

Evolutionary Trends in Food and Flavors

By Anthony Blake, Firmenich SA, Geneva, Switzerland

In most developed countries of the world, people take their choice of meals and selection of foods for granted. Unfortunately, in the less developed countries people are too busy finding enough food to bother, particularly about its origins. Thus we seldom ask why we eat what we eat or from where our fundamental choice of foodstuffs has come. We also perhaps forget that we are the only living species on earth that blends, processes and modifies its food, and that this evolution of food and diet is perhaps the single most important reason for the dominance of the human race on earth.

Although the modern food industry with its emphasis on preservation and distribution technology is less than two hundred years old, the origins of many of our foodstuffs go back into several hundred thousands of years of evolution before written history. Certainly by the time hieroglyphics, some 5,000 years ago, everyday items like bread, wine, cheese and soy sauce were probably all in existence, together with many foodstuffs subsequently lost, improved upon or simply forgotten.

The Evolution of Food Preferences

The word 'evolution' is deliberately chosen because chance discovery of beneficial food blends and food processes in the pre-historical phase of the human race allowed their discoverers to better survive, thrive, breed and maintain their cooking practices.

The population groups which failed to improve their food opportunities (or their food technology) fared less well and either became extinct or were absorbed into the successful groups. Thus by an almost Darwinian process of natural selection the advantageous recipes must have survived and passed on to subsequent generations, while nutritionally deficient or toxic foods tended to disappear.

Human groups separated by geography developed foods which became different in character and flavor, but which had essentially similar features of being nourishing and

enjoyable to humans. For long periods of time these cuisines remained separated.

During man's last few millenia, a relatively brief timespan, there have been population movements and interactions which served to bring together previously separated cuisines of the world. Whenever this has happened people have selected and adopted the best of the various foods and flavors available and a new symbiotic partnership in cooking styles has emerged.

The subject of food evolution could fill a book of its own. A few population movements which had major influences on our diet are highlighted here. The glory that was Greece not only gave the world many of the most successful architectural styles and concepts of philosophical thinking but also one of the most refined schools of cooking.

The written recipes from Athens and the cookery schools of Alexander the Great were lost in the library of Alexandria when it was destroyed by fire in the 7th century but the recipes had already passed into the households of the Roman Empire. The Greek cooks from Sicily were the most honored and valued household servants of the Roman Empire.

Because Roman control and influence on Europe was to all purposes absolute for a period of some four hundred years, this essentially Greek cuisine became the foundation of European cooking. Bread, sausages, boudins, pies, braised meats, sauces, herbs, dumplings, wine and ice cream are all of Graeco/Roman origin. Lamb with rosemary, pine nuts and basil in pesto sauce are of the same background.

The decline and disappearance of the Roman Empire and the anarchy of the dark ages that followed, however, all but destroyed this heritage and it was preserved only in the isolated Christian monasteries and among the Lombards and Venetians of northern Italy. It was not until the Renaissance that the art of cooking was recovered in Europe, flourishing in several countries, especially in France and Italy.

Another major population migration affecting the cuisine of the world was largely triggered by man's search for new flavor experiences. Since the times of the Romans, spices had been known and used in Europe but their origins were confusing and obscured by the Arab traders who protected their supply lines well. It was the search for alternative sea routes to find the spice-producing lands that in large degree led to the European exploration and ultimate colonization of many countries which had never before had European contact.

The bringing together of the Americas and Europe probably has had the biggest effect in changing the cooking habits of the world—not only in cooking styles but also in terms of raw materials and foodstuffs. The Europeans adopted and adapted the new flavor experiences. Peppers, tomatoes, chillies, vanilla, chocolate, potatoes and beans gradually appeared in the recipes of Europe and were also taken to most other parts of the world. Today the chillie is such an essential part of the cuisine of South East Asia that you might think it is native to that region. One probably thinks of Switzerland being linked more to chocolate than Mexico, its place of origin.

The Adventurous Consumer

The reason for introducing these historical facts is that similar changes are taking place again. There are vast differences between the events described so far and the events of the present times. Up to now population movements and the growth in awareness of new foodstuffs had been gradual and often took place over a century or more, certainly over several generations.

In the last fifty years, however, we have experienced a shrinking of the world as has never happened before. Two key elements of this have been the development of global air transport at affordable prices to large numbers of people and the emergence of a global and visual communication system through films and television. A third and equally important element has been the emigration of large numbers of people with their own styles of food and cuisine to other countries.

The essential element about foreign food today is that it is no longer foreign to many people—it is an interesting and often exciting alternative to traditional cooking styles. Foreign holidays, the local Chinese take-out, the kebab stall, the Indian corner grocery store, the tropical foods section of the supermarket have all appeared in our generation. This has created an overall and popular awareness of global cooking faster than has ever happened before in history.

To all this we should add the fact that the world's industrialized food markets are increasingly controlled by fewer companies and that we are approaching the reality of global food marketing. Increasingly the challenge to the food and flavor industries will be to spot the foods and the flavors which can have worldwide acceptance.

New Flavors in Convenience Foods

Conventionally, people learn to cook at home and reci-

pes are handed down from generation to generation. This is the pattern by which food traditions are passed on in most cultures. However, especially in the developed countries, we see this pattern broken. The essential reason for conservatism in foods is that home cooking is exactly that—it is taught in the home and little influenced by external events; the cooking taught in school is essentially an extension of that in the home. The learning process has, however, changed in many countries.

In the USA and Europe few children now learn to cook at home or are really encouraged to do so. This pattern is not too dissimilar in many other countries. The generation of young people in these countries have little practical experience of cooking. The time spent on meal preparation at home is becoming less and less. On the other hand, the use of convenience foods, cooking aids, part prepared meals, or even complete meals, is growing.

Once the traditional links of home cooking are broken the conservatism which it carries disappears. However, even the most untrained of today's teenagers will eventually find the need to prepare a meal for themselves, their families or friends. Faced with a basic ignorance of how to cook as mother did, they will be informed by TV and magazines articles on foreign foods, or helped by seasoning mixes and convenience food products. Now the choice they would make for their first steps into cooking is as likely to be a style of food once eaten and enjoyed on holiday or at a favorite restaurant as a traditional food eaten at home.

There will always be enthusiastic amateur cooks for whom food preparation will have real interest. They will be equally if not more interested to develop their talents in new areas. The more open attitude to non-traditional foods is also encouraging professional chefs to look for the exciting new recipes based on the cuisine of another country.

The net effect is that today's new cooking styles are tied to traditional cuisine neither by habit, availability nor by choice. The food manufacturers understand this trend. The basic ingredients of cooking are now remarkably common around the world. It is the processing, spices, herbs, seasonings and cooking styles that introduce the variety of flavors and types of food we find in different countries.

Transnational Flavor Acceptability

During the time when consumers' knowledge of the world's foods has increased so quickly, we have also seen the scale of the biggest food companies grow from being international to global. With this has come the search for product concepts which can be internationalized and food marketing on an increasingly worldwide scale.

Two examples illustrate this: the first is the marketing of the kiwi fruit, largely unknown fifteen years ago and now virtually ubiquitous in every fruit salad; the second is the instant noodle meal, always a staple snack in South East Asia but now consumed by children and adults from Los Angeles to Liverpool; both examples of global marketing successes.

Increasingly we will see examples of both traditional and

Evolutionary Trends

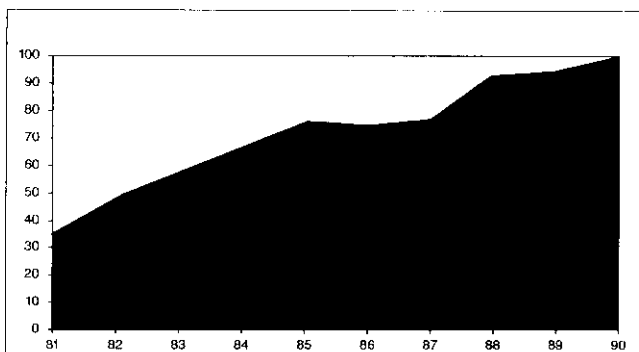


Figure 1. Sales of mango-flavored drinks in Europe

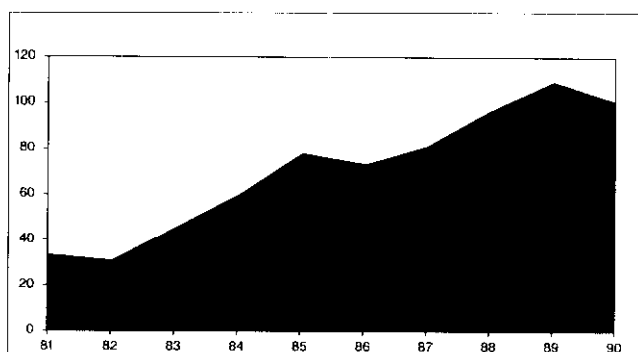


Figure 2. Sales of coffee-flavored soft drinks in Japan

exotic foods being marketed internationally, and we should not forget that what is traditional and everyday to one person can be new and exotic to another.

Meeting of East and West

The first internationally accepted style of cuisine in the world was that of China and specifically that from the Cantonese region. In virtually all countries, the Chinese restaurant or Chinese carry-out has become a part of the local scene.

There is surely no one anywhere who has not experienced soy sauce, stir-fried meals, bamboo shoots and water chestnuts. How many households in the USA and Europe now own a wok?

The enterprise of the Chinese restaurateurs has demonstrated that an original style of cooking which offers quality, convenience, novelty and value for money can have global acceptance.

The flavors of Chinese cooking have become a part of the international cuisine; soy sauce, hoi-sin sauce, five spice powder are all well accepted and increasingly used in Western kitchens and available in Western supermarkets.

Depending on historic links, other types of Asian cuisine are also very popular if not as generally available; Indian and Pakistani food in the UK and Indonesian food in Holland are good examples. In 1950 there were less than 10 Indian restaurants in the UK; by 1985 this had grown to over 3,000 and is now above 7,000.

However, not only are Asian tastes growing in popularity in the West but European and American tastes are becoming equally accepted in the East. The tastes of beer, whiskey, coffee and Coca Cola are international in popularity.

It was amusing to me during a visit to Japan this year that when the lunch was served the only person eating Japanese food with chopsticks was myself. The other six Japanese were eating a variety of Western meals with knives and forks—not out of politeness but out of preference.

Until now the marketing of Asian foods in the USA and Europe has essentially been entrepreneurial but maybe that will change. Perhaps the first move toward international marketing of Japanese food in Europe can be seen in the joint

venture in Switzerland between Mövenpick and Kikkoman.

European countries have never actively promoted their styles of cuisine on an international scale. It is true that classical French cuisine has been taught in the international schools of professional cooking but not as a mass marketing concept to the individual.

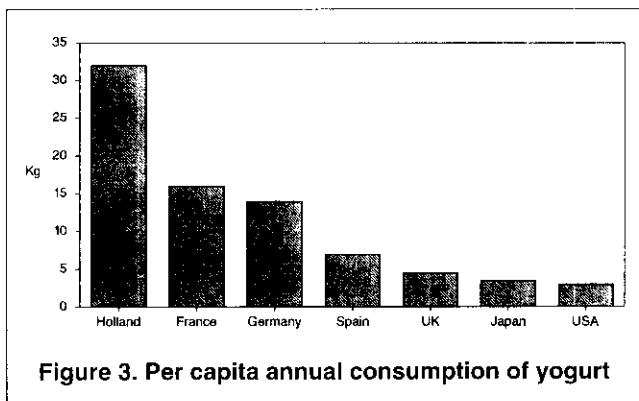
It has been largely the Americans who have promoted the global marketing of essentially European products such as pizza or Euro-American concepts such as hot dogs and hamburgers.

Flavor preferences have also migrated between East and West. The much wider availability of tropical fruits has undoubtedly also had a major influence. Mango and, to a lesser extent, previously exotic tropical fruits such as passion fruit, kiwi and guanabana are increasingly found in drinks, yogurts and ice cream throughout the West. The chart in Figure 1 shows the growth in popularity of mango-flavored drinks in Europe. By contrast, in other parts of the world, it is cherry, blueberry and similar temperate fruits which are exotic; Japanese consumers at present are enthusiastic about grapefruit juice for breakfast and pear-flavored confectionery. In the last ten years or so, they have become the world's largest consumers of coffee-flavored soft drinks as illustrated in Figure 2.

In the area of savory foods, a similar trend can be seen. While soy sauce, miso soup and teriyaki steak are increasingly accepted in the West, so too macaroni and cheese and lasagne are eaten in the East. Japanese housewives now also cook exotic foods; beef stew is a good example.

The fastest growing style of restaurant food in Australia is Thai. Indian restaurants are increasingly popular in Canada. Of course it is not only Asian food that grows in popularity in the West; other previously regional styles of cuisine are becoming more broadly based. Italian food is now very popular throughout Europe, Japan and North America. Mexican, Caribbean and Creole foods are similarly spreading in acceptance and are more widely available along with the ingredients for preparing them.

The world menu is becoming genuinely international and will continue to develop in this way for the foreseeable future.



Food and Health

Another point to remember, and this has a greater influence on food selection today than ever before, is the awareness and concern which the average consumer in the developed countries has about food and its relationship with health. It is not an entirely new phenomenon: the pioneers of breakfast cereals in Battle Creek, Michigan built their product concepts on wholesomeness and health; Coca Cola started life as a refreshing restorative.

It is true to say that the average consumer today is much more concerned with dietary factors related to health than ever before and is much more aware of quite subtle aspects of it. The trend towards lower consumption of saturated fats and higher consumption of fiber-containing foods, and the preoccupation with natural foods, are consequences of this concern.

The food manufacturers have, of course, responded. And this has a significant influence on the choice of foods in the supermarkets and the flavors offered. Vegetarian foods, low-calorie products, low-cholesterol products, high-fiber products are all featured in today's grocery store.

Taking all this together we have consumers:

- for whom foreign foods and flavors are no longer something to be avoided but something that is interesting and exciting;
- who are less conservative and less well trained in their own cooking styles;
- who look for quality, novelty and interest in their foods yet who spend less time on its preparation;
- who are increasingly concerned about the healthiness of the food; and
- who have encouraged the growth of a smaller number of very large food companies, which can promote global food concepts and have a vested interest in doing so.

Challenge to the Food and Flavor Industry

It is always risky to move into the area of prediction since time always provides the final truth on such matters. Nevertheless, we might consider a few food concepts which, with the appropriate marketing push, could become accepted into the world menu.

There will always be room for the traditions and practices of local cooking; both the world and the foreign holidays would be poorer and less interesting if this were not so. Nevertheless, the pressures of business rationalization and the demands of consumers themselves will gradually create a world menu. The challenge to the food and the flavor industry is to find and develop the favorites which this menu will feature.

In all the developed economies of the world, the demographics and the factors influencing consumer choice have become increasingly similar:

- aging population profile with smaller family groups and the demand for foods which are convenient and easy to prepare;
- increased concern for product quality rather than the price;
- increased awareness of the connection between diet and health and the selection of food on relatively sophisticated medical criteria; and
- greater interest in exciting, new foods and tastes.

The net effect is the selection of today's lunch or this evening's meal with new criteria in mind, less links than ever before with traditional cuisine and far greater interest in and awareness of exotic possibilities.

If we start from the central factors influencing our consumers, we can build around this a selection of cuisine styles that offer the most desirable features. This selection is open to debate and is, in this case, highly personalized. My candidates are:

Italian food, which will continue to become increasingly popular everywhere. Pasta is more and more perceived as a healthy source of carbohydrates, particularly with fresh and chilled varieties rather than dry. Products containing olive oil are seen as healthy. Doubts about high levels of meat in the diet on grounds of health or of any meat in the diet on moral grounds will increasingly produce a trend to vegetarian foods where non-meat sauces for pasta, tomato-based sauces and other vegetable-based products such as pesto could emerge as winners.

Already the trend towards Italian cuisine is there. Pizza is international and pasta sales are one of the fastest-growing segments in East and West. Not only is this popularity seen for savories; tirami su is a dessert and a name which now apparently has global possibilities, even appearing on chocolate bars in Japan.

Eastern Mediterranean and North African cuisines should not be forgotten. My candidates for internationalization from this part of the world are couscous and perhaps less known but even more likely—taboulé. Based on coarse grain semolina and lightly flavored with mint, spices and various possibilities of fish or vegetables, taboulé provides a snack or a meal satisfying many of the key criteria on which consumers make their choice.

Eastern Europe and Northern Asia offer many possibilities for health related foods with interesting flavors and natural connotations. Yogurt has already taken its inter-

national position and probably has a lot further to go (see Figure 3). It is almost impossible to believe that yogurt cannot become much more popular in the USA given the similar ethnic make-up of the US population to that of Europe. The difference in yogurt sales in the USA and Europe must surely reflect the effectiveness of the marketing push rather than the basic preferences of consumers. Apart from yogurt, there are other potential candidates. The healthy attributes and potential for milk-based drinks such as Kefir merit investigation and with adaptation to international tastes could provide novel product lines.

Far Eastern cooking is already widely internationalized via the cuisines of China and to a lesser extent Indonesia. The cuisines which offer much but are still largely to emerge are those of Thailand and Malaysia. Quite separate and distinct from other Asian food styles, these offer a whole series of new flavor tonalities. The potential for Thai cuisine can already be seen in Australia; the flavor of coriander leaves, lemon grass and fish sauce should be equally successful in Europe.

Indian cuisine is enormously popular in the UK and increasingly so in Canada. It is, however, still largely undiscovered in Europe and America. Indian food can offer attractive marketing possibilities for the health-conscious consumer with its rich variety of vegetarian dishes such as

dahls and vegetable curries. For the easy-to-prepare substantial snack, Indian cuisine offers samosas. One already sees many snack products of Indian tradition on the European market.

Chinese cuisine has long made its mark but it would be wrong not to mention it again since it is increasingly cooked at home. Stir-fry meals are among the most popular of the convenience foods. The market for cooking aids for Chinese food is growing quickly. Nor should we forget tea. There is a growing trend toward adult-oriented drinks. Tea-based adult drinks can still offer much potential, either hot or cold.

Indonesian food is well-known in Holland but less so in other parts of Europe and the Americas. Satés or kebabs cooked in spicy peanut sauce are one of its best-known dishes. Another product from Indonesia, tempeh, deserves much better awareness than it actually has. It is produced by growing a mold mycelium on soya beans. This fibrous material contains over 40% protein on a solid basis and can be used essentially as a meat substitute. The technologies of the meat analogues companies had been predated by several thousand years in the cottage industries of Indonesia. Perhaps the time is right to rediscover tempeh for the menus of the world, especially for the increasing number of vegetarian consumers.

Japanese food is increasingly appreciated in Western countries. The lightness and low-fat content of this food is attractive on health grounds. If asked to select one dish from Japanese cuisine for inclusion in the world menu, I would choose miso or fermented soya bean paste. Miso soup is an everyday part of the Japanese diet—often the first drink of the day. Increasingly, more adventurous Western restaurants are now starting to feature miso on their menus.

Conclusion

What has been presented here is obviously only a selection, very much subjective, and given from a personal viewpoint. Nevertheless, in the next decade the opportunities offered to the food product developers and the marketers of food products will be both enormously challenging and filled with opportunities.

There will, undoubtedly, be a need for modification of the original concepts in developing internationally acceptable products. Consumers are willing to try new taste sensations, new flavors and new foods as never before. The flavor industry is as interested in this as anyone in finding the right flavors for these products of the future.

We should perhaps remember the quotation from Grimod de la Reynière, the writer of the first guide to good food and restaurants in France: "...beware the person who declares he is not interested in food; he will invariably be mean, nasty and generally not to be trusted." Fortunately our potential customers seem to be turning out to be nicer and nicer.

Reference

Address correspondence to Anthony Blake, Department of Food Science and Technology, Firmenich SA, Case Postale 239, CH-1211 Geneva 8, Switzerland

