

Framing omega-3: the politics of essential fatty acids in functional foods

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Abstract

The study of food and society is an interdisciplinary and ever more recognised area of research providing a growing understanding about the production, regulation and consumption of food. It emphasises that food is a socially charged and politically contested field in which individual bodies, scientific innovations, legal aspects and moral concerns become materially and virtually entangled. Recent research in the area of food and society investigates areas such as dietary habits, food production or the regulation of food but seems to ignore developments in the field of functional foods. The history of this type of food goes back to the early 1900s in the US and since then scientists have discovered a good deal of compounds with so-called functional qualities which – only recently – became basic ingredients in food products: probiotics in yogurts keep the intestine balance, sterines in margarines reduce LDL-cholesterol or bread with added omega-3 acids helps to prevent cardiovascular diseases. Advocates emphasise health promoting or even disease preventing qualities of functional foods while adversaries question them. This contested boundary between food and drug is the starting point of our empirical study in which we follow omega-3 acids on their travels through regulative and policy discourses in the context of the European Regulation on nutrition and health claims made on foods. We studied frames taken from written evidence (scientific reviews, legal commentaries etc.) and expert interviews on omega-3 acids and put analytical emphasis on the structure and organisation of scientific evidence that informs EU legislation. The aim of the paper is to show and analyse how scientific evidence, governance processes and licensing procedures interact and finally result in current food labelling practices.

Keywords: study of food and society, health and nutrition claims, EU regulation of food, prevention of disease

The politics of healthy food and diet: the case of functional foods

The study of food and society is an interdisciplinary and evermore recognised area of research analysing the production, regulation and consumption of food. It emphasises that food is a socially charged and politically contested field in which individual bodies, scientific research and innovations, legal aspects, economic interests and moral concerns become materially and virtually entangled and contested (Belasco, 2008). Food and nutrition embody an area of conflict and thus represent a highly contested political topic as recurrent food scandals such as the BSE crisis, public debates over genetically modified organisms or salmonella in eggs clearly indicate. This dilemma of the industrial production of food and connected food scandals has consistently changed ideas and concepts of food and a healthy nutrition: Food is no longer just food (Lien and Nerlich, 2004: 1), and a healthy nutrition no longer is a healthy nutrition. Ideas about and concepts of the politics of food nowadays include much more than just the institutional or bureaucratic administration of food security or agricultural policy – to mention just two examples. The study of the politics of food refers to a much wider framework in which the production, consumption and distribution of food form main areas of research besides traditional institutional approaches.

This re-conceptualisation of food studies and the study of food and society under the conceptual umbrella of the politics of food opens up research avenues in which a vast array of social concepts and practices such as daily cooking, aspects of healthy diet and – only recently – ideas about prevention of diseases come to into view (Lien and Nerlich, 2004). Thus, the complex interplay of food control, food producers or state policies has to be improved by the studies of everyday practices and a closer look at the interaction of actors in a vast array of social arenas in which the socio-political relations of producing, administering, distributing and consuming food are negotiated. Food represents insofar a special case as it holds symbolic as well as biological implications that range from the literal embodiment of food in physiological terms to the enhancement of human capacities and functions via research in nutrition science. Especially the latter has become of vital interest to dieticians, medical scientists and the food industry due to its potentials in the area of preventive medicine and the exploration of new markets. Novel types of food emerge now and then and only recently so-called functional foods entered the arena of foodstuffs. This relatively new type of food covers a vast range of enriched ailments such as probiotics in yogurts that keep the intestine balance, sterines in margarines that reduce LDL-cholesterol or bread with added omega-3 acids that help to prevent cardiovascular diseases. Advocates emphasise health promoting or even disease preventing qualities of functional foods while adversaries question them.

This contested boundary between food and drug recently labelled medicinal food (Chen, 2008) is the starting point of our empirical study in which we follow omega-3 acids on their travels through regulative and policy discourses in the context of the European Regulation on nutrition and health claims. We study frames taken from written evidence (scientific reviews, legal commentaries, etc.) and expert interviews on omega-3 acids and put analytical emphasis on the structure and organisation of scientific evidence that informs EU legislation in tackling possible health effects. The aim of the paper is to show and analyse how scientific evidence, governance processes and licensing procedures interact and finally result in current food labelling practices that intend to regulate the connection between food, functional foods or medicinal food.

Framing functional food and omega-3 fatty acids: theory and methodology

Omega-3 fatty acids were chosen as a starting point for this paper due to current tendencies in the food industry to enrich a variety of foodstuffs with them: *Iglo* launched omega-3 fish fingers, the *Food Doctor* offers omega-3 bread and food production engineers currently undertake research to enhance eggs with a variety of omega-3 fatty acids. This hype goes back to positive health or preventive impacts omega-3 fatty acids are supposed to have: Their multivalent therapeutic spectrum comprises the prevention of cancer, cardiovascular disease and neurodegenerative disease plus a variety of recently discovered health impacts on eyesight, compliance and mental disorders. Some of these characteristics are known since the 1930s and were substantiated in the 1970s by Dyerberg and Jorgensen (1970) in the course of research on Inuit in the north of Canada. Dyerberg and Jorgensen encountered the paradox that members of an Inuit tribe consumed high amounts of fatty sea food but were prone to cardiovascular disease. Later on, subsequent studies corroborated Dyerberg's and Jorgensen's hypothesis that omega-3 fatty acids reduce triglycerides, reduce blood pressure, lead to a decrease in heart beat and thus prevent arteriosclerosis. Since then, scientific research on omega-3 acids intensified and finally led to the previously outlined activities in the food industry to open up new markets by launching an increasing number of functional foods that bear nutrition and health claims. The European Council and Parliament reacted to this development by adopting the *Regulation on nutrition and health claims made on foods* in December 2006. For the first time, this Regulation laid down harmonised rules across the European Union for the use of nutrition claims such as 'low fat' or health claims such as 'reducing blood cholesterol'. One of the key objectives of this Regulation was and still is to ensure that any claim made on a food label in the EU is clear and substantiated by scientific evidence.

This scientific evidence is the starting point of our research in which we study the structure and organisation of scientific evidence that informs EU legislation. We generally build on Goffman's (1974) and Schön and Rein's (1994) concept of frame analysis. Frames can be understood as interpretative schemas which are used to mobilise collective action or as a signifying activity which is covered by the verb framing. The latter represents the theoretical starting point of our study as we are interested in how meaning is produced in action (Benford and Snow, 2000) and via discursive practices. Our approach stresses the relevance of frames as the outcome of meaning-construction processes and how they draw on a range of mainly scientific evidence with the aim to convince actors in the course of assessing functional foods. We thus put emphasis on how parties in the arena of regulating functional foods deploy scientific evidence in their framing activities to create cogent and scientifically resonant frameworks to influence food labelling practices. As a result, our analysis is concerned with frames as a resource to attain approved food labels for certain health claims or benefits which omega-3 fatty acids might possess.

Acknowledging the multifaceted nature of our research object we gathered different sets of written evidence such as scientific articles, the evaluation of different health claim applications, administrative, media and legal texts connected to functional foods. The juxtaposition of the sources offered rich insight into the discourses and contexts surrounding health and nutrition claims on the EU level. After tackling general developments providing insight into contemporary scientific and regulatory debates on health and nutrition claims we decided to concentrate on one substance for pragmatic reasons. We chose Omega-3 fatty acids because a variety of health claim applications in relation to them was recently submitted and examined displaying a vast range of anticipated preventive or health improving impacts. The next step consisted in building two written corpora: One on the scientific discourse and the other on the scientific opinions on the substantiation of submitted health claims related to omega-3 fatty acids as available from the European Food Safety Authority (EFSA, 2010). We reduced the corpus of scientific texts to the scientific reviews due to the incredible amount of published research on omega-3 fatty acids. The benefit of focusing scientific reviews consisted in a reduction of scientific research to be analysed and, furthermore, offered deep insight into research trends as this type of text shapes disciplines (Hedgecoe, 2006: 725) by evaluating current research undertaken and by defining future scientific problems. Data were taken from the Medline database and checked on the ISI-citation index regarding their intra scientific dispersion. Publications from ten leading authors were included in the corpus and analysed according to the requirements outlined by leading scholars in Grounded Theory (Charmaz, 2006; Corbin and Strauss, 2008). This enabled us to trace general developments and define areas of research that overlapped with those made in the submissions to the EFSA. More importantly, the interpretative in-depth analysis used to describe and articulate different aspects in relation to omega-3 fatty acids was coupled with a frame analytical approach. This analytical tool was chosen as it assured comparability on the one hand and enabled us to conceptually investigate the underlying frame structure of the scientific discourse and the submissions made to the EFSA. Questions we addressed include the following: What frames are predominant? How do they differ among the different data sets? What impact do they have on licensing and food labelling process? The next section displays preliminary 'frame oriented' results taken from our study.

Framing omega-3 fatty acids: the scientific discourse

The analysis of the omega-3 related scientific reviews taken from our corpus provided a rich underlying conceptual framework which was achieved by relying on methodological procedures as outlined in Grounded Theory. This approach was taken as it puts emphasis on the empirical development from data. Once main themes or topics emerge during the process of analysing data, text segments are grouped under these emergent headings. These headings were re-read and analysed with the main aim to isolate lexical items, metaphors or narratives which are conceived to exert a vital impact on the scope of meaning of the emergent topic. In the case of sufficient semantic evidence, the status of a topic was transferred

to a frame due to its distinctive and substantiated meaning (Entman, 1993). These frames were then conceived as organising principles or devices that enabled us to assess the extent to which a certain frame had an impact on the overall framing of health impacts on omega-3 fatty acids.

Seven frames materialised in the course of our analysis: The health at risk frame (conceptual focus on the recent increase of obesity), the disease frame (conceptual focus on lifestyle diseases), the society frame (conceptual focus on industrialised societies and social decline), the prevention frame (conceptual focus on a healthy diet as a preventive measure), the science frame (conceptual focus on science as a problem solver) and finally the frame we call 'alimentation policy' (conceptual focus on nutrition education). This conceptual framework not only informs the scientific discourse, it shapes it by focusing on certain aspects while ignoring or neglecting others. The health at risk frame, for example, puts emphasis on the rise of obesity by using widespread narrative elements such as the increase in energy intake due to the omnipresence of palatable food in everyday life. This frame links up with the society frame in which obesity is depicted as an indicator of social decline and as a typical characteristic of industrialised societies. This tendency also prevails in the disease frame in which obesity is in many cases depicted a lifestyle disease caused by the omnipresence of food and the increase in caloric intake. In brief, so-called corporeal decline indicates social decline and enacts counteractive measures as outlined in the prevention frame or in 'alimentation policy'. These frames stress the relevance of a healthy diet and a need for political regulation which implicitly render preventive measures such as fat taxes or proofs of physical activity possible. Science, as depicted in the science frame has the task to develop solutions for this dilemma. Especially the prevention frame with its focus on healthy diets as a preventive or health assuring measure implicitly refers to the relevance of new foodstuffs such as functional foods that may improve health.

Considered as a whole, it appears that the frame structure of the scientific discourse is quite tight and encompasses obesity as a major health problem and at the same time offers via the assessed frames a starting point in which dietary habits and new foodstuffs at least implicitly seem to play a relevant part. Thus, the frame structure combines and focuses a number of culturally and naturally determined reasons that hallmark the overall state of health in society directing attention towards preventive or counteractive measures that include functional foods. Our due analysis of submissions and reviews of health claims made to the EFSA will tackle frames in these documents and compare them with the results taken from the analysis of the scientific discourse on omega-3 fatty acids. In doing so, it will analyse the interaction of frames deployed in the submissions and contrast them against the background of frames taken from the scientific discourse and investigate their interaction in a political context. In doing so, it adds evidence to the emerging research arena of the politics of food. The next and final section summarises our provisional results so far.

Provisional results: the importance of framing omega-3 fatty acids in functional foods and the politics of functional foods

By analysing written evidence taken from two sources, this analysis builds on the still lacking sociological interest in the structure and organisation of scientific evidence that informs EU legislation on regulating functional foods. In particular, we argue that the important efforts made to conceptualise omega-3 fatty acids in functional foods is marked by resonant or culturally embedded frames that characterise discursive activities in the area of omega-3 related science. Our study has, to some extent, provided insight into the structure and organisation of the scientific discourse that is hallmarked by a variety of frames. They blend so-called natural and cultural aspects to argue for preventive measures to be achieved in the area of health promotion. Due to our present analysis of submissions and reviews to and by the EFSA, the interaction of scientific evidence and scientifically informed regulation is outstanding. Provisional results, however, indicate that the reviewing process on health and nutrition claims is driven by scientific evidence that interacts with a variety of frames as found in the scientific reviews. The findings of this

study, even in their current provisional state, add first evidence to the still under-researched area of functional foods from a sociological and science and technology perspective. On a grander level, it aims at substantiating research on the interaction of scientific evidence and governance processes that are conceived to be a basic characteristic of policy processes in a so-called knowledge-based society.

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