

Public Participation and New Food Technologies: *When is the public being asked – and why*¹

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Introduction

This paper is divided in two main sections; section one which describes the overall aim and structure of my research project and which outlines the empirical part of my project consisting of two case studies in the area of food technology. This is followed by section two which goes into more elaborate detail with my primary case – that of functional foods – as it outlines and discusses the societal, cultural, and political implications of the introduction and promotion of functional foods.

The motivation for my research project sprung from the fact that while, *ideally*, public participation should play an important role in relation to the introduction of new technologies that may have profound impacts on people's lives – and/or that entail conflicts of interests or societal controversies; *in reality* the decisions to initiate these types of processes are highly selective, and the grounds for selection are not always transparent. That is, some potentially controversial new technologies are being presented as areas of public concern and issues for public debate, while others are not. Throughout the paper, I will outline and discuss the reasons why I believe the cases of GM foods and functional foods exemplify the ways in which the need for public deliberation is – or is not – on the agenda for different technological issues. I will try to relate these differences in the perceived need for public inclusion to the actual societal and political issues prevalent in the case of – in particular – functional foods.

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I: Aim and structure of my project

My PhD project concerns the ideal of public deliberation and participation and how it is being articulated politically in relation to new food technologies. My focus is on interpretations of the ideal of deliberative democracy and how it translates into different strategies with regard to initiating public participation in debates and decision-making in two cases of controversial new food technologies; GM foods (genetically modified foods) and functional foods (food with added nutrients, vitamins, etc. for health benefits). Thus, my research question is formulated as follows:

How is the ideal of public participation being articulated in the area of Danish food politics, and how does this relate to the ways in which scientific experts and consumer organisations perceive public participation?

I want to address my research question on two levels:

- 1) At the theoretical level the aim of my analysis will be twofold: 1a) to discuss the different conceptualisations of the modes of, and spaces for, deliberative democracy in theories of the political (the place of the political) and; 1b) to discuss different conceptualisations of the public; who is the ‘public’ that is being invited to deliberate? (the naming of the political subject)

- 2) At the empirical level I will analyse the ideal of deliberative democracy in Danish food politics: How is it playing out on the level of national politics in relation to GM foods and functional foods? The empirical part of my project will include both a document study of speeches, white papers, statements etc., as well as an interview study with politicians, MPs, national food authorities, industry representatives, and members of NGOs and consumer organisations. I will look at the ways in which public deliberation and participation procedures are being perceived – and initiated – in relation to GM foods and functional foods in a Danish context. Also, I will consider EU policy as a frame for the articulation of the ideal of public deliberation and participation.

A key question that guides the analysis is the question of whether public deliberation and participation can be said to have a democratising potential. This question relates to the overall empirical aim of my project which is to investigate what happens when the *ideal* of public participation is translated into politically sanctioned deliberative procedures aimed at furthering public inclusion.

In the following, I will focus on the second level of my research project – the empirical study of the two food technology cases – and I will discuss briefly why GM foods and functional foods were chosen, and why they make for a particularly relevant and fruitful perspective on how the ideal of public participation plays out in relation to food politics.

Empirical study: two case studies in food technology

The political debates over GM foods and functional foods – and the ways in which the two issues are being presented to the public – differ significantly. While the debate on GM foods is widely seen to touch upon broader ethical, societal, and environmental questions, there is a tendency to view functional foods as something which concerns only personal health choices and consumer priorities. In light of this, the perceived need to initiate a public debate on these topics seems to differ as well: In the case of GM foods the public is being perceived as *citizens*, and therefore the need for public debate is in focus, but when it comes to functional foods the public is being accorded the role of *consumers*, and consequently the need for public debate is not emphasised. These very different ways of conceptualizing the two food areas can be seen also in the fact that while a wide range and number of public participation procedures have been initiated in the area of GM foods – both in the EU and the US – there are only very few examples of this type of initiative in the area of functional foods which has instead been dominated by expert conferences.

Since the mid 1990's, when the heated debate on GMOs really began to gain momentum, GM foods has been the topic of a wide range of citizen juries, public hearings, consensus conferences, and public consultation procedures in almost every western European country as well as the US.² The motivation for initiating these types of procedures is generally explained by way of the fact that GM foods is an issue which has ethical, social, environmental, political, cultural, and moral connotations. Further, it is an area that would potentially change people's perception of the relationship between nature, food production, and their own consumption of food, and also, it raises questions which have to do with free food choice in the future in terms of having the choice between for instance organic, conventional, or GM foods. In short, all the ethical, social, environmental, political, cultural, and moral questions which the introduction of GM foods raises, are seen to be generating a need for public inclusion and the initiation of participatory procedures in this area is seen as politically legitimate.

² See Nielsen, Lassen, and Sandøe 2006 for further discussions of public participatory procedures in relation to GM foods.

The area of functional foods, as I have hinted at earlier, is perceived very differently. Only very few public participation procedures have been initiated in this area – both in Denmark and in the rest of the EU – and the debate about the development and promotion of functional foods has mostly taken place in expert forums, where the topic of debate has been scientific advances, barriers and possibilities in relation to the marketing of specific products, and, in some cases, the question of consumer acceptability. *Consumer* seems to be a key concept here. In the area of functional foods the focus is on the consumer perspective, and a broader consultation of concerns, expectations, and perceptions in the general public has not been on the agenda. That is, functional foods is largely being talked about in terms of more freedom of choice for the consumer and the logic here seems to be: if you don't like it, don't buy it! Or to put it differently, the issue of functional foods is thought to concern us only with regards to the choices we make as consumers, not in terms of the questions we might raise and the concerns we might have as citizens. Such a framing of the issue would have been highly unthinkable in the area of GM foods. But why, then, has the public ended up being accorded only the role of consumers when it comes to functional foods? As I will outline and discuss in the following section there is a wide array of socio-cultural, ethical, and political issues at stake in the area of functional foods which very clearly point to the need for a broad public debate on the matter and also for more public participation procedures to be initiated. After my discussion of what I perceive to be issues that are critically overlooked – or at least marginalised – in the debate on functional foods, I will offer some brief conclusive comments on what may be the consequences of limiting the role of the public to that of consumers in this area of food technology.

II: Functional foods: Political and societal issues

Conceptual definitions

The concept of functional foods covers many different types of food products, claiming a broad range of health and nutrition effects and benefits, and it is based upon a variety of different technologies. Many attempts have been made to formulate a definition of the concept of functional food, but to this day confusion, inconsistency, and incoherence prevails with regard to applied definitions. The term *nutraceuticals* was coined in the US in 1976 by Dr. Stephen De Felice, founder of the *Foundation for Innovation in Medicine*, a non-profit group dedicated to advancing natural therapies. Today the term nutraceuticals is often used as a heading for nutritional dietary supplements in the form of pills, capsules, powders, fortified beverages etc., thus not covering actual food stuffs or food products (Heasman and Mellentin 2001). Still, the term is in many cases confused and used interchangeably with the term functional foods, and clarity seems to be lacking

as to what might demarcate one from the other, be it boundaries that refer to technology, acceptance for using health claims, regulation, policy, or consumer conceptions.

For current purposes, this paper will define functional foods *as any modified food or food ingredient that may provide a nutritional or health benefit beyond the natural or traditional nutrients it contains*; a definition proposed by the *Food and Nutrition Board* of the *US Institute of Medicine of the National Academies*. Perhaps it should be added that the paper will deal also with food or food stuffs that are marketed as functional foods, even if there is still not sufficient scientific evidence for the product's nutritional or health benefits. Thus, not merely the proven effects of functional foods but also the way in which they are marketed and presented to the public, is central to a discussion of the societal and political issues concerning functional foods, which is the focus of this paper.

The definition of functional foods referred to above is quite a broad definition, and one that is widely applied and discussed (see i.e. Heasman and Mellentin 2001, Holm 2003, Chadwick et.al. 2003). It may cover both fat-, salt- and sugar reduced products, fortified foods such as fruit juices with calcium, other modified foods such as bread with added folic acid, cereals with ingredients that might prevent cardiovascular disease, or foods or food ingredients with added nutrients such as vitamins, minerals, or fibers. It remains an open question, and one that will be discussed in this paper, whether in fact non-modified foods could also be included under the term functional foods, and if health claims might be part of the marketing of, for instance, fruits or vegetables because of their natural contents of antioxidants.

Lay conceptions of functional foods – naturalness and acceptability

Some researchers and food scientists define certain types of so-called *natural foods* (e.g. fruits) as functional foods with *internal* benefits as opposed to modified foods, the possible health benefits of which would be *externally* induced (Heasman and Mellentin 2001). They perceive these two types of functional foods as being equally viable and expect them to be equally acceptable for consumers, as long as the proclaimed health benefits are based in scientific evidence. However, it might be worth investigating whether consumers might not, in fact, view these two types of functional foods in different ways than do experts. Fruits and vegetables, after all, are part of the cornerstone of the healthy eating recommendations, increasingly engrained in the minds of Western consumers for the past four decades, and thus these food types have particular connotations and meanings in terms of lay people's understanding of food and health. It is likely that consumers will trust and internalise health claims on fruits and vegetables (and possibly act according to them) because such claims

correspond with general public health recommendations on nutrition, which have to some extent been incorporated into people's thinking and acting in relation to food, health, and eating habits (Holm 2003, 2003a, Lawrence and Germov 1999).

The debate about the difference between marketing health claims on fruits and vegetables and on modified functional foods exemplifies how expert rationalities may differ considerably from lay rationalities when it comes to judging the suitability and acceptability of food types. The debate shows how lay people's conceptions of risk may differ widely from those of experts, something which is also a recurrent issue in debates over GM foods. The issue of *naturalness* is important here: In natural foods, nothing has been added; in modified foods – regardless that experts might see their health benefits as being as objectively proven as those of apples and carrots – something has been altered. The question of whether the modified foods will be seen by the public as 'natural' and 'proper' for consumption is a crucial one, seeing as some of the functional food products currently marketed in the US and the EU represent 'crossovers' between food categories: fibers in beverages, folic acids in bread and so forth. In the eyes of lay people, such products may represent food that is not what it appears to be. Studies of lay people's views on genetic modification suggest that 'naturalness' is a key concept in terms of lay people's assessments of GM foods, and results from qualitative studies of lay people's attitudes towards functional foods imply similar tendencies: lay people in focus group discussions for instance state that they would be much more willing to accept modified foods with nutritional benefits, if the nutrient in question was already in the food naturally and thus, the modification would merely be a concentration of the nutrient (Poulsen 1999, Bech-Larsen et.al. 2001).

Functional Foods and the Healthy Eating Paradigm

Let us turn again to a focus on functional foods as modified foods; foods or food stuffs which have been manufactured in order to provide health or nutrition benefits beyond those offered by their traditional nutrients; or that are being marketed as such. As has already been suggested, there are several sets of issues concerning functional foods that pose problems and raise questions for debate, many of which have to do with the introduction of radically new ways of thinking about the relationship between food and health. The developments in this new and evolving area of food technology, often referred to as no less than the functional foods revolution, are in many ways seen to clash with or even undermine the most dominant ideas (in the developed world) of the past 40 years concerning food and health - also known as the *healthy eating paradigm*. The cornerstones of this paradigm - developed in the post war era when nutrition experts turned their focus from

deficiency diseases to diseases stemming from over-consumption or imbalanced nutrition - were based on the at the time highly controversial idea that cardiovascular disease and cancer was related to a person's diet. This new mindset led to the formulation of the now well known dietary recommendations of more fibers, less fat (especially unsaturated), less sugar, a varied diet, and more fruits, vegetables, grains and cereals (Heasman and Mellentin 2001).

These recommendations aimed at improving public health through a focus on people's diets and on the interconnections between intakes from different food groups. Much of the current skepticism among nutritional experts towards functional foods thus stems from the fact that this new approach to food and health promotes a focus on single constituents or components in a person's diet, rather than diets and eating patterns as a whole, something which is believed to undermine the messages of public health strategies. Nutrition experts and public health officials worry that the promotion of functional foods will prompt people to view single food products as quick fixes to real health problems which are likely to stem from a variety of interrelated factors related to their life style in general. They also stress the fact that often, little is known about how these single components interact with other elements in people's diets, and that the introduction of functional foods contradicts the idea guiding the healthy eating recommendations that "there are no good or bad foods, only good or bad diets" (Lawrence and Germov 1999). Along with these criticisms, another problem pointed to by some nutrition experts is the fact that in countries with a liberal legislation on food enrichment experience shows that a majority of products selected for enrichment are unhealthy food types such as candy, confectionary and soft drinks. In the UK as much as three fourths of all functional foods on supermarket shelves contain levels of fat, sugar, and/or salt that place them in the very categories of food which nutrition experts agree that the British public should eat less of (Lobstein 2001). Health claims for such types of products raises the question of whether functional foods represents more customized and individualized choices for the consumer or a case of misguidance and misinformation. Here the debate about 'The American Paradox' is relevant; the fact that the American market is flooded with fat- and sugar reduced functional foods while the country still has the world's highest number of cases of overweight and obesity in the population (Astrup 2001).

The shift from a focus on diets to a more disintegrated concept of different food products for different needs also relates to what some experts see as another potential problem with functional foods: Even if public health authorities define limits for i.e. added vitamins and minerals in food products, and assess and regulate new products according to these standards, it will be practically impossible for individual consumers to assess if and when their intake of a certain vitamin exceeds

the recommended maximum levels. A point of criticism on the part of consumer associations and NGOs in relation to this is that this new and growing need for public health officials to develop standards for maximum levels of different types of enrichment represents new burdens on their work and may detract from the attention paid to other food safety issues such as food additives, bacteria etc. The potential damaging effects of a concentrated intake of various types of vitamins have proved to be rather serious, ranging from a higher risk of bone fractures with increased intakes of vitamin A, and cases of vitamin B6 in concentrated doses causing neural inflammation, to heightened cholesterol levels as a result of increased intakes of vitamin D, and a higher risk of lung cancer in smokers with intakes of isolated beta carotene (Fødevaredirektoratet 2002). The increased health risks have occurred at intake levels only double, and in some cases very close to, the recommended daily intake. On top of this there is still the question of how an increased intake of a certain type of nutrient is affected by other components in the person's diet; factors which most lay people would presumably have difficulties assessing.

Another argument set forth by nutrition experts and public health officials is that with a balanced diet based on the recommendations of the healthy eating paradigm the majority of the population would in fact have their needs for essential nutrients such as vitamins and minerals covered already. This has been argued for instance in a statement by Danish health officials on the health and nutritional effects of food enrichment (Fødevaredirektoratet 2002), where they also take into consideration the fact that numbers show that about 50% of the Danish population take vitamin pills and other dietary supplements. Thus, there would be no case for promoting functional foods from the point of view of insufficient intakes of nutrients in the public in general. At the same time, life style related diseases such as cancer and cardiovascular disease, which pose the most immanent public health risks and which have multifactoral causes, would be more efficiently targeted, health officials argue, with recourse to public health strategies encompassing dietary recommendations and recently also recommendations on daily physical exercise (Motions- og Ernæringsrådet 2005). These criticisms address among other things the lack of clarity concerning functional foods as a health strategy: should functional foods be seen as a strategy to promote general health and well being, or as a strategy to prevent, or even treat, disease? Thus, apart from the risk of excessive intakes of nutrients with possible damaging health effects, health officials worry that functional foods are simply not targeting real public health problems, and that on the contrary their promotion of health claims could be misleading and might in fact, in the eyes of the public, blur or undermine official public health messages.

Issues of Risk, Trust, and Transparency

The question regarding excessive intakes of nutrients to extents that will present increased health risks relates to issues of *trust* and *transparency* in relation to functional foods and to lay people's conceptions of them. A very interesting connection has been made by Holm (2003) between the ways in which people perceive food safety issues and the ways in which they might come to perceive or respond to functional foods. Holm argues that issues of food safety such as the risks of contamination from pesticides, hormone residuals, food additives, or bacteria all appear, in the eyes of consumers to be very abstract concepts. Lay people seem to be confused about which strategies to employ in order to avoid being subject to these types of health risks which they perceive of as ambivalent, confusing, and obscure and not clearly linked to everyday eating practices (Holm 2003, Halkier 2001). In contrast, strategies to pursue healthy living through nutritional and dietary choices are perceived by lay people as something that has practical everyday connotations. The concept of food groups, which is a core element in public healthy eating recommendations, has acquired practical meanings in people's lives as a guiding concept for navigating food choices and promoting health for oneself and one's family. This significant development of lay people incorporating nutritional advice into their eating practices may be jeopardized, Holm argues, with the introduction of functional foods: The functional foods concept will introduce a detail oriented and fragmented understanding of food and health, in the sense that functional food products will emphasize single food components and in the way that they represent foods that are 'not what they appear to be'. The concept of crossover food products which blur distinctions between food groups, and which furthermore contain concentrated levels of nutrients, the consumption of which may be toxic at a certain but not clearly distinguishable level, is likely to produce a lack of transparency with regard to the products and a sense of confusion, uncertainty, and suspiciousness among consumers. The sense of not being able to see through what food products contain, and the anxiety about hidden risks, reported in several studies of lay conceptions of food safety issues, (Holm 2003) is likely then to be reproduced in lay people's conceptions of functional foods; a trend that is already reported in some study results. Thus, taking into consideration the fact that the concept of functional foods would seem, in some cases, to interfere with people's sense of being in control and of being capable of judging healthy food choices for themselves – and the fact that at the same time the functional foods concept may for some appear to be a quick fix to health problems which in fact call for more complex dietary changes; taking these aspects into consideration stresses the need to understand how lay conceptions of food and health relates to lay conceptions of functional foods.

Functional foods and the social dimension of eating

Another strand of criticism in the functional foods debate concerns the effects that functional foods might have on the social dimensions of eating and on the shared meal. It is argued that the functional food concept promotes an individualization of people's eating practices; if foods are designed to meet individual dietary needs or preferences, it is thought that this will have dramatic consequences for the role of the meal as a social event, as a signifier of commonality, and as a site for the reproduction of the family (Holm 2003, flere ref.).

Whose interests are served in the functional foods revolution?

The question of whether there are actual nutritional needs in the public that can only be sufficiently met through the introduction of functional foods, is closely linked to the broader question of whose interest are being served in the promotion of functional foods. Enrichment of foods or food stuffs is not a new thing; since the post war period many countries have initiated controlled general enrichments of particular food stuffs or food types based in scientific evidence of deficiencies in the population as a whole. Examples of this from Denmark could be the mandatory production of iodised salt, and the enrichment, going as far back as the 1930's, of margarines with vitamin D and vitamin A to prevent deficiency diseases stemming from the recent shift from butter to margarine (Krogh Andersen et.al. 2002). What is new is the random enrichment of different food types developed on the initiative of individual food producers with the purpose of strengthening their position on the food market, and not as part of a public health policy, a development which Holm (2003) calls the new social contextualization of functional foods. In the light of claims from health officials, cited earlier, that there is no scientific proof to sustain that the general population suffers from a lack of nutrients, it is relevant to raise the question of who is gaining from the introduction of functional foods? Claims have been made that minority groups in some European populations have specific needs for enriched foods, for instance elderly people, or veiled women who lack vitamin D (the latter group as a consequence of reduced exposure to sunlight). It remains to be seen however how food producers would deal with the social and cultural hurdles to targeting products specifically to these groups. Such very specific needs might arguably be more easily met through dietary supplements than through enriched food products.

So whose interests are really being served in this rapidly growing sector of the food industry? The food market has not as of recent years been a market of explosive growth, the possibilities of expansion and continued product differentiation has reached its limits. Therefore the focus is now on the development of products with 'added value', and in this context functional foods or

nutraceuticals is the new 'big thing' in the food industry. The production of functional foods as a niche is expected to have an explosive growth in the years to come, and most major food producing companies have in the past years set up research and production units designated to the fast developing field of functional foods (Heasman and Mellentin 2001, Lawrence and Germov 1999). With such priority being given to this field of development, which companies see as the way out of market stagnation, it is interesting that the innovator of the term nutraceuticals Stephen De Felice says about the functional foods revolution that 'it is unstoppable because the consumer created it and the consumer is fuelling it. Industry and government are merely responding' (Law 1998).

To sum up, the promotion of functional foods sets forth an array of questions which need to be addressed. The preliminary discussions in this paper suggest a focus on some key issues concerning the societal and political/policy implications of functional foods summarized below:

Key societal, cultural, and political implications of functional foods:

- **Conflict between functional foods and the Healthy Eating paradigm**
- **Focus on single components in food rather than diets as a whole**
- **Crossovers between food categories; natural vs. unnatural foods**
- **Possible undermining of public health strategies**
- **Unclear distinction between functional foods as a strategy to improve general health or as a strategy for preventing or treating disease**
- **Insecurities concerning the risks of excessive and possibly damaging intakes of nutrients**
- **Functional foods represent new burdens on regulatory systems**
- **Fragmented and detailed view of food and health in functional foods may lead to confusion, uncertainty, and suspiciousness among consumers**
- **The problems surrounding health claims and the possible misguiding of consumers; the American paradox**
- **Functional foods and the social dimensions of eating**
- **The role of functional foods vs. the role of public health messages in people's concrete everyday food practices and health strategies**
- **The need for functional foods and the interests that are being served in the promotion of them**

In conclusion, the socio-cultural, ethical, and political issues outlined here play only a marginal role in the debate on functional foods. This sets an agenda in which functional foods is seen merely as a consumer issue, following the rules of the market – and not an area for broader concerns and public debate. The long term consequences of limiting the role of the public to that of consumers in this area of food technology may be difficult to predict, but one could be that if the political and societal challenges surrounding this technology are not dealt with properly the functional foods debate may ‘shift’ and *become* a citizen issue. This could happen through grass roots activism, NGO campaigns, or consumer dissatisfaction and distrust, and would possibly entail a struggle between different ‘sides’ or camps, reminiscent of the one we have seen in the past decades in the area of GM foods and GMOs in general. Certainly, the socio-cultural, ethical, and political issues surrounding functional foods are as relevant and serious as the ones we are dealing with in the area of GM foods – and serious enough to warrant a broad public debate and an initiation of public consultation and participation procedures in the future.

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