equal individuals forming a mythical ‘brotherhood’: the ‘nation’ (Morin, 1984). This nation-state consists in a set of institutions which represent the people and which governs the society to obtain an optimum of benefit for all citizens. Further according to Morin, from its appearance as a social institution the modern nation-state has inherent corporate tendencies and tends to reduce inde-

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\(^1\) The case of Northern Norway does not constitute an exception in the same way since the percentage ‘for’ the solid meal was 68%, thus slightly under what was required to join the rest of the ‘Northern and Central European regions’, whereas the percentages in favour of the ‘solid meal’ were below European average in the three urban cases.
pendent intermediate institutions, Durkheim’s ‘corps intermédiaires’, to be of secondary importance, and sometimes to complete obsolescence: a process that perhaps has been the prime subject and the catalyst for the creation of the classical sociological tradition (Nisbet, 1966). Thus, from this ‘classic democratic ideal’, the basic identification pattern for any human being is his/her individual autonomy as a free citizen with his/her own personality, inscribed in a collective community based on ‘the myth of the nation’ (Morin, 1984).

The concept of ‘nation-state’, ie, the internationally recognized political institutions exercising control of a given territorial area, will be used instead of the concept of ‘nation’ in order to underline the fact that the states, ideally considered to represent one ‘nation’, very often comprise several national groupings.

Thus, it is hardly surprising that traditionally international marketing has worked with divisions of the international market based on the existing nation-states. In certain cases smaller administrative units within the individual nation-states have, however, been used as division criteria, especially where relatively large and/or heterogeneous markets are concerned. Such market divisions have often been called ‘regional’ and can be exemplified by the division of the German market into different areas such as Northern Germany, Bavaria or the five new federal states. But this is definitely the exception rather than the rule.

‘Region’ is, however, not unambiguous. It may also be applied to a large group of nation-states which are considered one unit, eg ‘the Nordic region’ comprising the Nordic countries. Furthermore, there may be combinations of these two perceptions as seen in ‘the Baltic region’ defined as the Scandinavian countries, Finland, parts of Russia near St. Petersburg, the three Baltic republics and (parts of) Poland and Germany. Generally, they are called micro-regions when they are small or do not comprise entire nation-states, whereas macro-regions comprise at least one nation-state.

According to Gidlund (1991) Europe should be seen as having more than one hundred “national regions - well-defined geographical areas with populations sharing a primary identity based on language, ethnicity, religion, cultural traditions, etc”. These national regions may follow the boundaries of the nation-states, this is, however, the exception rather than the rule. - Denmark is presumably about the closest you get to such an identity unit in Europe. Very often there are transnational regions across established borders or subnational regions within the borders of a nation-state. Most likely, such micro-regions will be determined by geography and/or history.

Another region type is the functional region primarily defined by people’s joint organisation of a number of commercial activities some times supported by various institutions. The classic example of that type of region is the German Ruhr-area. Functional regions are being increasingly highlighted by the spreading of the economic and social activities of companies and organisations following the development of the infrastructure. For example, quite new, and not necessarily geographically connected regions are appearing on the European map. Rhône-Alpes in France, Baden-Württemberg in Germany, Lombardy in Italy and Catalonia in Spain already cooperate within the field of industrial development to create a central South European econo-
mic centre of power. Furthermore, there is a clear tendency for many towns to perceive themselves as regional areas. For instance, the Ørestad project, where a bridge and new urban developments are scheduled to create closer links between the cities of Copenhagen in Denmark and Malmö in Sweden, is a regional concept combining several of the dimensions mentioned above.

The regionalization tendencies can be seen as an expression of the dissolution of the stability of this pattern of identification: “the free and equal individuals forming the independent brotherhood of the nation”, a situation comparable to the dissolution of first kinship and more recently of the nuclear family as very important parts of personal identity. The mere existence of the European Union along with the whole discussion on the meaning of ‘federalism’ and the principle of subsidiarity within the European Union are symptoms of the questioning of the traditional roles of the nation-states in our societies.

The key word in this context is identity. Our human identity can always be said to consist of identifications on several levels: the individual, the family, the other primary groups, the neighbourhood, our region, the ‘nation-state’, transnational state clusters (eg, Scandinavianism), the continent, etc. In a period with increasing personal as well as electronic communication across all these boundaries, their mutual relevance and importance to the individual person are shifting. Also, we are witnessing a growing class of ‘international people’: people working in international organisations or multinational companies that develop a certain life pattern and their own culture which is not only a combination of their original cultural background and their present and former host environments but which form a whole new international and cosmopolitan type of culture (Knudsen & Wilken, 1993).

Other groups and lifestyles of this type are found across traditional borders, especially within the youth cultures strongly influenced by international media and popular music. Consequently, it is not contradictory that we today see a simultaneous strengthening of the national regional and the transnational levels in Europe. This turbulent world of different local, national and transnational region formations is the world in which the international marketeer of 1994 must cultivate and keep the loyalty of his markets.

As any other dissolution of fundamental patterns in human lives, this process creates anxiety, ambiguity, and frustration in many people. However, it should be remembered, that Homo sapiens is a creature with a poly-identity (Morin, 1987). We have, as Morin argues, always received certain parts of our identity from different ‘levels’, as we have an identity as individuals (which is a social and historical and not a universal trait), as family members, as members of a local community, as coming from a certain region within our nation-state, as citizen of the nation-state (patriotism), as members of a trans-national region (eg, as Germanic versus Roman people), or as members of a global community (humanism, ecologism,…).

This upheaval in identity formation and the subsequent ‘rediscovery’ of the different types of regions and the importance of their differences and similarities motivate us to examine a particular but important arena: food products.
3. Globalisation of food culture?

Intuitively, food culture seems to be a domain of increasingly transnational character. On the other hand, there is substantial evidence from several sources that food culture is one of the domains that changes most slowly among immigrant groups (cf. Fischler, 1990; Mennell et al., 1992). To a large extent this is due to the central role of food in many basic social rituals and communicational patterns within families and other groups.

Food products are markers that help define social situations. Based on our own criteria we are all capable of quickly judging various products, the way they are cooked and presented as familiar or strange. It is a product category where very strong habits and preferences are often found. One can therefore speak about basic inertia of food culture or ‘relative stability’ that characterize eating patterns in different societies. Due to the importance of local geographical conditions for the availability of food items, regional patterns have traditionally been particularly relevant for food products. Such regional patterns persist today even if modern distribution systems have liberated local eating patterns from the constraints of climate, etc.

In opposition to that, food at the same time is a field of consumption where very often we are encouraged to try out new things: an invitation which bears relatively little risk since the consequences of mistakes and disappointments are normally short-term and not too serious. At a more fundamental, anthropological level Fischler (1990) describes this condition as the ‘omnivore’s paradox’: The human being, being an omnivore which cannot get all of its necessary calories, vitamins, minerals, etc. from one source alone, is at the same time forced to seek variety in its diet and, on the other hand, exposes itself to the dangers of doing so; dangers that are linked to the presence of toxic, bad-tasting or in other ways harmful things in nature. This need to innovate and the anxiety of the unknown lies, Fischler argues, in the heart of the origin of human cultural cuisines.

If, then, the concept of food culture refers back to one of Fieldhouse’s key concepts in his ‘food selection paradigm’, namely acceptability, the changing of food cultures is oriented towards the other key concept: availability (Fieldhouse, 1986 p 32). Recent years have seen an explosion in the supply of food products in most markets. Improved conditions of production and transport facilities along with the international communication possibilities, immigration and tourism have caused great upheavals in the majority of European food cultures.

Ilmonen (1990) emphasizes that the internationalization of our eating habits is primarily found at the level of ingredients, ie, concerns the supply of products and ingredients. In most cases already existing categorizations and rules on what can be eaten with what and when are more constant. Danes have adopted the cappuccino and many drink it at all times of the day, when they would normally have had ordinary coffee. In Italy, the native country of cappuccino, it is only consumed in the morning. Thus, the cappuccino has become an option in the Danish food culture category of ‘coffee’, but Danes do not drink it ‘the Italian way’. Hence, internationalization takes place on the level of elements, ie, leading towards a global choice of food products and ingredients in the ‘planetary supermarket’ (Fischler, 1990). This phenomenon, together with the impact of migration on food cultures, leads Mennell et al.
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(1992 p 80) to conclude in concordance with anthropologist Jack Goody: “The existence of a world cuisine has become a reality. The development towards the internationalization of eating habits and cuisines has been strongly facilitated by the growth of international food industries and large-scale trade in food.”

In spite of these ‘globalization tendencies’ primarily represented by multinationals like Nestlé, Coca-Cola, McDonald’s, etc., this process could be considered relatively superficial. On the level of structure, local eating patterns throughout the world persist and will continue to do so in spite of the global competition among the biggest suppliers on the market. The fact that hamburger restaurants are found global-wide does not indicate that eating a hamburger is or means the same thing all over the world. On the contrary, there are great differences in the way the ‘burger culture’ has entered existing food cultures, the concept and the position it occupies and the target groups of the restaurants. Also, the global supermarket tends to increase the range of consumption possibilities, at least in the rich societies, to the extent that it leads to increased differentiation due to the multiple ways of putting together an eating pattern (Fischler, 1990).

On the other hand, other important tendencies in the change of modern food cultures are the increase in ‘convenience foods’ due to time pressure in people’s daily lives, the growing number of women in the workforce, fundamentally restructuring shopping and cooking patterns and meal schedules. The result of these tendencies are a general destrucuration of traditional eating rituals and situations (Fischler, 1990), leaving the individual person in a ‘gastro-anomaly’, at least during work-days when the time pressure is at its highest. This fundamental change in structure seems to be present in almost all western or ‘westernized’ societies.

Hence, we see a globalization of food supply and consequently of the competition, at the same time as a fundamental adaptation of this global product assortment to local cultural patterns and sometimes even a revival of local food consumption patterns, when a ‘back to the roots’ eating fashion strikes a society or a community. There are many signs of an increasing interest in local and regional cultures and their life patterns and habits. Throughout Europe we see this trend towards a renewed interest in what was referred to above as the ‘national regions’ (Knudsen & Wilken, 1993). One can assume that this also goes for the food area where along with the importation of a number of products and dishes from foreign cultures many people also begin to have an interest in the local food culture tradition.

We see a form of globalization of the food supply and hence the competition at the same time as a fundamental adaptation of this global product assortment to local cultural patterns and a search and reference for their own food product roots. These simultaneous, but opposite tendencies are the dynamics of the modern European food culture environment. It is this environment, this set of cuisines, their degree of similarity of difference, we would like to explore in the following.

This cultural and social environment is analysed through the various countries (a total of 15) and regions (a total of 79) presented in the data material. The purpose of the study is on the basis of these regions to create other larger regions may have a more homogeneous consumption pattern and more homogenous attitudes regarding food products generally and to try to analyse what constitutes these regions and what separates them from the rest.
4. Data and data analysis

The data that form the basis for the following analysis come from a 1989-lifestyle survey carried out in 15 European countries, namely the at that time 12 EC countries and the four EFTA countries Norway, Sweden, Austria and Switzerland (Luxembourg was considered a region in Belgium). The survey was organized by the CCA (Centre de Communication Avancé), a marketing research agency in Paris, in cooperation with the Euro-panel network of opinion-research institutes in the above countries. The questionnaire and the data analysis were prepared primarily by CCA according to their own, relatively unique lifestyle analysis method (a detailed review of this method is available in Cathelat 1990 and Askegaard, Jensen & Rørbech, 1992).

The explicit purpose of CCA was to generate a pan-European lifestyle typology as the basis for analyses of geographic differences. These lifestyle portraits are not generally accessible. As, however, the purely geographical dimension of the data material has not yet been made, the object of analysis, the data concerning the geographical differences in the food product area have kindly been made accessible to us for our MAPP project.

As it is, the individual institutes in the Euro-panel apply a regional division of their respective countries. The CCA survey uses these regions as the smallest geographical analysis unit on the grounds that a ‘puzzle’ of regions in certain circumstances could be more interesting than the traditional national division. This resulted in a total of 79 regions. The regional divisions are shown in the map of figure 4. The survey was carried out with a standardised questionnaire and the participation of about 20,000 respondents, ensuring a representative population at a national as well as a regional level. The respondents were sampled by quota sampling from the national research agencies’ consumer panels, thus a panel effect in the data can not be excluded. It must, however, be observed that the survey cannot be said to be representative of Europe, generally, as the small countries and regions are relatively over-represented in proportion to the larger ones (because the sampling was applied in order to obtain representative results for each region and country irrespective of size). The point of interest in this connection is, however, the differences between the individual regions rather than the European average figures, so this disproportionality has had no effect on the results to be shown later.

A major problem is, however, that the regions are not defined in relation to our specific topic of food products but in relation to existing administrative units in the individual countries. Consequently, there is a risk of diminishing or hiding important boundaries between different food cultures. For example, the Loire Valley is generally seen as the boundary between the oil-based and the butter/cream-based French cuisines (Scardigli, 1987 p 60). The Loire Valley runs right through the French ‘West region’, so this boundary will not be evident in the present analysis. Furthermore, some of the large regions may contain areas with very specific food traditions that bear no similarity with the rest of the region. This could be the case of coastal areas and inland areas. Nevertheless the mere fact that it has been possible to work with regional data is a great step forward compared to most other international analyses that simply compare nation-states.
With regard to the comparability of the collected data, a standard questionnaire has been applied in all countries. This has the effect - because of the regional and national differences mentioned - that the response categories in several questions by nature are very general. The best example of this is the dimension of ‘preferences’ where one cannot be very specific without risking the response categories not carrying the (same) meaning to the entire population. It would have been possible to make analyses for generic products: ie, rice, potatoes, beef, etc. Such statistics are, however, already abundantly available. A more original possibility, which was also the one applied, is to ask for various preferences regarding (1) types of taste: sweet, salty, sour; (2) textures: crispy, fluid, melting in the mouth; and (3) general ways of cooking: grilling, frying, marinating. No existing statistics offer knowledge on such preferences.

It is typical for this as well as other types of international questionnaire-based analyses that intercultural validity is problematic. A correct and good translation is important, but it is much more important to realize that the various concepts applied in the questionnaire, correctly translated, may in fact have different connotations in different connections in the different cultures. Furthermore, there are differences in the way the questionnaires are completed and in the way the scalings of the response options are utilized (eg, Chandran & Wiley, 1987; Grunert, Grunert & Beatty, 1989, cf. also Askegaard, 1993). Generally, it may be ascertained that the validity of international questionnaire surveys is so far relatively low. The results of this analysis should therefore not be over-interpreted: rather the analysis should be considered an exploratory examination of existing data material.

This paper mentions the results of analyses of the 138 food-related questions that were part of the CCA survey. The average replies in 79 regions in Europe form the basis of the analysis; the input for the analyses is consequently a data matrix with 79x138 data points and not all the replies from the original 20,000 respondents. The average reply from the respondents in a region, ie, the percentage of respondents expressing a particular belief or behaviour, is considered the reply from the average respondent from the region in question which makes sense in relation to the theme of the paper. It must, however, be considered a decisive weakness that we do not know the variances in the replies within the individual region as we do not have the replies of the individual respondents. For that very reason it is impossible to test the cross-cultural reliability and validity of the applied scales.

This means that the analyses reported below are exploratory: the aim is to uncover patterns, whereas the data material does not form the basis of any final statements. This is also due to the fact that some of the food-related questions in the CCA survey may be considered to be indirectly related for the purpose of this paper. The questions were not prepared with regard to an analysis of the regional differences in European food consumption: the questions were asked in order to generate a Pan-European lifestyle typology; furthermore, some of the questions had purely commercial purposes. The point here is, consequently, not to seek the Truth about European food consumption, but to find pieces for the jigsaw puzzle of understanding that each food company must have. Considering the inadequate knowledge available in the field, this level of ambition must, however, be said to be entirely satisfactory.
The variables included in the analyses can be divided into seven subgroups as illustrated in figure 2. A number of variables (questions/items) is attached to each subgroup/dimension. A full report of the data material will consist of a table with the average replies to all questions in all regions, i.e., 79x138 = 10,902 means. This is an enormous amount of data, which alone does not offer much information about the knowledge that can be derived from the survey, as the data matrix does not summarize clearly the similarities and differences between variables and regions. In order to obtain greater clarity and assess the associations in the data material, a number of factor and cluster analyses of the raw data matrix have been conducted. The results of these analyses are reported in sections 5 and 6.

Figure 2. Concepts, dimensions and variables of the survey

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<th>mega-concept</th>
<th>concept</th>
<th>dimension</th>
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<td>food behaviour/attitudes</td>
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<td>trends</td>
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<td>preferences</td>
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<td>snacking habits</td>
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<td>drinking habits</td>
<td>31</td>
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<td>health related food behaviour/attitudes</td>
<td>diet willingness</td>
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The questions were posed differently in the various dimensions. ‘Food style’ consisted of nine dichotomous choices; ‘trends in eating patterns’ of twelve statements where the respondents were asked whether each statement represented a type of behaviour that they at present
showed more often than before, on the same level, less, or not at all. Preferences, diet willingness and snacking habits were measured by the answer ‘yes’ or ‘no’ to the suggested tastes and textures, the suggested types of diet behaviours, or the ‘snacking’ food items respectively. Drinking habits were measured on a five-point scale from ‘everyday or almost every day’ to ‘never’. Diet behaviour was measured on a four-point scale ranging from ‘regular control’ to ‘no control’. The items used in the questionnaire are shown in appendix 1.

As will be evident below, the original 138 variables were reduced to 41 underlying/latent factors via a factor analysis, whereas the number of regions was reduced by a cluster analysis from 79 to 12 relatively homogeneous areas in Europe. As mentioned, the analyses carried out are of an exploratory nature, meaning that the point is to look for patterns in the data material. Consequently, actual statistical tests of the validity/the general nature of the patterns found cannot be made. In trying to validate the results we have instead conducted factor as well as cluster analyses by different methods. The factor analyses have been made with different methods of extraction (PC and PA1 in SPSS) and methods of rotation (VARIMAX and QUARTIMAX in SPSS) and the cluster analyses with different hierarchical clustering methods (BAVERAGE, SINGLE, COMPLETE and CENTROID in SPSS).

Despite the application of different methods, the results are largely identical. This indicates that the patterns found are reasonably reliable indications of actual patterns in the prevailing data material. Since the results from the different methods do not vary much we have decided to report the results from the most commonly applied methods (PC, VARIMAX and BAVARGE), all being the methods applied in SPSS unless otherwise specified (DEFAULT methods). As to other methods in the analyses the DEFAULT methods have been chosen as there have been no theoretical reasons to deviate from the most commonly applied methods.

5. Latent factors concerning food behaviour and preferences

The basic idea of factor analysis is that part of the variation, which can be observed in the response pattern for the individual questions/items, can be explained by some non-observable, underlying latent factors governing the responses to items related to the factor in question. By identifying these latent factors and using them in the further analysis rather than using the original items more clarity is gained. At the same time, however, part of the information is lost since the latent factors do not fully explain the variation in the responses to the original items. Whether it is wise to make a factor analysis must therefore be determined by weighing the goal of clarity against the goal of not losing too much information in the process of data analysis. The factor analysis, which has been carried out on the basis of the above data, reduces the number of variables from 138 to 41 new factor variables (with eigenvalue greater than 1) explaining more than 80 per cent of the variance in the original 138 items. We consider this very satisfactory since a limit of 60 per cent explained variance is often mentioned as being acceptable, particularly in exploratory analyses like these.

Figure 2 shows that an exploratory factor analysis can be carried out at various levels. One single factor analysis could be made, based on all 138 original questions/items just as three
factor analyses could be made at the concept level (for example the 54 original variables indicating something about general behaviour and attitude regarding food products), or one could choose to carry out seven factor analyses at the dimension level (for example of the nine original variables indicating something about ‘fundamental food style’). We decided to carry out the factor analyses at the dimension level as the CCA study made a deliberate separation between these dimensions because of the more general considerations regarding the analyses of consumption patterns.

CCA’s questionnaires distinguish psychological variables, ie variables describing attitudes and states of mind, from variables where respondents describe their actual behaviour. As a supplement to this, CCA attempts to add a prospective dimension to the question categories, in this case represented by the dimension (see Figure 2) we have called ‘trends’ (Askegaard et al, 1992). Conducting factor analysis at the dimension level is therefore the most loyal practice to the conceptualization of the total CCA study. This means that seven factor analyses have been carried out resulting in the creation of a total of 41 new factor variables:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>No. of variables</th>
<th># of factors</th>
<th>% of explained variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>fundamental food style</td>
<td>9</td>
<td>5</td>
<td>81.1</td>
</tr>
<tr>
<td>trends</td>
<td>12</td>
<td>5</td>
<td>83.8</td>
</tr>
<tr>
<td>preferences</td>
<td>33</td>
<td>8</td>
<td>85.0</td>
</tr>
<tr>
<td>snacking habits</td>
<td>33</td>
<td>9</td>
<td>84.3</td>
</tr>
<tr>
<td>drinking habits</td>
<td>31</td>
<td>8</td>
<td>81.6</td>
</tr>
<tr>
<td>diet willingness</td>
<td>16</td>
<td>4</td>
<td>83.6</td>
</tr>
<tr>
<td>diet behaviour</td>
<td>4</td>
<td>2</td>
<td>70.1</td>
</tr>
</tbody>
</table>

The labelling of the new factor variables is subjective and is the result of an analysis of how they correlate with the original variables. Below the loadings of original variables on the new factor variables are shown along with the process of the discussion on the labelling of the new factors extracted. The interpretation of the factors is made by examining all factor loadings above .5 (all of which will be mentioned below); however, the highest factor loadings have the largest impact on the name chosen for each particular factor variable.

The rest of section 5 explains the factors extracted and gives an account of their level of acceptance in Europe.
General food behaviour and attitudes

As shown in table 1, the nine original questions related to ‘fundamental food style’ (one dimension of the concept of ‘general food behaviour and attitudes as shown in figure 2) were reduced to five new factor variables. The new factor variables have been labelled in the following way:

Factor 1.1

*I eat quick meals on weekdays, but prepare specialities for guests*

The highest loading item on this factor is the statement ‘I eat quickly’ (.91) and except for this statement only ‘When we have guests, I cook something special’ loads higher than .5, namely .65. This is quite common. The ‘European average’ (the arithmetic mean of the average answers in the 79 regions) is at a level where about 60% eat quickly and 80% cook something special for guests. Regional differences will be mentioned in section 6.

Factor 1.2

*I eat many small meals*

The interpretation is based on the statement ‘I have a tendency to eat little’ (.83) loading the highest; ‘I prefer to eat one proper dish with vegetables’ (-.81) has a negative loading. On average 65% prefer one proper dish, but, as already demonstrated in the introduction, in many South European countries less than 50% express such a preference. In these countries people often prefer to eat little (more than 50%) of many different things.

Factor 1.3

*I have no special interest in food products*

A tendency to economize on food (.83), a preference for dishes holding no surprise rather than liking unusual and amusing meals (.62), and only eating when being hungry (.59) leads to the labelling of this factor variable. It is not very common to start with food when one has to economize (only 20%) nor to eat only when one is hungry (42% do that). About 50% of the respondents like unusual and amusing meals.

Factor 1.4

*I enjoy cooking*

Straightforward interpretation since the only original variable loading higher than .5 is the statement ‘I enjoy cooking’ (.94). A little more than 60% state that they like cooking; the range is quite narrow (min. 47%, max. 66%).

Factor 1.5

*I prefer to eat at home*

Also straightforward as this variable loaded high (.91), as the only one. A general preference for eating at home rather than out is very common in Europe (85% in favour).

The second group of questions relating to general food and attitudes aimed at analysing aspects pertaining to ‘trends’. A battery of 12 original items were reduced to five new factor variables which have been given the names shown below.
Factor 2.1  
*I am increasingly concerned with health*  
Variables loading high are ‘more attention to calories and diet’ (.87), ‘food and drinks with more added vitamins’ (.71), ‘more often eat while doing something else’ (.70), ‘eat more sweet foods’ (.59), and ‘buy or eat more low calories’ (.59), all of which express future intention. On average about 50% of the respondents express a positive attitude towards this factor.

Factor 2.2  
*My cooking will be more convenience-oriented*  
The factor reflects a trend towards buying more ready-cooked food, either frozen (.95) or tinned (.70) along with an opinion that it is a slow process to prepare one’s own dishes (.56). Only a minority in Europe agree that they will be more convenience oriented; an average of 30% will buy more ready-cooked frozen food and only 15% will buy more tinned food.

Factor 2.3  
*I will more frequently buy fast food to eat at home*  
This factor is related to the previous one, but it is also different since the point of focus here is on buying more take-away food such as pizza, Chinese take-away, etc. (.93). However, also more frequent purchases of ready-cooked tinned food is expected (.63). Finally buying or eating more low calorie products is not an issue here (.51). Therefore the term ‘fast food’ has been chosen since it indicates something which may not be the healthiest food. A minority at the same quantitative level as for factor 2.2. expresses positive attitudes towards this factor.

Factor 2.4  
*I want more nature-based products in my cooking*  
Original items correlating high on this factor are a wish to eat more natural based products (.88), but also more sweet food (.58) which may be nature-based such as sugar - along with an opinion that it is a slow process to prepare one’s own dishes (.58). The factor seems to reflect a ‘back to basics’ attitude. Items behind this factor have as high an average support as 81% (preference for eating more natural based products) and 58% (slow cook dishes). Most positive attitudes are seen from Bruxelles and further south (France, Spain, Portugal).

Factor 2.5  
*I more often eat snacks between meals*  
A behaviour including having small snacks in handbags, desk drawers, etc. (.81) is an important part of this factor; this is apparently done instead of eating dishes that can be prepared instantly, eg, soup (.71). Not very many people favour such a behaviour; only 18% of all respondents intend to increase their snacking.

The last dimension of the general food and attitudes is ‘preference’. The object of analysis here is not preference for generic products, but for taste and texture, and other intangible product attributes which may be present in many generic food products. A total of 33 original items were reduced to eight, new factor variables.
Factor 3.1

*My taste buds must be stimulated and challenged*

In order to satisfy this desire food products must have a complex taste (.88) rather than a simple one (-.87). Stimulation could be obtained because the product is sour (.80), is possible to tear apart (.77), compact or dense (.74), sweet and sour (.72), marinated (.71), fluid (.63), or spicy (.53). Apparently ready-cooked tinned food is not regarded as stimulating (-.61). On the other hand sandwich filling seems to be more so (.57). On average about 59% support the preference captured by this factor. However, more people like a simple taste (76%) rather than a complex one (48%). Especially people in the Northern part of Europe express a desire to have their taste buds stimulated.

Factor 3.2

*I prefer to be able to taste and feel what I am eating*

Similarities to factor 1 are observable. This factor, however, is concerned not so much with complexity, but more with a negative preference for mild food products (-.87) and softness in food products (-.73). On the contrary there is a positive preference for eating something very cold (.73), salty (.69), rissoled (.58), or crunchy (.53).

Factor 3.3

*I like to be able to feel food disintegrate in my mouth*

This factor is not as taste oriented as the former two. This one has more to do with what is actually happening in the mouth of the eating person who likes something which melts in the mouth (.87), something frozen (.82), crispy (.74), and crunchy (.60). About three out of four respondents seem to like such feelings in their mouth. The ones least in favour live in the southernmost countries in Europe.

Factor 3.4

*I like fresh fruit*

This interpretation has been chosen because the factor has to do with preference for something acid and lemony (.78) which is eaten with one’s fingers (.76). At the same time it should not be hard (-.68), but rather spongy (.60).

Factor 3.5

*I like delicious, unhealthy food*

The factor reflects a preference for food that is ‘good but not good for you’ such as grilled food (.82), sweet things (.73), and fried food (.57). Actually, most people like such food (on average about 75%).

Factor 3.6

*I like liquid substances*

Preferences loading high on this factor are something to suck (.60) and something fluid (.52), whereas snacks (-.85) and fried food (-.55) are not regarded as positive things.
Factor 3.7
*I like creamy food*
Highest loadings are seen for the following preferences: creamy food (.84), raw and natural food (.62), and spongy items (.55). The last item which has a loading above .5 is a preference for something compact and dense, which does not quite fit into the interpretation.

Factor 3.8
*I like something to cut into*
Only one original item loads higher than .5, namely liking something to carve or cut up (.70). In fact about 80% of the respondents express a positive attitude towards such food.

Product related food behaviour
Habits concerning drinking and snacking between meals were examined in the CCA survey. These two dimensions of product related food were factor analysed separately. The data on ‘snacking habits’ consisted of a battery of 33 questions which were reduced to nine new factors as outlined below.

Factor 4.1
*I snack sweets and pastry*
The products related to this factor are sweet, dry biscuits (.85), fruit chocolate (.78), chocolate biscuits (.77), sweets (.77), savoury snacks (.76), biscuits with chocolate (.69), and chocolate sweets (.59). About 10% generally (admit to) snacking such things between meals, especially in the British Isles, Holland and Belgium.

Factor 4.2
*I snack fruit*
The two highest loading original items are fresh fruit (.78) and apples (.77). Not quite obvious is the relatively high loading of cream cakes/tarts (.68). Furthermore two items have a relatively high loading, namely chocolate cakes/croissants (-.62) and popcorn (-.49). This factor clearly reflects health-oriented snacking which is quite commonplace: About 75% generally (claim to) snack fresh fruit.

Factor 4.3
*I snack ordinary chocolate bars*
Four original items load high on this factor, namely milk choc-bars w/nuts (.83), choc-bars w/toffee (.74), chocolate-filled bars (.72), and milk choc-bars (.60). As it appears the interpretation is quite straightforward. The most common chocolate bar is a pure milk bar (average of 23%) while the others are eaten by around 10%. Norwegians and people who live around Brussels are apparently heavy users.

Factor 4.4
*I snack special mini meals*
The interpretation of this factor is tricky, because seemingly different food products are
gathered, ie choc-bars w/nougat (.82), wafer biscuits (.77), pizza/quivche (.67), and yoghurt/chilled desserts (.50). One thing they may have in common is that they are a little more than just something you eat while walking around.

Factor 4.5

I eat salty snacks

Two items are pretty close to each other, salted biscuits/chips (.82) and peanuts/salted nuts (.74). The labelling of the factor is based on these two items, since the last one loading more than .50 is white chocolate bars (.59). The latter is somewhat different, but since its loading is close to the cut off point it was decided not to consider it in the interpretation process. About 20% of the respondents in the average region generally eat salty snacks, especially in Spain and around Brussels.

Factor 4.6

I snack good quality mini meals

The food products related to this factor are fruit pies (.88), sandwich with ham or paté (.73), and cheese (.56). This type of snacking is shared by approximately 20% of the Europeans with the Portuguese as heavy users.

Factor 4.7

I snack easy and unhealthy small meals

Hamburgers (.87) and cake (.51) are positively loaded with this factor, whereas cereal bars w/chocolate (-.64) and plain cereal bars (-.58) are negatively loaded. The latter two items are the reason for including the word ‘unhealthy’ in the labelling of this factor, as such bars must be considered some of the most healthy bars on the market compared to chocolate bars. The fact that they pop up here as being negatively loaded indicates that unhealthiness in some way must be connected to the factor. Also, cake is an unhealthy snack.

Factor 4.8

I snack sophisticated chocolate bars

The bars in question are bitter choc-bars (.91), choc-bars w/rice (.59), and white choc-bars (.52) which could perhaps all be called more ‘advanced’ or ‘classy’ than the bars loading on factor 4.3.

Factor 4.9

I snack sweet, delicious delicacies

The last factor concerning snacking habits reflects some more sophisticated habits including filled biscuits (.77) and boxed chocolates (.75).

The survey included 31 questions about ‘drinking habits’. Factor analysis reduced this set to eight, new factor variables. For each region it was registered how large a percentage of the population drink the beverage in question at least once a week (a figure that was quite often low). Interpretation and labelling of the factors was made as follows:
Factor 5.1

*I quite often drink red wine and sometimes aperitifs*

The first factor reflects drinking habits favouring flat mineral water (.88), red wine (.84), sweets aperitifs such as Dubonnet (.77), other aperitifs such as Martini (.74), and port (.66), but certainly not tea (-.86). Flat mineral water and red wine are enjoyed by around 30% at least once a week whereas the other drinks mentioned are used by less than 5% every week. Especially people from Bruxelles and further south favour the drinking habits reflected by this factor.

Factor 5.2

*I quite often drink white wine and sometimes strong alcohol*

Except for white wine (.84) a preference is seen for drinking ready mixed cocktails (.75), liqueurs such as Cointreau (.72), white alcohol such as Schnapps (.66), sparkling wines (.65), rum (.62), and whisky (.53). White wine is consumed by 19% at least once a week. The usage rate for strong alcohol is between 1% and 6%. Greeks, Italians and Portuguese are quite heavy users.

Factor 5.3

*I often drink something ‘quick and dirty’*

Habits here favour instant/soluble coffee (.86), but not ground/filter coffee (-.72). In the same vein easy-to-prepare strong alcoholic drinks such as whisky (.72), gin (.67), and vodka (.54) are quite often served, but certainly not mixed with sparkling mineral water (-.77). The Greek and the British are most in favour of these drinking habits. The variance between regions is high: In Denmark only 5% drink instant coffee at least once a week whereas the corresponding figure in Greece is 66%.

Factor 5.4

*I often drink something ‘adult’*

The labelling is a result of the fact that coffee (.85) and fruit flavoured drinks (.69) are highly positively loaded while typical childrens’ drinks such as soda (-.87) and sirops (-.60) are highly negatively loaded.

Factor 5.5

*I often drink something healthy*

The highest loading drink is ‘herb tea’ (.84), but also fruit-based alcohols (.61) and fruit juice (.53) load rather high. Of these beverages only fruit juice is commonly used (about 50% at least once a week).

Factor 5.6

*I often drink cola products*

The only drink loading high is Coca Cola/Pepsi Cola (.79) and the interpretation is straightforward. About 25% drink these products at least once a week.

Factor 5.7

*I often drink beer*

Beer (.89) loads very high and only one other drink just comes above the cutting off point of .50, namely fruit juice. On average 34% of the respondents drink beer regularly.
Factor 5.8

*I often drink something expensive and sophisticated*

The labelling is due to drinking habits including champagne (.58) and cognac, brandy, Armagnac (.52), but not something as ordinary as port (-.58). Expensive and sophisticated drinkers are quite rare (between 1% and 3% drink such beverages at least once a week).

**Health related food behaviour and attitudes**

The last group of questions relate to dieting and attitudes. One of the dimensions was operationalized by a battery of 16 questions exploring the ‘Dieting Willingness’ of the respondents. All the questions are concerned with future intentions which should be observed since a big difference is usually seen between intended and actual behaviour. The original 16 items were reduced to only four, new factor variables.

Factor 6.1

*Great health consciousness*

This factor expresses a willingness to eat or use products with less calories (.93), more fat-free products (.89), less fried foods (.85), less salty foods (.84), light products with less fat (.83), drink sugar-free (.63), and eat less fat (.58), but not to eat less or little bread (-.72). About 70% of all respondents express such intentions.

Factor 6.2

*Weight watching*

This factor is related to the one above, but it more specifically contains a willingness to avoid food that may cause weight increase. Important elements of such intentions are a willingness to eat or use less or no sugar (.91), use diet products as a meal (.76), eat products with less fat (.70), use sweeteners (rather than sugar) (.64), and drink sugar-free drinks (.51). Intentions about more extreme dieting are less outspoken: Only 27% are willing to use diet products as a meal and 37% intend to use sweeteners (rather than sugar).

Factor 6.3

*Asceticism*

This factor reflects an intention that is more general and less related to specific goals. Willingness is expressed to eat less meat (.90), drink less alcohol (.89), and keep on eating, but less (.83).

Factor 6.4

*Old-fashioned diet perception*

The interpretation is based on the lack of willingness to have green vegetables or green salads as a meal (-.86). On the other hand, however, there is a willingness to eat less rice, potatoes etc, food products that used to be regarded as weight increasers some decades ago. Only a little more than 40% express such intentions.

The last dimension included in the survey taps into actual behaviour by asking about present ‘Dieting’. The measurement used is actually not well-suited for factor analysis since only one
out of a total of four answers could be chosen by each respondent. Input for the interpretation of the factor analysis is therefore mainly the dichotomy: controlled/concerned versus uncontrolled/ unconcerned eating patterns. The most common behaviour (a little more than 40%) is to pay attention to what one eats most of the time but at times to indulge.

Factor 7.1

**Controlled eating pattern**

This factor reflects a behaviour comprising that the respondent regularly controls what s/he eats in order to keep his/her weight stable (.76) to the extent that s/he worries about indulging him/herself.

Factor 7.2

**Unconcerned eating pattern.**

The opposite is reported here, namely that the respondent does not control his or her diet, but believes that what he or she likes cannot do any harm (.88).

The factors outlined express some general, latent factors guiding consumers’ food-related behaviour. The next section explores in more detail the differences observed between geographical regions in Europe concerning these factors and the original items included in the CCA study.

### 6. The European food map

The factor analysis generated a 79x41 data matrix, comprising the factor scores on the new factor variables in the 79 regions. To increase clarity and find additional associations in the data material, a cluster analysis is carried out with the purpose of gathering the regions that are most similar in respect to the 41 new factor variables. The clustering method used for this purpose is the hierarchical method B AVERAGE (average linking) in SPSS. An important decision is to be made by the analyst, namely when to stop the procedure or, in other words: How many clusters to include? The answer can be between 79 and 1 clusters, the latter covering all the regions and countries covered by the survey (‘all Europe’). Working with one cluster is of course not interesting when the purpose is to look for similarities and differences between the countries and regions of Europe. Working with 79 clusters is too confusing.

The number of clusters must be determined subjectively and concurrently with the data analysis. A range of 30 - 50 ‘respondents’ is desirable for each cluster, but that is not a realistic goal in this case where the number of ‘respondents’ is the 79 regions only. In this case the cluster analysis was stopped when the adding of one more cluster did not add interesting observations on the theme of the paper, namely, to look for similarities or differences between the countries and regions of Europe. With this in mind it was decided to use a solution in which the original 79 regions are collapsed into 12 clusters of countries/regions. The squared Euclidean distance between iteration 66 (12 clusters) and 67 is the first one larger than 5 (total range: 2,12 (it. 1) to 117,2 (it. 72). The ‘12-cluster’ solution contains examples of nation-state clusters as well as transnational clusters - which makes it possible to follow the continued ‘collapse’ of countries/regions to fewer clusters. For the purpose of the total MAPP programme it is of course interesting to
focus on Denmark’s situation; this is possible as Denmark represents an independent cluster in a ‘12-cluster’ solution.

**Homogeneous and heterogeneous nation-states**

This section reports on the clustering of the 79 regions. This process is of particular interest, because it indicates how homogeneous or heterogeneous the individual nation-states are in respect to food behaviour and attitudes.

In the original CCA study, each nation-state was divided into between three and eight regions. Table 2 below shows how quickly the regions of each nation-state are united in the cluster analysis (the regions that are most similar are linked in the first iteration, etc.). Consequently nation-states that are united quickly are considered more homogeneous than countries that are united late in the analysis. The table indicates the number of the iteration where the first two regions and later the whole nation-state are united. The total cluster analysis consists of 77 iterations as one Italian region had to be omitted due to lack of information on a few variables. Iteration No. 1 gathers the two regions that are most alike. Iteration no 2 gathers the two regions that are then most alike, etc. Iteration no 77 gathers all 78 regions in one great cluster ‘All Europe’.

In the clustering of regions it is very characteristic that national boundaries are of great importance, despite the previously mentioned tendencies towards regionalisation and/or pan-Europeanism. The first clustering across nation-states is between West Germany and the rural regions of Austria (iteration 52). The next ones are Great Britain with Ireland (iteration 59), West Germany and the three regions in Switzerland (iteration 63), the Netherlands and Northern Belgium, ie Flanders (iteration 65), France and the French speaking part of Switzerland (iteration 68), Denmark with Ireland/Great Britain (iteration 69), Denmark/Ireland/Great Britain with the Netherlands/Northern Belgium (iteration 70), West Germany/Austria/Switzerland (apart from the French speaking part of Switzerland) with the Netherlands/Northern Belgium/Denmark/Ireland/Great Britain (iteration 71), then this entire group is clustered with Southern Belgium/ France/the French speaking part of Switzerland (iteration 72). The last iterations pick up all peripheral countries, ie Italy (iteration 73), Spain (iteration 74), Norway (iteration 75), Portugal (iteration 76) and finally Greece (iteration 77). This pattern is very much the same irrespective of the method of clustering. Figure 3 illustrates the clustering process in a dendrogram.

Some comments apply to the individual territorial states. In Great Britain the regions of Yorkshire and Anglia are somewhat different from the rest of Great Britain and are not gathered until iteration 31 with the entire country being gathered in iteration 38. In Spain the same goes for the regions of Catalonia and Levant that are gathered in iteration 36 being clustered with the rest of Spain in iteration 51. Germany is gathered very quickly with the exception of Bavaria that is not ‘picked up’ until iteration 56; this follows the clustering of Germany with Austria (apart from Vienna) in iteration 52. As far as Austria is concerned this means that the country is gathered via West Germany’s ‘picking up’ of Vienna in iteration 60. Switzerland is gathered very quickly apart from the French speaking part which is isolated.
until iteration 66 where the region is clustered with France. Switzerland as a country is not
gathered until iteration 72 since France (including the French speaking part of Switzerland) is
clustered with Southern Belgium in iteration 68, whereas the rest of Switzerland is clustered
with West Germany/Austria (apart from Vienna) in iteration 63; later these areas are clustered
together in iteration 72. Similarly Belgium is gathered when Northern Belgium is clustered
with the Netherlands (iteration 65), Denmark (iteration 70), West Germany (iteration 71) and
finally to Southern Belgium in iteration 72.

Table 2. Iteration in which regions/countries are gathered in the cluster analysis

<table>
<thead>
<tr>
<th>Country</th>
<th>Iteration in which the first two regions are united</th>
<th>Iteration in which the country is united except for one region</th>
<th>Iteration in which the whole country is united</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>6</td>
<td>19</td>
<td>26</td>
</tr>
<tr>
<td>Sweden</td>
<td>2</td>
<td>16</td>
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<td>Great Britain</td>
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<td>Switzerland</td>
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<td>7</td>
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</tr>
<tr>
<td>Belgium</td>
<td>23</td>
<td>72</td>
<td>72$^4$</td>
</tr>
</tbody>
</table>

$^2$ Iteration 52: Austria excl. Vienna linked to Germany, excl. Bavaria.
$^3$ Iteration 66: French Switzerland linked to France.
$^4$ Iteration 65: Flemish Belgium linked to the Netherlands.

Iteration 68: Brussels/Wallonia linked to France/French Switzerland.
Iteration 71: The Netherlands/Flemish Belgium linked to German-speaking cluster.
Iteration 72: Switzerland and Belgium united by the clustering of the francophone cluster with the Germanic Cluster.
Figure 3. Dendrogram of the clustering process
The cluster analysis shows that some countries or parts of countries are very homogeneous, whereas others are very heterogeneous regarding food behaviour and attitudes. The most homogeneous countries are Denmark, Sweden, West Germany (apart from Bavaria) and Switzerland apart from the French speaking part (all of these are clustered before iteration no 28). Countries like the Netherlands, Great Britain and France also stand out as fairly homogeneous. All these countries are gathered quickly and the individual regions of the countries are primarily gathered as a ‘snake’ in that the clustering begins in one region and gradually extends from there. As far as Denmark is concerned North Western Jutland is first clustered with Southern Jutland/Funen, then Zealand and Eastern Jutland are ‘picked up’, whereas Copenhagen is brought in as the last area. Contrary to this, other countries are gathered by the individual regions gathering two by two. This is the case for Spain where Central and Southern Spain are gathered first; later Central Northern Spain is clustered with Galicia and later clustered with Catalonia and Levant. In later iterations these two-by-two clusters are clustered gradually throughout the country. The two-by-two clustering indicates a higher degree of heterogeneity than a snake clustering.

Many of the countries that see ‘two-by-two’ clusterings are identical with the countries that according to table 2 are gathered late and that see a late gathering of their first regions. All indications of heterogeneity. The most heterogeneous countries are Belgium, Portugal, Greece and Italy, furthermore the French speaking part of Switzerland is very different from the rest of Switzerland, just like Bavaria is very different from the rest of West Germany. Countries like Spain, Ireland, Norway and Austria stand out as rather heterogeneous. By inspecting the standard deviations in the values of the new factor variables across regions within the individual country it can be seen that the heterogeneity is caused by different circumstances in the individual countries. For example in Greece there are great differences in the product-related behaviour, particularly concerning drinking habits. In other countries, like e.g., Portugal and Spain, it seems to a greater extent to be the fundamental food product style that differs in the individual regions of the countries in question. It can be noted that the first regions in Portugal are not clustered until iteration no 46, ie far later than the final clustering of for example all five regions in Denmark.

**Clusters of homogeneous regions and countries**

This section describes the 12-cluster solution we have adopted based on the considerations already explained. Figure 4 gives a graphic illustration of the 12 clusters including seven nation-states, namely Denmark, Norway, Sweden, Portugal, Spain, Italy and Greece. Also included are four transnational regions, namely the British Isles, the Netherlands and Flanders, France and the French speaking part of Switzerland and finally the ‘Germanic area’ of Germany, Austria and the rest of Switzerland. The last region included consists of Brussels, Wallonia and Luxembourg, so this region is also fundamentally transnational. As, however, the special data collection method makes it impossible to separate Luxembourg from the Liege-Namur region in Belgium, this region is transnational from the outset and not because of the cluster analysis. It is evident that the ‘peripheral countries’ of the analysis tend to form individual clusters, whereas the heart of the European continent sees the formation of clusters across nation-states.
When the scores of the 12 clusters on the 41 factor variables are calculated, the result is a general picture of what specifically characterizes the variables profiling the individual clusters. We have profiled the individual cluster by highlighting the factor variables where the average of the cluster deviates more than one standard deviation from the European average.
The Germanic cluster of *Germany, Austria and Switzerland* stands out as being very health conscious at all dimension levels whereas ‘fast-food meals’ not are very popular. The region primarily profiles itself as the most health conscious of all which does not necessarily indicate that the healthiest population is found in this region.

Health consciousness shows itself in actual as well as in intended behaviour. First of all two-thirds of all respondents either regularly or mostly pay attention to what they eat in order to keep their weight stable. On top of that, they apparently eat and drink quite healthy products. Their snacking habits are among the most health conscious in Europe (fresh fruit, apples, cereal bars rather than chocolate bars, etc.) The Germanic cluster has a high number of heavy users of healthy drinks such as sparkling mineral water, fruit juice and herb teas, except for the fact that people drink much ground filter coffee whereas they are average users of wine, beer, cokes and other sodas. In general they do not drink much strong alcohol such as gin, vodka, whisky - with the exception that they are heavy users of schnapps. Aperitifs are not very common, either.

Finally, the Germanic cluster expresses an outspoken willingness to adapt an even more health conscious food in the future. In general the percentage of people reacting positively towards higher health consciousness is above average and ‘the Germanics’ have quite extreme positions compared to Europeans in general on 11 out of a battery of 16 questions. Among other things they are most inclined to increase the use of diet products for meals, eating less or no fat, and drinking sugarfree.

As a general observation one may say that people in this cluster are fond of food. This interpretation is triggered by ‘the Germanics’ seeming to like to cook and to eat food spiced and prepared in almost any way. When answering the 33 questions about preferences ‘the Germanic’ are at the extreme end in nine cases and well above average in 17 cases. Only in three cases are they well below the European average: only 47% like rissoled food (average 63% in Europe), only 56% like food with a simple taste (76% in Europe) and just 13% like tinned food (26% in Europe). The ‘Germanic cluster’ has an extreme liking for something raw and natural, compact dense, fried, spongy, marinated, sour, which melts in your mouth, can be spread on biscuits and has a complex taste. Furthermore, much more than the average European they like fluid, crispy, sweet and sour, acid lemony, soft, crunchy food that may be torn apart and eaten with ones fingers. The Portuguese are opposite to ‘the Germanics’ in the way that they are less fond of almost everything than the Europeans on average.

*The Netherlands and Flanders* seem to have a relatively traditional eating pattern with traditional attitudes to what is good and what is not good. This region is characterized by a preference for heavy meals. Classic attitudes to food products as being very central in life are likewise typical.

In general, their consumption of beverages is low. This is especially true for alcoholic beverages such as gin, vodka, whisky, champagne, etc. They are also light users of red wine and fruit-based alcohols. For most other beverages they are quite close to the European average, except for the fact that they are heavy users of tea, port and white alcoholic schnapps (probably Genever).
Brussels, Wallonia and Luxembourg show signs of a relatively sophisticated food culture. People are interested in food, like to eat out and attach great importance to sensory enjoyment. In this region we find the chocolate lovers of Europe: they have an extremely high rate of usage of all types of chocolate bars and other chocolate products.

There is a pronounced preference for red wine and flat mineral water although Belgium is well-known for her highly developed beer culture. People living in this area are heavy users of the beverages mentioned as well as port, Martini and other aperitifs. Most drinks are consumed at an European average. Light usage is seen only for tea, white wine and a few other alcoholic beverages.

On the other hand there is an increasing tendency to eat more fast food and more take-away meals.

A similar pattern is found in France and the French speaking part of Switzerland. Also in this area great importance is attached to the sensory enjoyment, red wine and mineral water. Furthermore Pastis/aniseed flavoured drinks are very common as well as sweet, wine-based aperitifs, herb teas and ready-mixed drinks. On the other hand the French are light users of white wine, cokes and tea. Also the consumption of beer deviates negatively from the average; in fact this cluster is the least beer drinking one together with the Norwegians.

The tendency to use convenience products in everyday cooking and reserve the cooking efforts for weekends and special occasions is pronounced in this region. A growing willingness to eat fast food and take-away meals is likewise observed.

If one goes outside the Central European area and take Spain, one finds a food culture characterized by a preference for natural products. In Spain a healthy diet seems to be something coming naturally with the food culture rather than something that people are conscious about. According to the answers to questions about intended behaviour things will not change much. Spaniards’ willingness to eat less fat, less fried food, less salt, and less sugar is a lot less lower than the rest of the Europeans. Spain holds an extreme position on 7 out of 16 questions pertaining to trends in dieting behaviour.

As regards snacks, salty products are preferred to sweet ones. And as for drinks, the red wine/mineral water combination is preferred to beer. Finally there is a preference for eating at home rather than eating out.

In most instances the Spanish are not far away from the European drinking pattern. They do drink more red wine/mineral water than average, but not as much as the French. Usage of aperitifs, cognac brandy, gin and beer is also above average. Beverages below average are tea, sparkling mineral water and sirops.

In the neighbouring region of Portugal we find a relatively classic food culture with traditional consumption patterns. The meal is still considered an important social event and consists of small relatively light dishes; convenience products do not seem to have gained footing.
among the Portuguese. Typically, there is a great difference in the dieting behaviour between Lisbon and the provinces. Where people in Lisbon stick to strict diets, the population of the provinces are not interested in this type of lifestyle.

When stating preferences about food the Portuguese are either close to the European average or less fond of different food characteristics. The only thing they like better than the average European is soft food. They are considerably less fond of very cold, hard, crispy, spongy, marinated, crunchy, frozen, salty and sour food, and of something to be carved or cut up, something to eat with ones fingers and something that melts in your mouth.

Together with the Greek, the Portuguese seem to be the heavy drinkers of Europe. Light usage is only seen for sodas and syrups. On the other hand heavy usage is seen for a variety of beverages, especially alcoholic drinks except for beer. The Portuguese drink much red wine and white wine, port and aperitifs, whisky, gin, white alcohol, cognac, and fruit-based alcohols. Finally, heavy usage is seen for fruit-flavoured drinks and instant soluble coffee.

Also when it comes to snacking the Portuguese are ‘heavy users’. They seem to like to eat a lot of things with extreme positions on snacking fruit pies, sandwiches, cakes, biscuits, cheese and popcorn.

Italy is a region that attaches great importance to the sensory enjoyment as was the case for the already mentioned French speaking regions. Health consciousness is, however, relatively limited just as weight watching is uncommon. The tendency to a more convenience-oriented consumption pattern is also relatively weak in this area.

According to the analysis, white red and sparkling wines are important ingredients of Italian drinking habits, along with flat mineral water. Likewise they are heavy users of Martini and other aperitifs plus a few strong alcoholic drinks (white alcohol, liqueurs and cognac). The Italians are quite close to the European average in their consumption of other types of alcoholic drinks, soda, cokes, and ordinary coffee. They are light users of instant soluble coffee, fruit syrups, herb teas and fruit juice.

Greece has the most peculiar food culture in the data material. (Please compare above). The Greek have a preference for light meals composed of several dishes, as seen in other parts of Southern Europe. They like to eat out and are not convenience-oriented when it comes to home cooking. The imported burger culture does, however, seem to attract the Greek, and cola is likewise treasured as a beverage in addition to white wine (retsina) and strong alcohol (ouzo).

On top of that the Greek are heavy users of more than half of all beverages included in the study. The following figures show how many Greeks drink the beverage in question at least once a week; the European average is shown in brackets: cokes 52% (26%), fruit juice 60% (50%), beer 51% (34%), white wine 43% (19%), Pastis/aniseed flavoured drinks 19% (3), sweet wine based aperitifs 8% (3%), liqueurs 6% (1), cognac, brandy 10% (3%), ready mixed drinks 5% (1%), gin 7% (2%), vodka 9% (2%), whisky 19% (6%) and rum 6% (1%). Finally, the Greek
are the heaviest users of instant soluble coffee whereas they are light users of ground filter coffee. Light usage is seen also for sparkling mineral water and fruit flavoured drinks.

If we go north from central Europe we find the region covering partly the British Isles partly the Scandinavian countries. The British Isles profile themselves by their great fondness of sweets and pastries as well as for instant products (Nescafé). The British are not particularly interested in weight watching and are fond of a sour taste. There are no variables indicating a strong food culture, which is not surprising.

British drinking habits are close to the European average in most instances. There are two significant exceptions: they drink a lot of instant soluble coffee and they are the heaviest users of tea (90% drink tea at least once a week). On the other hand the British are clearly light users of mineral water (both flat and sparkling) and red wine. Also fruit syrups and certain kinds of alcoholic drinks are only seldom enjoyed in the British Isles (eg, port, aperitifs, schnapps and fruit-based alcohols).

*Denmark* is profiled by an increasing consumption of fast food, ready-cooked dishes, etc. This is in line with the fact that only few people particularly enjoy cooking. Danes prefer heavy meals and are especially profiled by their preference for beer. They are, however, also relatively health conscious and seem to know what is healthy and what should be avoided in the daily household.

Danes are average wine drinkers as well as drinkers of strong alcohol. However, they are heavy users of white alcoholic schnapps, but light users of cognac, brandy, liqueurs, port and aperitifs. They are heavy users of fruit syrups, soda, beer and ground filter coffee whereas they apparently do not drink very much tea.

Together with the other Nordic countries, Norway and Sweden, the Danes position themselves as the ‘non-snackers’ of Europe. The Nordic area very often has the extreme position in Europe, indicating that people living there not snack between meals very often. This is true for chocolate as well as bars, biscuits, chips and other salted snacks. The only exception is that Nordic people eat a lot of fresh fruit.

As for *Sweden* there is also a tendency to prefer heavy meals and Swedes do not tend to eat sweets and snacks. They stress the sensory enjoyment of eating and show, perhaps a little surprisingly in this environment-conscious country, a weak preference for natural products.

In general Swedes are light users of beverages, except for ground filter coffee, fruit syrups and sodas. All three beverages mentioned are heavily used in Sweden compared to the rest of Europe. On the other hand, Swedes are light users of instant soluble coffee. Light usage is also seen for a lot of alcoholic drinks: red wine, white wine, sparkling wine, aperitifs, pastis/aniseed flavoured drinks, port, liqueurs, cognac, fruit-based alcohols, rum and ready mixed drinks. One explanation might be the high price and the difficulty of getting hold of alcoholic drinks in Sweden because such drinks cannot be bought everywhere. Finally, Swedes are light users of flat mineral water and colas.
In Norway the food culture is strongly profiled. Norwegians do not seem tremendously interested in food as such and they are open to convenience products. They tend to reject fast food and take-away food. On the other hand they are very interested in their health and subsequently they keep an open eye on what they eat. This is especially true for future usage of sugar, salt, fat and calories in general (on these questions Norwegians have the most extreme position in Europe). They do, however, not intend to eat less meat (but probably they are light users at the moment due to very high prices).

Also the Norwegians are light users of beverages. Heavy usage is only seen for fruit syrups and sparkling mineral water. Clearly they are light users of all types of wine and different types of stronger alcohol. Also beer consumption is low. As was the case for Sweden, prices for alcoholic beverages are high in Norway. The climate is probably also an important variable when trying to explain why Norway and Sweden are light users of beverages in general. The colder climate means that the need for thirst quenchers is much lower than in Southern Europe. When Norwegians want something to quench their thirst, they seem to prefer cola for beer.

Summarizing we must say that the analysis seems to confirm that the cultures most concerned with food and practising gastronomy as a passion are found in areas speaking a Roman language. The greatest health consciousness is, however, particularly found in the parts of Europe speaking a Germanic language with the British Isles constituting the main exception. Furthermore, it must be said that the 12 regions follow the language boundaries very closely (disregarding the special cases of the Celtic languages, Catalanian, Basque, etc.). The only exception from this being the splitting up into two regions of Southern Belgium/Luxembourg and France/the French speaking part of Switzerland.

If a conclusion must be made to the question regarding the existence of a regional Europe in the food-culture area on the basis of this analysis, the answer will be mixed. The question can be answered in the affirmative with the reference that Europe is definitely not considered to be particularly homogeneous as to food culture. The globalizing tendencies must be considered to be surface ripples in deep-rooted cultural patterns. On the other hand, the question may be answered in the negative if you consider it a negation of the importance of the nation-states. As we have seen, national boundaries are of a relatively high importance in the definition of the clusters in which the countries either represent unities or actually represent a region on its own. Particularly in the peripheral countries of Europe, food culture seems to follow the existing nation-states, whereas the picture is more diversified in the centre of the Continent. It has also been ascertained that some countries are more heterogeneous than others and show strong local characteristics. We have also seen how individual regions differ from the rest of the countries, like Bavaria, Vienna or the French speaking part of Switzerland. This represents a reason for not overlooking the regional aspects of the international consumption patterns.
7. Danes and the others: Similarities and differences

The cluster analysis showed that the country closest to Denmark is Sweden. After that Denmark was clustered to Ireland/Great Britain and then the Netherlands/Northern Belgium. This indicates that the Danish food culture is very much like the food cultures of these countries. In order to throw additional light on such similarities and differences between Denmark and other countries, the average score (factor score) of each new factor variable was inspected in each of the 12 clusters. For all 41 factor variables the three clusters most similar to Denmark were selected (a procedure resulting in 143 registrations of ‘cases very similar to Denmark’ as shown in table 3). The clusters most different from Denmark were registered in a similar way. Table 3 shows the result of this calculation in which the net figure is calculated as the number ‘very similar to Denmark’ less the number ‘very different from Denmark’.

Table 3. Similarities/differences between Denmark and other countries/regions

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Cases very similar to DK</th>
<th>Cases very different to DK</th>
<th>Net No. of Cases from DK</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>19</td>
<td>4</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Ireland/Great Britain</td>
<td>13</td>
<td>3</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Netherlands/Belgium</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>France/French</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Switzerland</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>West Germany/Austria /Switzerland</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Norway</td>
<td>14</td>
<td>15</td>
<td>-1</td>
<td>6</td>
</tr>
<tr>
<td>Southern Belgium</td>
<td>11</td>
<td>14</td>
<td>-3</td>
<td>7</td>
</tr>
<tr>
<td>Italy</td>
<td>8</td>
<td>15</td>
<td>-7</td>
<td>8</td>
</tr>
<tr>
<td>Greece</td>
<td>8</td>
<td>15</td>
<td>-7</td>
<td>8</td>
</tr>
<tr>
<td>Portugal</td>
<td>8</td>
<td>15</td>
<td>-7</td>
<td>8</td>
</tr>
<tr>
<td>Spain</td>
<td>7</td>
<td>15</td>
<td>-8</td>
<td>11</td>
</tr>
</tbody>
</table>

As will be evident the results are not unequivocal in the way that some countries/regions in all questions are very similar to Denmark whereas others are very different. On the contrary, the individual country/region is in some cases very similar to Denmark whereas it is very different from Denmark in other cases. This goes particularly for Central Europe where the countries show practically the same degree of similarity and difference compared to the Danes.

If we consider the countries/regions that are most clearly similar to Denmark we find the Sweden, the Ireland and the Briain. The similarity is in the fundamental food product style (eg, the consumption of a heavy meal rather than many small meals and relatively low interest in food products), in the health-related behaviour (not an overwhelming ascetic attitude to food consumption) and the product-related behaviour where the Swedes and the Irish/British
are not very similar. Danes and Swedes are very similar in that they do not - to the extent seen in other countries/regions - eat sweets or salty snacks, they prefer hamburgers and fruit. Beer and coffee are the preferred beverages.

It is just as obvious that Denmark is very different from the South European countries. The differences are seen in a broad spectrum of factors. Fundamentally the food product style differences may be that in Southern Europe people prefer to eat many small meals, they are only slightly oriented to convenience products in their cooking, prefer delicious, unhealthy food. This falls well in line with a relatively low health consciousness and on the food product level a partiality to small, sweet delicacies. Within beverages the white wine culture is predominant in Greece and Italy, but of less importance in Denmark.

8. Perspectives for Danish food companies

For Danish food producing companies that have the objective of increasing profitability through increased sales in the European markets the above analysis results form the basis for a number of interesting comments.

First, it is interesting to ascertain that Denmark is a very homogeneous country (also) with regard to food culture compared with practically all other European countries. At the same time Danes are not particularly interested in food and cannot be said to have a highly developed food culture. Being a food product exporter and having a not particularly advanced, homogenous home market does not provide a good environment for being at the forefront with consumer adapted food products. One characteristic aspect of the Danish food product export is that it is predominantly based on relatively unprocessed products, the quality of which is based on especially well-functioning and well-controlled primary production and slaughtering procedures. The market for these products is, however, stagnant or declining, the price competition increasing.

A possible conclusion could be that Danish food producers must increase their degree of product development if the objective of increased profitable export is to be realised. This means increased consumer adaptation and as indicated by the above analyses Danish companies do not have the best conditions in this respect because their home market does not expose them to advanced demands in this field (Porter, 1990). Success-seeking Danish companies must give top priority to consciously select advanced foreign customers that make demands to and give input to an advanced product development.

Furthermore Danish company must realize that it is of great importance to choose the proper distribution channel in a country with heterogeneous food culture. A retail channel or a catering wholesaler in Denmark may reach a very broad part of the market, whereas a similar middleman probably will reach a narrower segment in the heterogeneous country. A greater consciousness of the harmony between the product characteristics of the company and the preferences of the middleman’s customers is therefore required. The choice of middleman is more crucial in the heterogeneous country.
Second, it is interesting to ascertain that in many aspects Danes are similar to consumers in other countries. This goes particularly for Sweden, Ireland and Great Britain. In addition to this, Denmark is, however, the ‘magnet’ gathering major parts of Northern Europe in the cluster analysis. This indicates that the Danish food culture has many aspects in common with the food cultures of other countries. This is an advantage for the Danish food producers as it indicates that even without adaptation Danish food products are not extremely far from the tastes of the North European consumers. In Southern Europe the situation is, however, different. This means that often the product and perhaps particularly the communication towards the market needs adjusting.

References


Appendix 1

General food behaviour/attitude

**Fundamental food style (9 items)**
Which of these statements correspond to your temperament?

<table>
<thead>
<tr>
<th>Statement</th>
<th>More</th>
<th>Same as before</th>
<th>Less</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>I eat quickly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I eat when I’m hungry</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I prefer to eat one proper dish with vegetables</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I like to eat unusual and amusing meals as often as possible</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I prefer to eat at home</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I have a tendency to eat little</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I enjoy cooking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>When we have guests, I like to cook something special</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Trends the future (12 items)**
How do you do the following things?

<table>
<thead>
<tr>
<th>Activity</th>
<th>More</th>
<th>Same as before</th>
<th>Less</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat while doing something else</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Pay attention to calories and diet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Buy ready-cooked tinned food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Buy ready-cooked frozen food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Buy take-away food (pizza, Chinese, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Buy or eat low calorie products</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Have at hand things to snack (in a handbag, desk drawer)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Eat sweet foods</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Slow-cook dishes that I prepare myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Drink food and drink with added vitamins that give energy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Eat natural based products</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Eat products or dishes that can be prepared instantly (soup ...)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Preferences (33 items)

<table>
<thead>
<tr>
<th>I like to eat</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw, natural</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Crispy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Marinated</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Tinned</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Frozen</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sweet</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Salty</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sour</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Very spicy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Spicy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mild</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Very cold</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fried</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Compact, dense</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Rissoled</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Grilled</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fluid</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Simple taste</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Complex taste</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sweet and sour</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Acid, lemony</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Creamy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>With one’s fingers</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Spongey</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Melts in the mouth</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Hard</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Soft</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Crunchy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Something to suck</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Something to nibble</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Something to tear apart</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Something to carve/cut up</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Something to put on bread/biscuits</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
# Health related food behavior/attitudes

## Diet willingness (16 items)

<table>
<thead>
<tr>
<th>I am willing to</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat less or a little bread</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Eat less starchy food (rice, potatoes)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Eat less salty</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Eat with less or no fat (cut away fat etc.)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Use fat-free products</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Drink sugar-free</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Eat less or no sugar (pastries, chocolate)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Use sweeteners</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Eat less meat</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Drink less alcoholic beverages</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Use diet products as a meal</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Use light products</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Use usual products with less calories</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Have green vegetables, salad as meal</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Have less French fries, less fried food</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Keep on eating everything but in smaller quantities</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

## Diet behavior (4 items)

*Only one answer possible*

<table>
<thead>
<tr>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I regularly control what I eat, to keep my weight stable</td>
</tr>
<tr>
<td>I mostly pay attention to what I eat each day, but I have no worries about indulging myself from time to time</td>
</tr>
<tr>
<td>I eat what I want most of the time and go on a strict diet now and again</td>
</tr>
<tr>
<td>I do not control my diet; what I like cannot do me any harm</td>
</tr>
</tbody>
</table>
## Product related food behaviour

### Snacking habits (33 items)

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I generally snack</td>
<td></td>
</tr>
<tr>
<td>Fresh fruit</td>
<td>1</td>
</tr>
<tr>
<td>Yoghurt, chilled desserts</td>
<td>1</td>
</tr>
<tr>
<td>Cheese</td>
<td>1</td>
</tr>
<tr>
<td>Sandwich (ham, paté)</td>
<td>1</td>
</tr>
<tr>
<td>Hamburger</td>
<td>1</td>
</tr>
<tr>
<td>Pizza, quiche</td>
<td>1</td>
</tr>
<tr>
<td>Savoury snacks</td>
<td>1</td>
</tr>
<tr>
<td>Salted biscuits, chips</td>
<td>1</td>
</tr>
<tr>
<td>Peanuts, dry fruit, other salted nuts</td>
<td>1</td>
</tr>
<tr>
<td>Pop corn</td>
<td>1</td>
</tr>
<tr>
<td>Cream cakes, tarts</td>
<td>1</td>
</tr>
<tr>
<td>Chocolate cake, croissants, chocolate croissants</td>
<td>1</td>
</tr>
<tr>
<td>Sweets</td>
<td>1</td>
</tr>
<tr>
<td>Chocolate sweets (Smarties ...)</td>
<td>1</td>
</tr>
<tr>
<td>Chocolates (from a box)</td>
<td>1</td>
</tr>
<tr>
<td>Chocolate biscuits</td>
<td>1</td>
</tr>
<tr>
<td>A bar of chocolate with nougat</td>
<td>1</td>
</tr>
<tr>
<td>A bar of chocolate with toffee</td>
<td>1</td>
</tr>
<tr>
<td>A bar of fruit chocolate (or coconut)</td>
<td>1</td>
</tr>
<tr>
<td>A cereal bar covered in chocolate</td>
<td>1</td>
</tr>
<tr>
<td>A cereal bar (without chocolate)</td>
<td>1</td>
</tr>
<tr>
<td>Bitter chocolate bars</td>
<td>1</td>
</tr>
<tr>
<td>Milk chocolate bars</td>
<td>1</td>
</tr>
<tr>
<td>White chocolate bars</td>
<td>1</td>
</tr>
<tr>
<td>Milk chocolate bars with nuts</td>
<td>1</td>
</tr>
<tr>
<td>Chocolate bars with rice</td>
<td>1</td>
</tr>
<tr>
<td>Bars filled with chocolate</td>
<td>1</td>
</tr>
<tr>
<td>Biscuits filled with chocolate</td>
<td>1</td>
</tr>
<tr>
<td>Other filled biscuits (fruit ...)</td>
<td>1</td>
</tr>
<tr>
<td>Sweet, dry biscuits</td>
<td>1</td>
</tr>
<tr>
<td>Cake</td>
<td>1</td>
</tr>
<tr>
<td>Fruit pies</td>
<td>1</td>
</tr>
<tr>
<td>Apples</td>
<td>1</td>
</tr>
</tbody>
</table>
### Drinking habits (31 items)

I drink the following:

<table>
<thead>
<tr>
<th>Beverage</th>
<th>Almost everyday or everyday</th>
<th>Once or twice a week</th>
<th>At least once a month</th>
<th>Rarely or on occasion</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat mineral water</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sparkling mineral water</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Red wine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>White wine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Beer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Pastis, other aniseed flavoured drinks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sweet wine based aperitifs (Dubonnet)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other aperitifs, Martini, Vermouth</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Port</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ready mixed cocktails</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Gin</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Vodka</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Whisky</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Rum</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Champagne</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sparkling wines</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>White alcohols (Snapps)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Fruit-based alcohols (Calvados, Pear)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Cognac, Brandy, Armagnac</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Liqueurs (Cointreau, Grand Marnier)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Fruit juice</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Fruit-flavoured drinks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Soda</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Coca-Cola, Pepsi</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Syrups to be mixed with water</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sirops/cordials</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Instant/soluble coffee</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ground/filter coffee</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Coffee (with milk)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Tea</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Herbal tea</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
MAPP deltager i/har gennemført følgende samarbejdsprojekter:

A/S Hatting Bageri
Titel: Udvikling og afprøvning af instrumenter til analyse af trends i forbrugernes og detalillisternes værdi-opfattelse på eksportmarkederne

DIFTA m.fl.
Titel: Markedsstyret kvalitetsudvikling af danske åleprodukter med henblik på det tyske marked

Frigodan m.fl.
Titel: Strategiske dybfrostærter

Intergoods Bakery Ltd.
Titel: Udvikling af systemer, rutiner og værktøj til effektivisering af produktudviklingen og lanceringen på de internationale markeder for Intergoods Bakery Ltd.

MD Foods A.m.b.a. m.fl.
Titel: Kunde- og miljøtilpasset emballage- og distributionsteknik nationalt og internationalt

SANT + Bendix m.fl.
Titel: Styrkelse af produktudviklingsfunktionen i mellemstore fødevarevirksomheder

Slagteriernes Fællesindkøbsforening A.m.b.a. m.fl.
Titel: Udvikling af magnetisk fjernlæsbare mærker og tilhørende terminaludstyr til identifikation af kvæg bl.a. med henblik på forbedrede muligheder for kvalitet-, proces-, og avlskontrol og -udvikling

Slagteriernes Forskningsinstitut
Titel: Forbrugerundersøgelse af svinekød

Tulip International A/S
Titel: Kvalitetscertificering som nøglesuccesfaktor ved markedsføringen af danske fødevarer internationalt

Tulip International A/S
Titel: Udnyttelse af kulturelle forskelle i den internationale markedsføring

Tulip International A/S
Titel: Identifikation af produktlivsencykluser for kødprodukter i et globalt perspektiv
MAPP publications

MAPP working papers


No. 8: Lassen, J. Food quality and the consumer, March 1993.

No. 9: Bonke, J. Choice of foods - allocation of time and money, household production and market services, PART II, September 1993.

No. 10: Plichta, K. Technological opportunities and paths of development, September 1993.

No. 11: Kvistgaard, M., Plichta, K. & Rasmussen, O. Den danske brødindustri - struktur, teknologi, forskningsbehov, Oktober 1993

No. 12: Grunert, K.G., Brunsø, K. & Bisp, S. Food-related life style: Development of a cross-culturally valid instrument for market surveillance, October 1993


No. 15: Langhoff, T. N. The internationalization of the firm in an intercultural perspective, November 1993.

No. 16: Grunert, K. G. & Brunsø, K. Market surveillance for the food industry, November 1993.


MAPP monographs


MAPP conference papers


Boucquet, D. *Embarrassment as a key to understanding cultural differences. Basic principles of cultural analysis*. The Second Conference on The Cultural Dimension of International Marketing, Odense University, Denmark, May 27-31, 1995.

**MAPP reprints**


Furthermore there are a number of project papers, which are not available to the public.
1. Strategic Planning and Innovation Capability in the Danish Food Sector
   Morten Kvistgaard & Kirsten Plichta, Copenhagen Business School

2. Innovation Capability as a Key Success Factor
   Klaus G. Grunert & Hanne Harmsen, The Aarhus School of Business

3. Quality Certification as a Key Success Factor in International Marketing of Food Products
   Niels Jørgensen, Business University of South Jutland

4. Definition of the Sales Potential for a New Food Product to be Launched on Home or Foreign Markets
   Anne Martensen & Kenneth Kæregaard, Copenhagen Business School

5. Primary Producers and Product Innovation in the Food Industry
   Villø Søgaard, University Centre of South Jutland

6. Controlling Processes of Production to Guarantee Process Characteristics Demanded by Consumers of Food Products: Paradigms and Danish Experiences
   Esben Sloth-Andersen, Aalborg University Centre

7. The Role of the Distribution System in Product Innovation
   Hanne Hartvig Larsen, Copenhagen Business School

8. Prototyping in the Danish Food Industry
   Preben Sander Kristensen, Aalborg University Centre

9. Product Quality and Consumer Preferences: Assessing the Optimum Design of Food Products
   Kai Kristensen, Hans Jørn Juhl, Anne Bech & Erling Engelund, The Aarhus School of Business; Carsten Stig Poulsen, Aalborg University Centre

10. Product Innovation and Packaging in the Food Industry - Environmental Consequences and Consumer Reactions
    John Thøgersen & Tino Bech-Larsen, The Aarhus School of Business

11. The Consumer as Agent in Relation to Research and Development in Food Technology
    Erling Jelsøe, Birgit Land & Jesper Lassen, Roskilde University Centre

12. Households’ Choice of Foodstuffs with Different Kinds of Preparation
    Jens Bonke, University of Copenhagen

13. The Cultural Dimensions of Food Consumption and the Implications for Strategy Formation and Implementation in Small and Medium-sized Danish Companies
    Dominique Bouchet, Josette Andersen, Søren Askegaard, Tage Koed Madsen & Per Østergaard, Odense University

14. Market Surveillance Systems for the Food Sector
    Klaus G. Grunert & Karen Brunsø, The Aarhus School of Business

15. Identification of Key Success Factors
    Klaus G. Grunert & Elin Sørensen, The Aarhus School of Business