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Endless Qualifications, Restless Consumption: The Governance of Novel Foods in Europe

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ABSTRACT *Functional foods and foods derived from genetically modified organisms represent two forms of intervention in the design of foodstuffs that have given rise to distinct political and regulatory dynamics. In Europe, regulatory agencies have tried, unsuccessfully, to affix a definitive legal meaning to these categories of food artificiality. This incomplete process of legal disambiguation has gone hand in hand with the delegation of the responsibility for overseeing new products to consumers, who are asked to continuously consider and assess the qualities of foods when making their choices in the marketplace. In the case of genetically modified foods, we have witnessed strategies of avoidance premised on the consideration of genetic modification as a blemish on the conventional character of foodstuffs. Functional foods, on the other hand, are increasingly mobilized in practices of naturalistic enhancement. What both examples have in common is the open-ended character of their respective regulatory regimes, and the continuous prodding of consumers to involve themselves more intensely in the weighing of their food choices. The result is a particular mode of market activism that we describe as restless consumption.*

KEY WORDS: Functional foods, GM foods, distributed governance, restless consumption, economy of qualities

Introduction: The Governance of Food Artificiality

The fashioning of food choices has long been a productive site for the emergence of new arts of government. In addition to being of strategic importance to the health and well-being of populations, shifts in the classification of food are

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intimately linked to novel forms of self-care and self-invention, and thus to the creation of new economies of power (Coveney, 2006; Foucault, 2009).

In this article we examine and contrast two contemporary examples in the governance of novel foodstuffs: 'genetically modified' and 'functional' products. Over the last decade, these two categories of food artificiality have been characterized by very different regulatory and marketing dynamics. Broadly speaking, the commercial life of transgenic foods has so far been dominated, at least in Europe, by a logic of *blemish*: the identification of the 'GM' nature of a product helps consumers in their efforts to avoid it. In the case of 'functional' foods, the marking of special nutritional characteristics is linked to forms of self-improvement: consumers are expected to actively seek the added traits and components and incorporate them into strategies of *naturalistic enhancement*.

Until very recently, however, these two modes of food modification were classified in Europe under the same legal category: they both fell under the remit of the legislation 'concerning novel foods and novel food ingredients' (European Union's Regulation No. 258/97). 'Novel food' was the relevant legal kind, and it encompassed an extensive variety of product categories, including 'food and food ingredients containing or consisting of genetically modified organisms', and 'foods and food ingredients to which has been applied a production process not currently used, where the process gives rise to significant changes in the composition or structure of the foods or food ingredients which affect their nutritional value, metabolism or level of undesirable substances' (EC, 1997, Article 1)—roughly the types of transformation that would later be characterized as 'genetically modified' and 'functional' foods, respectively.

As the term suggests, 'novel food' was primarily a chronological category: it applied to any foods and food ingredient that had not been consumed in significant quantities in Europe before 15 May 1997 (the day the law entered into force). This rather pragmatic definition of novelty did not survive the battles of the late 1990s over the regulation of transgenic foods. By the turn of the century, 'genetically modified' products had come to require a specific set of laws and regulations, and as a result these two types of food came to belong to different regulatory universes.

Despite this separation, one can identify striking similarities in how 'genetically modified' and 'functional' products are regulated, and these similarities indicate, we argue, key features of the contemporary governance of novel foods. In both cases regulatory authorities have engaged in protracted efforts to produce stable legal definitions of these entities, but their limited success has effectively shifted much of the duty to govern novel products to actors in the marketplace. The fluidity of legal categories is combined with a radical informational enrichment of food materials (Barry, 2005). The identification of an increasing range of claims and qualities in food labels allows a redistribution of roles and responsibilities between authorities, corporate intermediaries, and consumers, but places

the latter in the ambiguous and difficult position of constantly having to reconsider purchasing decisions.

In this article we draw on the examples of 'genetically modified' and 'functional' foods to examine these dynamic aspects of novel food governance. We pursue a number of interconnected themes. First, we analyse the nature of the official, legally relevant definitions of these two food kinds. What counts as a 'genetically modified' or a 'functional' food for the authorities in charge of their regulation, and what constitutes a sufficiently precise definition of these two types of novel foods in their respective legal regimes? The nature and form of legal classification is connected to our second concern: how are the duties and responsibilities for a correct vigilance of these products distributed between regulatory authorities and market actors? Our claim is that there is an affinity between the form the law adopts in classifying new foods and the active modes of consumption that characterize their marketing and use. The open-ended nature of regulatory frameworks and a never-ending process of product re-qualification go hand in hand with the promotion of a pattern of consumption that we will characterize as *restless*.

The divergent commercial fates of 'genetically modified' and 'functional' foods will lead us to a third and final question: what will happen when these two categories of food alteration merge, and consumers begin to face 'genetically modified' foods that are also and at the same time 'functional'? This is a plausible—some would say imminent—scenario, as plant biologists, nutritional scientists and marketing experts bring forward new consumption choices. Will the logic of blemish prevail over that of enhancement, or vice versa? More importantly, what can the scenario of a blended future tell us about how acceptable categories of food artificiality are configured? But before we proceed to an examination of these themes, let us outline a few analytical resources useful for an examination of the relationship between processes of legal disambiguation, the reflexivity of markets, and the forms of activist consumption that characterize contemporary food governance.

Legal Disambiguation and the Economy of Qualities

Anthropologists of food have often described a 'fundamental anxiety' at the centre of omnivorous consumption (Fischler, 1988, p. 278). Free to select among a variety of choices, omnivores are at the same time fully dependent on that variety—they are in fact limited in their choices by an insatiable need for novelty. 'Omnivorousness', writes Fischler,

> first implies autonomy, freedom, adaptability. Unlike specialized eaters, an omnivore has the invaluable ability to thrive on a multitude of different foodstuffs and diets, and so to adapt to changes in its environment … But this

> liberty also implies dependence and constraint—that of variety. (Fischler, 1988, p. 277)

Many authors have expanded on the inflections of this paradox of choice in contemporary food regimes, and the proliferation in the last decade of alimentary autobiographies and dietary self-help manuals speaks to the growing burden of making eating decisions under conditions of unprecedented choice (e.g. Pollan, 1996; Nestle, 2002; see also Schneider and Davis, 2010a). In a scenario of constant innovation in plant and food design, eaters are placed in a permanent 'situation of choice' (Mol, 2008), forced not only to constantly make decisions about what to purchase, but also to endlessly re-calibrate the principles that guide their consumption tactics. Moreover, in the era of what Scrinis (2008b) has described as 'nutritionism', in which the evaluation of foods is increasingly premised on their chemical composition, consumers confront a special predicament: they depend on external sources of information and expertise for their own discernment, yet quickly acquire a certain familiarity with the terminology of nutritional science and come to consider themselves empowered and informed actors (see also Schneider and Davis, 2010b). In the case of 'genetically modified' and 'functional' foods, this familiarity requires directing one's attention to the microscopic constitution of the food, triggering what Landecker describes as vivid 'molecular imaginations' (2011, p. 185).

This condition of anxious choice vis-à-vis novel foods does not stem simply from the multiplication of consumption options, however, or from a fundamental logic of human omnivorousness. Rather, it emerges as the effect of legal and marketing dynamics, and its elucidation requires therefore an examination of two intertwined variables: the limited degree of disambiguation achieved by legal classifications of new food varieties, and the reflexive nature of contemporary food economies.

Law is regularly called upon to bring clarity and closure to disputes over the identity of unfamiliar foods or unconventional combinations of ingredients. As we will describe in detail below, legal work in relation to 'genetically modified' and 'functional' foods has been exhaustive. Yet the law encounters difficulties in establishing durable food taxonomies based on chemical composition or method of production. This is far from being a recent phenomenon: in 1875, during the deliberations that accompanied the introduction of the first German Food Law (the first piece of legislation that sought its foundation in the scientific identification of nutrients), it was already despairingly noted by parliamentarians that, in the face of the new food chemistry, 'all juridical definitions are more or less elastic, oscillating; there is nowhere a precise definition, nowhere an unquestionable matter of fact' (quoted in Spiekermann, 2011, p. 15).

This elasticity of the law might surprise those who believe in the performative and decisive power of legislation—in the ability of the law, that is, to create the worlds it enunciates. We will see in the cases that follow that legal definitions

and classifications are more aptly seen as heuristic devices that extend a taxonomic category into the world of physical objects but always stop short of marking individual products. Legislation does not fix the meaning of a food category, or fully determine its application, but rather traces a trajectory of exegesis to assist market actors in their own interpretations of new products. The final marking of products, the connection of legal universal and market particular, is to be accomplished by actors in the marketplace—by producers, consumers, and marketing intermediaries operating in what Callon *et al.* (2002) have described as an 'economy of qualities'.

An economy of qualities is driven by constant attempts to singularize objects and attach to them particular attributes. It is not the abstract meeting of 'supply' and 'demand' that determines shifts in the marketplace, but rather the incessant qualification and re-qualification of products. In the process of investing objects with particular qualities, consumers are 'just as active as the other parties involved'.

> They participate in the process of qualifying available products. It is their ability to judge and evaluate that is mobilized to establish and clarify relevant differences. There is no reason to believe that agents on the supply side are capable of imposing on consumers both their perceptions of qualities and the way they grade those qualities. Interactions involving complex and reciprocal influences . . . are the rule rather than the exception. (Callon *et al.*, 2002, p. 201)

An economy of qualities that constantly mobilizes the ability of consumers to judge and evaluate differences between products corresponds to what Marsden (2008) has described as 'post-productionist' food regimes, in which the engine of economic change is 'a more recursive process of innovation in which production is adapted to markets through continuous strategies of differentiation' (Allaire and Wolf, 2004, p. 434). These strategies depend on consumers highly attuned to often minute distinctions between products, consumers 'who are calculating, that is, capable of perceiving differences and grading them, and who are accompanied and supported in this evaluation and judgment by suppliers and their intermediaries' (Callon *et al.*, 2002, pp. 212–213). Calculation includes not only the quantitative computation of prices, but also, and especially, what Cochoy (2008) has described as practices of *qualculation* (quality-based rational judgment), and *calqulation* [from the French verb 'calquer', i.e. copying, or adjusting one's standpoint to that of another; see also Dubuisson-Quellier (2010)].

There are two fundamental qualities at stake in the legal and commercial placement of 'genetically modified' and 'functional' foodstuffs: the attributes of *naturalism* and *healthfulness*. The degree of artificiality of these two food categories is a key matter of contention—it is, in fact, the issue on which regulatory and marketing framings turn. As the case of 'genetically modified' foods makes particularly

clear, the distinction between natural and artificial is unstable and contingently formed, since the standard of naturalness shifts with every new addition to the repertoire of choices (see Bensaude-Vincent and Newman, 2007). Moreover, as we will see in relation to 'functional' foods, some forms of food manipulation are presented as *increasing* the degree of naturalism of a given product. This is why we describe this shifting but all-important quality as naturalism, rather than 'naturalness': to emphasize the creative (in some cases artistic) register in which approximations to the standard of the natural are judged. The incorporation of novel foodstuffs, particularly 'functional' food products, into strategies of self-improvement can thus best be described as a form of *naturalistic enhancement*.

By healthfulness we mean the quality of a foodstuff thought able to confer a value 'beyond basic nutrition', to provide a 'surplus of health' (Rajan, 2007, p. 81), to offer consumers a chance to be 'better than well' (Elliott, 2003). We use the term healthful (rather than 'healthy') because it expresses better that sense of an *additional dose* of well-being, beyond what ought to be expected from a product of its kind, claimed by certain foodstuffs.

An economy of qualities dominated by the attributes of naturalism and healthfulness, in which the number of consumption options grows exponentially but where the law is unable to stabilize the fundamental categories of choice, throws consumers into a condition of *restlessness*. In the scenarios brought about by 'genetically modified' and 'functional' food products, consumers are encouraged not only to carefully ponder and review their everyday choices, but to also pass judgment on the degree of naturalism and healthfulness of new food types. The extension to everyday food consumption of what Crawford (1980) described as the individualistic ideology of 'healthism', implies paying constant attention to one's own choices, turning purchasing decisions into moves towards a particular 'art of existence' (Foucault, 1984/1990, pp. 10–11). In this context, consumers cannot afford to be passive. Fatalism, a commonly identified position regarding one's ability to select the right product in an environment of diffuse food attributes (Shaw, 2002), may be the closest the restless consumer gets to inaction, but still implies an activated stance vis-à-vis foodstuffs.

Many authors have described the role of consumers who are proactively and energetically dedicated to the consideration of risks and benefits, and whose attention is mobilized to sustain the qualification of products, as 'active', 'creative' or 'entrepreneurial' (e.g. Miller and Rose, 1990, 1997; Rose, 1992; Trentmann, 2006; see also Petersen and Lupton, 1997). We prefer to characterize their condition as one of restlessness, for that term carries better the connotation of continuous deliberation and nervous shifts in the stance of the consumer confronted with novel forms of food artificiality.

The heightened level of activity and self-observation comes with a price, not simply because 'entrepreneurship' or 'creativity' are far from being unambiguously positive qualities [particularly when they become compulsory (see Osborne, 2003)] but, more specifically, because in relation to novel foods

consumers are never offered closure in the fundamental categories that are meant to organize their choices. There is no 'legal fix' for ontological ambiguity, in the same sense that there is no 'knowledge fix' for consumers forced to become compulsive *readers* of food labels (Eden, 2011; Frohlich, 2011). Whether they seek or try to avoid particular forms of food artificiality, they can never rest assured in the stability of the categories that structure the market, or in the completeness of the intelligence they can gather. Claims and counter-claims proliferate, while the heuristics of consumer discernment remain uncertain, since the connection between any given product, the relevant regulatory category, and the guiding ideal of the self is precarious and contingently established.

This is a condition of aimless activism captured by many analyses of contemporary consumer culture. Žižek, for instance, argues that

> the problem is rather that we are forced to choose without having at our disposal the kind of knowledge that would enable us to make a proper choice—more precisely, what renders us unable to act is not the fact that we 'don't yet know enough' (about whether, say, human industry is really responsible for global warming, and so on) but, on the contrary, the fact that we know too much *while not knowing what to do* with this mass of inconsistent knowledge, not knowing how to subordinate it to a Master-Signifier. (2011, p. 360, emphasis in original)

Knowing too much but not knowing what to do, being forced to make new choices in a context of ever-shifting product qualities and in the absence of a stable legal taxonomy of options, defines the condition of restlessness. We turn now to the never-ending attempts to provide legal closure to new categories of food artificiality.

The Unfinished Legal Disambiguation of 'Genetically Modified' Foods

Since foods derived from genetically modified organisms began to be introduced in Europe in the late 1990s, much of the debate about their governance has centred on the need and means to differentiate them from 'conventional' products. In North America, where transgenic plants were first cultivated, regulatory agencies decided early on to operate on the assumption that the resulting foods were 'substantially equivalent' to products already on the market and did not require any specific legislation, nor deserved to become a distinct administrative category. 'Substantial equivalence' became the official policy of the OECD, which noted, even before genetically modified organisms entered the food chain, that the '[e]valuation of foods and food components obtained from organisms developed by the application of the newer techniques does not necessitate a fundamental change in established principles, nor does it require a different standard of safety' (OECD, 1993, p. 10).[1]

The European approach to genetically modified foods departed radically from this principle, and it came to be founded on the contrasting notion that foods derived from genetically modified organisms constitute a biological and legal novelty—a new biolegal kind requiring specific rules and regulations (Lezaun, 2006). The cycle of opposition to GM foods that gripped Europe in the 1990s saw citizens mobilize against not only biotechnology and food companies, but also the assumptions and taxonomies of regulators. By the end of the century, European authorities had agreed that 'genetically modified foods' should become a distinct regulatory category, under specific and generally stricter vigilance. Unsurprisingly, this raised the questions of what a 'genetically modified food' was, and how this category should be characterized for legal and marketing purposes.

The regulatory regime that has emerged over the last decade in response to these questions displays an apparent inconsistency: while European institutions clearly set great store by the need to carefully identify and trace foods derived from genetically modified organisms, the thicket of legislation they have produced to supervise these foodstuffs does not contain an univocal or conclusive definition of what constitutes 'genetic modification', let alone a characterization adequate to the chemical or genetic identification of transgenic products. This, we will argue below, turns out to be less a paradox than an indication of the distributed and open-ended manner in which these objects are governed; but let us first look at the classificatory work of the relevant legislation.

The regulations that define the system of supervision for transgenic foods define 'genetically modified food' as a 'food containing, consisting of or produced from genetically modified organisms' (Regulations 1829/2003, Article 2.6), and a 'genetically modified organism' as 'an organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination' (Directive 2001/18/EC, Article 2.2). Products containing, consisting of, or produced from such an organism qualify as 'genetically modified' foods and fall under the rules and obligations instituted by the EU. For such a definition to be extended in a discriminating fashion to concrete objects, however, much more work is still required. One could imagine, for instance, that at some point the law should provide a definition of 'naturally' or 'natural recombination', the terms that describe the forms of modification excluded from the regulation. In fact, in a nice example of bureaucratic nominalism, the law operates differently: not by exhausting the semantics of its key categories—producing long chains of enforceable descriptions resting on a legal definition of 'natural'—but by *listing* the forms of biological recombination that constitute 'genetic modification'.

In an annex to the main text, then, the law enumerates the techniques of molecular transformation that constitute 'genetic modification' ['recombinant nucleic acid techniques', 'techniques involving the direct introduction into an organism of heritable material prepared outside the organism', and 'cell fusion

or hybridisation techniques where live cells ... are formed through the fusion of two or more cells by means or methods that do not occur naturally' (see EC, 2001, Annex I A, Part 1)], while another list itemizes techniques of molecular modification that do *not* constitute 'genetic modification'—a list that includes, in a nice final touch of recursiveness, the category of 'natural processes' (EC, 2001, Annex I A, Part 2).

The distinction between 'artificial' and 'natural' modes of genetic transformation, so clearly critical to the regulatory edifice built by European authorities, is at the mercy of the ingenuity of molecular biologists and plant breeders in devising new forms of naturalness. How should one, for instance, consider an organism transformed with the use of recombinant DNA techniques, when the inserted genes are derived from an organism of the same species, or of a close, sexually compatible relative? Some term this sort of transformation *cis*genesis, in an attempt to differentiate it from *trans*genesis. A cisgenic organism, the proponents of this distinction argue, 'is clearly different from transgenic plants, which are derived by transferring "foreign" or artificial genes, or artificial combinations of genes and promoters. Cisgenesis therefore respects species barriers, and in this sense differs fundamentally from transgenesis' (Schouten *et al.*, 2006, pp. 752–753). Cisgenic varieties, the argument goes, are natural enough; they are fully comparable to the products of traditional plant breeding, and thus deserve to be exempted from the stricter regulations affecting 'genetically modified' foods and organisms.

The legally relevant definition of 'genetically modified' is continued and extended by a cascade of technical reports, guidance documents, and identification protocols produced by European regulatory bodies. The task of these texts is not so much to refine, let alone complete, the original description of the category, but rather to complement it with further qualifications that bring it closer to the world of physical objects. With the help of these qualifications, for instance, 'produced from GMOs' [which the law defines as 'derived, in whole or in part, from GMOs' (see EC, 2001, Article 2.1)] has come to explicitly include yogurt fermented with the help of genetically modified lactic bacteria (if the micro-organisms are still detectable in the final product), but to exclude milk from cows fed on genetically modified crops or treated with transgenic medical products; to exclude honey produced by bees foraging on transgenic plants, but include honey that contains genetically modified pollen [for the politics of this latter case, see Lezaun (2011)].

At a critical point, however, this process of qualification is handed over to 'market operators', who must elaborate the categories and protocols further until the quality of 'genetically modified' (or, alternatively, 'not genetically modified') can rest on a particular market product. Even that final attribution remains, however, ambiguous. Absence of a 'GM' label, for instance, does not imply that the product is free of material from genetically modified organisms: a food can contain a certain level of transgenic content and still be excluded from the

obligation to identify it as 'genetically modified', provided the presence of that material is 'adventitious or technically unavoidable' (EC, 2003, Article 12). Producers sometimes label foods as 'GM free', ostensibly implying they are completely free of any material traces of transformation by techniques of 'genetic modification', but such a label has a dubious legal status. At any rate, it still leaves one wondering about the molecular composition of a foodstuff. '"GM Free" labelling practices', writes Landecker, 'paradoxically highlight genes as things to think about when thinking about food' (2011, p. 185).

For all practical purposes, then, the work of adjusting legal category and physical object is never complete. The category of 'genetically modified', still a very recent arrival to the inventory of biolegal kinds, designates a porous field. The question of what counts as a 'genetically modified' food within the world of objects circulating in the marketplace is only partly solved: legal disambiguation is a never-ending process.[2]

The Elusive Functionality of Functional Foods

A similar relationship between legal semantics and the structure of governance prevails in the case of 'functional' foods. As consumers in Europe and elsewhere are confronted with a fast-growing number of foodstuffs bearing health and nutritional claims, the broad and studiously ambiguous category of 'functional' food has emerged to designate products that contain substances with special health-promoting and disease-preventing qualities—such as breakfast cereals enriched with folate, or margarine with added plant stanols and sterols. Yet, to call these foods 'functional' begs the question: are not all foods functional in one way or another (Lehenkari, 2003; Niva, 2007)?

A search for a definition of 'functional' foods brings to light a myriad of nomenclatures. The International Food Information Council (IFIC) describes 'functional' foods as foodstuffs that provide health benefits 'beyond basic nutrition' (1998). Technical reports provide more detailed definitions: a comparative study of functional food regulation in Canada, Japan, the European Union and the United States defines 'functional' food as a 'food derived from naturally occurring substances, which can and should be consumed as part of the daily diet and which serves to regulate or otherwise affect a particular body process when ingested' (Smith *et al.*, 1996). These two definitions suggest key points of contention in the 'functional' foods debate: whether the substance, the food, or the diet is the adequate bearer of claims to a health advantage; what is the relationship between the artificiality of the product and the 'naturally occurring substances' from which it is derived; and how to interpret the notions of 'nutrition' and 'health' in attempts to demarcate 'functional' foods from their conventional counterparts.

How has the European Union responded to these questions? One of the most detailed definitions of 'functional' foods was put forward by the expert group convened by the European Commission in 1998 to produce a consensus document on

the issue, the Concerted Action on Functional Food Science in Europe. Adding timber to the definitional bonfire, this group proposed the following categorization:

> A food can be regarded as 'functional' if it is satisfactorily demonstrated to affect beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way that is relevant to either improved stage of health and well-being and/or reduction of risk of disease. A functional food must remain food and it must demonstrate its effects in amounts that can normally be expected to be consumed in the diet: it is not a pill or a capsule, but part of the normal food pattern. (Diplock *et al.*, 1999, p. S6)[3]

This expert group stressed that no simple, universally accepted definition exists or is likely to exist in the future, but the above description has come to embody a certain 'European consensus' on the matter (Roberfroid, 2002). The question of whether 'functional' foods can or should have a precise legal definition is complicated by what Katan and de Roos succinctly describe as the 'intimate connection between the term "functional food" and the marketing of foods with a health claim' (2004, p. 370). That is, there is a different way of approaching the definitional conundrum: classifying as 'functional' food any foodstuff that is marketable as offering a special health benefit. As Marion Nestle puts it, 'functional' foodstuffs should be considered as 'products created just so that they can be marketed using health claims' (2002, p. 316). Katan and de Roos propose to categorize as 'functional' food any 'branded food which claims explicitly or implicitly to improve health and well-being' (2004, p. 370), thereby shifting the locus of definition from the material composition of the foodstuff and its interaction with the consumer's body, to the qualities 'explicitly or implicitly' attributed to the product and the interaction of these qualities with the consumer's perceptions.

Trying to find a way out of the labyrinth of definitions, Scrinis (2008a) offers a tripartite breakdown of 'functional' foods: (1) 'nutritionally engineered foods' would be those foods 'that have had their nutrient profiles deliberately modified'; (2) 'nutritionally marketed foods' would be foods that are 'marketed with nutrient-content claims, and which therefore only imply particular health benefits'; and finally, (3) the term 'functionally marketed foods' would apply to 'foods that are explicitly promoted with health claims or as having a beneficial effect on particular body functions'. Useful as these further classifications might be, they are indicative of the limits of food taxonomies that aim to combine biochemical or nutritional characteristics with the qualities attached to foodstuffs in the course of their marketing. They resemble the division of animals in Borges' famous Chinese Encyclopaedia ('The Analytical Language of John Wilkins'), in their inability to create categories that are mutually exclusive, or that can jointly encompass a contiguous ontological terrain (see Foucault, 1966/1970, Preface).

It is not surprising, then, to find this predicament of expert definitions reflected in the law. The 2006 European Regulation 'on nutrition and health claims made on foods' (Regulation No. 1924/2006) culminated a long struggle to produce a sufficiently self-explanatory legal text. The text disaggregated the category of 'functional' food by specifying a typology of 'claims' that food products could bear, and then providing for each type an exhaustive list of criteria of use.[4] The Regulation identified three distinct kinds of claims:

(1) 'nutrition claim': 'any claim which states, suggests or implies that a food has particular beneficial nutritional properties';
(2) 'health claim': 'any claim that states, suggests or implies that a relationship exists between a food category, a food or one of its constituents and health'; and
(3) 'reduction of disease risk claim' (a subcategory of 'health claims'): a claim 'that states, suggests or implies that consumption of a food category, a food or one of its constituents significantly reduces a risk factor in the development of a human disease' (EC, 2006, Article 2).

On the basis of this typology, the European Union has established a mechanism, coordinated by the European Food Safety Authority (EFSA), to authorize or prohibit the attachment of claims to products. When those claims are classified as referring to 'health', EFSA is in charge of assessing their degree of 'scientific substantiation'.[5]

How is the fundamental distinction between 'health' and 'nutrition' drawn in practice? The most thorough attempt to provide a universal definition of these terms—or at least a rule of thumb to discriminate between them—was undertaken by the European Commission's Standing Committee on the Food Chain and Animal Health (in a 'Guidance' document about how to interpret legally relevant claims that was itself introduced by the rather discouraging *dis*claimer: 'this document has no formal legal status'). The Committee's proposed heuristics run as follows:

> A claim is a *nutrition* claim if in the naming of the substance or category of substances, there is only factual information. Examples: 'contains lycopene'; 'contains lutein'.
>
> A claim is a *health claim* if in the naming of the substance or category of substances there is a description or indication of a functionality or an implied effect on health. Examples: 'contains antioxidants' (the function is an antioxidant effect); 'contains probiotics/prebiotics'. (the reference to probiotic/prebiotic implies a health benefit)
>
> Equally, claims which refer to an indication of a functionality in the description of a nutrient or a substance (for instance as an adjective to the substance) should also be classified as a health claim. Examples: 'with prebiotic fibres' or 'contains prebiotic fibres'. (European Commission, 2007, p. 11)

In this interpretation, the distinction between claims pertaining to 'nutrition' and claims pertaining to 'health' rests on the difference between 'only factual information' and factual information that implies 'a functionality'. 'Function', 'functional', 'functionality', terms largely purged from the text of the law, re-enter then the regulatory vocabulary via the rules and protocols of technical committees. The Standing Committee notes, for instance, that

> whilst claim 'contains' is normally a nutrition claim, in some cases the use of the term 'contains' in a claim refers to groups of substances with a specific functional effect. In such cases, the 'contains' claims is [sic] a health claim and must be authorised accordingly. (European Commission, 2007, p. 11)

That is, if a certain 'functional' relationship or effect is stated, suggested or implied by a product, the claim in question should be treated as relating to 'health', rather than mere 'nutrition'. But how to differentiate between generic health claims and specific 'reduction of disease risk' claims, the third term in the triumvirate of possible propositions? 'Health' claims relate to 'a normal function of the body', the Standing Committee argues, whereas 'reduction of disease risk' claims state, suggest or imply 'a reduction of a risk factor of a disease'. The syntax of these two types of statements is described as follows: a 'health' claim will typically adopt the form 'maintains [naming normal vital function of the body]', while a 'reduction of disease risk' claim will more often be arranged in sentences such as 'lowers [naming risk factor]' (European Commission, 2007, p. 13).

This syntactic approach to the construction of legal kinds is complemented by a pragmatic resource that we already saw deployed in relation to 'genetically modified' foods: the use of lists. Rather than exhausting the meaning of a category by providing a comprehensive definition, the law itemizes all the possible members of that category. This nominalistic strategy is in evidence in the Regulation itself, which enumerates, in an annex, all the modalities of statement (a total of 24) that could be considered 'nutrition claims' ('low energy', 'energy-reduced', 'energy-free', 'high [name of vitamin/s] and/or [name of mineral/s]', 'source of fibre', 'high fibre', etc.), along with a brief description of the respective conditions of use. In fact, the regulatory regime has progressively moved from categorical definitions to classifications on the basis of lists. Rather than fixing the meaning of 'health claim' through a legal definition—the initial attempt of Regulation No. 1924/2006—European authorities have progressively concentrated their efforts on producing a comprehensive list of *all* the claims or statements that could possibly be made in relation to a food and that could imply a 'functional' relationship between substance and body. This exercise has proven difficult to contain. After its first call, the European Commission received 44,000 possible modalities of 'health claim' for examination. It managed to 'consolidate' these modalities into a reduced list of 4,600 claims, which it then submitted to the European

Food Safety Authority (EFSA) for an evaluation of their scientific soundness. The work of elucidating these modalities, claim by claim, has taken several years. In July 2011, EFSA announced it had completed the assessment of 2,758 'general function' claims—postponing the evaluation of 'reduction of disease risk' claims, claims relating to children's development or health, and 1,548 claims that concerned botanical substances.

As we discussed in relation to the category of 'genetically modified' foods, there is no final disambiguation to be found in the sequence of documents that European authorities have produced in their attempts to subject these novel entities to regulatory supervision. The instrument of legal disambiguation is not the definition, but rather the list. Lists are 'plastic, flexible structures in which an array of constituent units cohere through specific relations generated by specific forces of attraction' (Belknap, 2004, p. 2), and where each unit retains a measure of particularity. The lists appended to Regulations can always be extended, shortened ('consolidated'), or broken into new subdivisions. We encounter in the compilation of possible members of the category 'functional food'—like we did in the case of 'genetically modified' foods—a degree of legal elasticity that leaves the door open for a highly reflexive market. This absence of legal closure ushers in new cycles of nutritional and marketing innovations, as 'market operators' use the ambiguity to qualify and re-qualify foodstuffs in novel ways. This categorical work is never undertaken by scientists and other technical or legal experts alone, but is extended to, and must be completed by, the wider range of actors now involved in the classification of products. We turn now to a more detailed exploration of how consumers have featured in the endless qualification of novel foods.

Artificial Blemish *versus* Naturalistic Enhancement

One of the elements that connects the regulatory regimes for 'genetically modified' and 'functional' foods is the importance of 'consumer choice' as an organizing principle. In fact, the regulatory history of 'genetically modified' foods signals the emergence of 'consumer choice' as a central principle of food governance in Europe: 'the consumer' was the banner under which all the parties fought the battles of the 1990s over the commercialization of genetically modified organisms (Schurman and Munro, 2009), and the regulations that emerged out of these disputes were presented by European authorities as 'a direct response to the voices of consumers who have made it clear that they want—and have a right—to make informed choices' (European Commission, 2003, p. 2). Similarly, consumers—their interests, desires, capacities and choices—are the central figure in the emergent legal framework for the supervision of 'functional' foodstuffs.

Despite these constant invocations, however, the consumer never appears in these regulatory universes as a fully formed character. When regulators try to describe the features of this constituency, they typically shift between an

imaginary of discerning, entrepreneurial, self-fashioning individuals, and an alternative vision of naïve, passive, gullible consumers. Nowhere is the oscillation between the proclamation of consumer sovereignty and the pastoral care of consumers more clearly expressed than in the legislation governing health and nutritional claims. '[T]his Regulation', the European Union authorities announce in the preface, 'takes as a benchmark the average consumer, who is reasonably well-informed and reasonably observant and circumspect'. Yet, the text immediately adds, the Regulation also 'makes provision to prevent the exploitation of consumers whose characteristics make them particularly vulnerable to misleading claims' (EC, 2006, Referral 16). The law's peculiar formulation—the reference to the 'well-informed and reasonably observant and circumspect' consumer—is directly borrowed from a famous ruling of the European Court of Justice, in a case involving a food marketing dispute in which the Court declared that the standard for determining whether 'a statement or description appearing on the packaging of a food could be considered misleading' was the likely expectations of such an 'average consumer' (see European Court of Justice case C-210/96).

While some analysts have perceived a general shift towards increasingly 'paternalistic' forms of food governance, and use the example of 'functional' foods as their key piece of evidence (e.g. Klompenhouwer and van den Belt, 2003), we prefer to view the discourses of consumer entrepreneurialism and regulatory paternalism as the extremes between which the consumerist emphasis of food governance regimes oscillates in search of a never-complete equilibrium. The fact that both images of the consumer can coexist with little apparent conflict in a single legal text—sometimes in the very same legal article—suggests that at some level they are perceived to be compatible, if not mutually supportive. Both discourses invoke the mobilization of consumers to buttress systems of supervision and regulation. Whether it is the choices of the discerning and reasonably circumspect consumer, or the gullibility of the passive and unreflexive one, it is always towards the regulatory goal of 'responsible consumption' that these systems of governance are oriented (Figure 1).

What the laws and regulations support is a particular distribution of the powers of oversight. 'Informed choice' requires a legal framework—concerning the definition of particular food categories, their labelling and traceability through the food chain—but this framework must be complemented by a series of increasingly diligent food producers and consumers. The law can suggest, but not fully define, which nutritional or biochemical markers would enable a proper discrimination of products in the marketplace. The burden of producing, identifying and interpreting these informed objects lies largely with 'market operators'. The effective governance of novel foods thus includes the marketing strategies of food companies, and must factor in the willingness of individuals to turn their dietetic choices (or that of those their care for) into an object of constant attention (Coveney, 2006; Crawford *et al.*, 2010; Schneider and Davis, 2010b). In these regimes consumers are obligated to negotiate the meaning of these foods and

Figure 1. 'Have you had your Actimel today' Current package of Danone's Actimel probiotic drink. The interrogation replaced the previous promotional statement, 'Help support your body's defences (scientifically proven)' (see note 5). *Credit*: Image courtesy of Danone Ltd, UK.

become active in their governance. This entanglement can lead to very different outcomes, however, as the disparate dynamics of 'genetically modified' and 'functional' foods demonstrate.

The governmental system that enables the identification of 'genetically modified' foods has so far been used as a means to avoid them: companies use the traceability tools provided by the regulatory apparatus to source commodities that fulfill the definition of 'not GM', on the assumption that consumers will avoid products marked as 'genetically modified'. 'Consumers', write Verdurme *et al.* after reviewing the relevant consumer research literature, 'reject concrete GM food *products* based on negative attitudes towards the technology and its application in food production' (2002, p. 43, emphasis in original). The logistical and supply-chain-management strategies of food manufacturers and retailers in Europe suggest that, in their view, the number of people actively seeking to consume 'genetically modified' foods is negligible. In Europe, no company is currently trying to develop a market for these products. The identification of genetic modification operates then as a blemish on the carrier product: labels make visible a kind of foodstuff that was previously invisible, and that visibility allows avoidance.

'Functional' foods have generated a very different and more complex dynamic. Consumer research suggests that consumers are generally aware of these products (although they might not be familiar with the term 'functional food'), and routinely integrate them into forms of self-care and self-modification (Sarkar, 2007). The relationships they establish with these objects are, however, varied, running the gamut from deliberate avoidance to intense reliance (McNutt, 1994; Frewer *et al.*, 2003; Stein and Rodriguez-Cerezo, 2008). Often, moreover, the attachment to a particular product serves to open up new questions. Eden (2011), for instance, found that consumers do not use the information in functional (and organic) food labels simply as a means to exercise choice in the marketplace, but also as an opportunity to hesitate, to consider and interrogate food production processes.

In a nutshell, market research seems to indicate that 'functional food' is not an operative category yet, in the sense that attitudes and meanings tend to be attached to particular products or claims (or combinations of the two), rather than to the category itself. This mirrors the fragmentation of the regulatory kind, its dissolution in favour of itemized lists and highly specific claims. A point that emerges forcefully from the consumer research literature, however, is that functionality, understood as the provision of healthfulness, is reconcilable in the eyes of consumers with the quality of naturalism. In other words, that the forms of enhancement available through 'functional' foods can be naturalized (Poulsen, 1999; McConnon *et al.*, 2004; Dean *et al.*, 2007).

A recent review of the available market research offers a typical statement of this compatibility: 'the more natural the combination of product and functional ingredient appears, the more positively it is likely to be perceived [by consumers]' (Poulsen, 1999 cited in Lyndhurst, 2009). What could be meant by 'natural' in this sentence? Roughly, it seems to us, a peculiar set of associations between the 'carrier product', the added component, taste, the operative definition of healthfulness, and the vision of nature generated by marketing campaigns. Studies of consumer preferences suggest, for instance, that consumers favour—that is, tend to consider more natural—modifications perceived to enhance the intrinsic qualities of a carrier product: fibre-enriched bread, for instance, tends to score more highly in experimental consumer rankings than bread with an extra dose of plant sterols (Dean *et al.*, 2007). When 'functional' foods are mobilized in strategies of enhancement, then, the most appealing products are those that offer naturalistic forms of improvement.[6]

Caught between a normative orientation towards naturalism in the selection of alimentary choices and techniques of food design able to provide virtually endless combinations of traits and qualities, consumers, we have argued, are thrown into a position of restlessness. Not only because the identity of individual products is often unclear or unstable (Has this food been 'genetically modified'? If so, what does that mean? Does this food bear a 'health' claim, or simply a 'nutrition' one?), but also because consumers are prodded to constantly re-calibrate the

principles guiding their consumption choices (How should I interpret the quality of 'natural'? Should I organize my eating choices around the category of 'nutrition', or rather seek products that offer healthfulness 'beyond basic nutrition'?). In other words, it is not just first-order choices that remain problematic. The conventions and categories that structure judgment—what Hirschman characterizes as 'desires about desires' (Hirschman, 1981, p. 69; see also Frankfurt, 1971)—are also in a permanent state of flux. As a result, the 'well-informed and reasonably observant and circumspect' consumer of European jurisprudence is hardly in evidence in the contemporary organization of food choices.

Towards a Blended Future?

If 'genetically modified' foods are today associated with the blemish of unnaturalness, and 'functional foods' depend for their marketability on the articulation of forms of naturalistic enhancement, what would be the result of mixing these two traits into a single market product? Spokespersons for the biotechnology industry routinely announce the imminent arrival of 'genetically modified functional foods', often under the rubric of 'second generation GM foods'. The industry's lobby in the United States, the Biotechnology Industry Organization, is fond of heralding research projects that apply genetic modification to the development of foods with added health and nutritional benefits, such as transgenic tomatoes with three times as much lycopene as their unmodified counterparts, or strawberries genetically modified to contain a higher amount of ellagic acid [to use two examples mentioned on the organization's literature (see Biotechnology Industry Organization, 2008)]. Yet, in spite of repeated proclamations of an impending wave of 'GM functional foods', there is yet none available to consumers, nor is there a clear prospect of one arriving soon.

The most famous example of a transgenic organism bearing a functional claim never became a market product. A decade ago, 'Golden Rice', a rice strain containing higher levels of beta-carotene and thus able to offer a surplus of vitamin A, seemed to herald the arrival of a new generation of products that would be both transgenic and healthful. Yet, it was never brought to market. Several obstacles blocked the path to commercialization, notably the active opposition of environmental and consumer organizations, and a thicket of patents that slowed down the development of the final product. It is difficult to draw a conclusion from this counter-factual—other, that is, than the obvious fact that creating a market for a 'genetically modified functional food' is difficult, and that important stakeholders perceived a product like 'Golden Rice' to be just another genetically modified organism, disregarding its nutrition-enhancement features. The case proves, as Jasanoff has argued,

> how difficult it is to achieve ontological closure around a commodity that is at once a natural kind (a plant with specific genes and traits) and a social kind

> (a product of particular economic and political orderings, and a potential reorganizer of society). (2006, p. 287)

When asked about the future legal status of 'GM functional foods', regulatory experts tend to downplay the implications of this combination. 'The use of modern biotechnology to produce functional foods', writes the Pew Initiative on Food and Biotechnology in a statement that, from our perspective, is interestingly self-contradictory, 'will not likely fundamentally challenge existing regulatory structures, but may challenge the boundaries of some regulatory classifications' (Pew Initiative on Food and Biotechnology, 2007, p. 6). These hypothetical objects, the argument goes, will simply have to abide by two separate sets of rules: they will need to be legally approved as a 'genetically modified' food, and, simultaneously but separately, as a product bearing a 'nutrition' or 'health' claim. Since the European classification systems for 'genetically modified' and 'functional' foods are now largely incommensurable—the former classifies foods in terms of the techniques involved in their production, while the latter orders products on the basis of their composition and effects on the consumer's body—nothing prevents their combination. A food produced through techniques of genetic modification and having a series of identifiable 'functional' effects would simply come under the purview of both regulations.

The difficulty lies, however, in combining the interconnected legal, marketing and consumption strategies that have come to surround these two types of foods. In short, would the logic of 'blemish' associated with 'GM' prevail over the new products and thus make their marketing hopeless, or is the image of 'naturalistic enhancement' conveyed by some 'functional' foods strong enough to neutralize the stigma of 'genetic modification'? Consumer research offers a limited guide to this blended future. Studies from North America suggest a significant constituency for transgenic foods with an added nutritional content (Einsiedel, 2000; International Food Information Council, 2007), but greater scepticism seems to be in evidence in Europe and elsewhere (Frewer *et al.*, 1997). Even if consumers were to favour 'genetically modified functional foods' over transgenic products with no additional health benefit, this would hardly guarantee a future demand for the former. As Larue *et al.* have pointed out, 'the introduction of health properties in GM foods will make them slightly more popular providing that the same health properties are not introduced in conventional and organic foods' (Larue *et al.*, 2004, p. 164). This is an unlikely scenario for processed foods, since food manufacturing and nutritional science offer multiple alternatives to the genetic modification of a plant variety. 'Breeding a new raw material', write Hanf and Boecker (2002, p. 53), 'is only one possibility for producing a functional food; food processing often offers many'. Conventional breeding or nutrient fortification provide alternative means of producing that surplus of healthfulness without the stigma of 'genetic modification'.

The viability of 'genetically modified functional foods' will thus depend on the redefinition of 'natural'—on the creation, that is, of new idioms of naturalism. We have noted the emergence of forms of naturalistic enhancement associated with particular functional foodstuffs: those that allow the presumption of a 'natural combination' of carrier product, added component, taste, and biochemical effect. We also suggested—echoing the arguments of market researchers—that considerations of healthfulness tended in some cases to override concerns about production methods and processes. New consumer research categories, such as 'naturally occurring functional foods' [or 'functional agricultural foods', as Arnoult *et al.* (2007) also call them], convey the same possibility of conceptual recombination. Could 'genetic modification' be incorporated into this sort of amalgamation, in the process losing the valence of extreme artificiality, and be considered as simply another element of a production system contributing to an eminently healthful product? Antioxidant-rich strawberries, say, grown under a regime of artificiality that includes UV-permeable plastic tunnels and biochemical forms of nutritional modification, can seemingly sustain the quality of naturalistic healthfulness. Why should those same strawberries, if grown from transgenic seeds, not be able to do it as well? The question, in other words, is whether 'genetically modified functional foods' can be presented as an aid to the consumer's quest for naturalistic self-enhancement, or rather add an element of unbearable artificiality (Figure 2).

The biotechnology industry has set its hopes on the former possibility. Most consumers and food marketing experts currently predict the latter—they believe the category of 'GM' is at present (at least in Europe) inimical to a successful commercialization, let alone one centred on naturalistic healthfulness. Our interest in the qualification of this blended future is conceptual: for us it serves to test an analytical framework that explains the ever-shifting qualification of novel food products as the result of the combination of a continuous but never-ending processes of legal disambiguation, and highly activist logics of marketing and consumption. What this framework suggests is that the legal and commercial lives of novel foods are characterized by a degree of definitional elasticity and market reflexivity that preclude the definitive closure of any of the foundational categories—whether it is 'natural', 'healthful', 'nutrition', or 'functional'.

Conclusion

The two categories discussed in this article—'genetically modified' and 'functional'—are fairly recent additions to the inventory of food kinds, and they remain predictably unstable against a background of rapidly proliferating genetic, biochemical and nutritional recombinations. The apparent solidity of European legal classifications and regulatory taxonomies hides, we have noted, an ontology that is permanently open to innovation. Even in the case of 'genetically modified' foods, where government authorities have strived to settle once

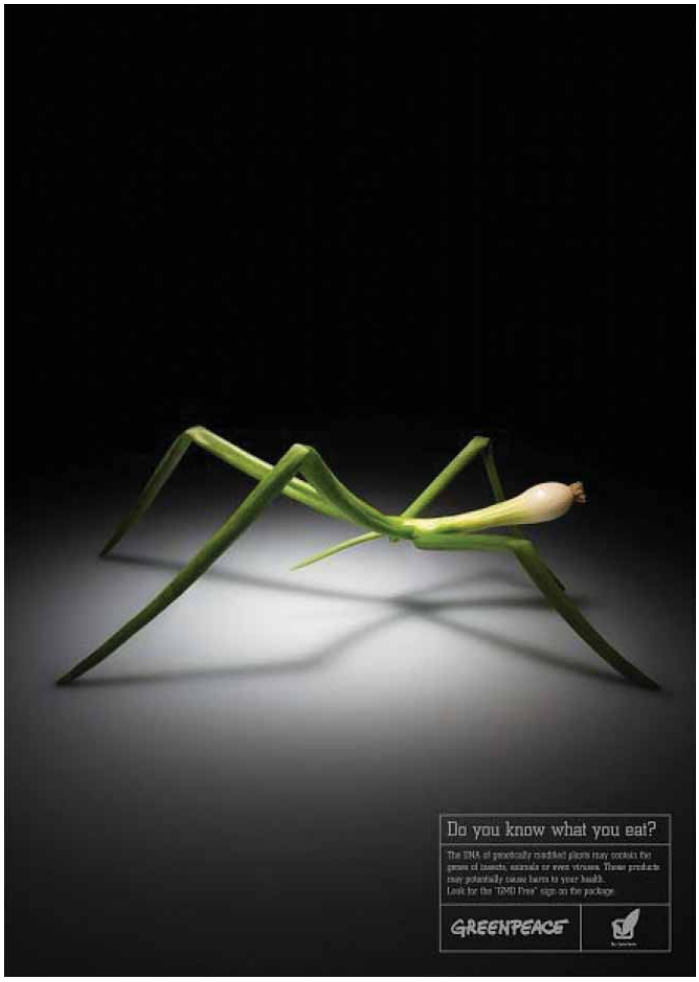

Figure 2. 'Do you know what you eat?' Poster designed by the BBDO advertising agency for Greenpeace Russia. 'The DNA of genetically modified plants may contain the genes of insects, animals or even viruses … Look for a "GMO-free" sign on the package.' *Credit*: Courtesy of BBDO Moscow and Greenpeace Russia.

and for all the definitional issue, legal disambiguation has encountered clear limits. The terms 'genetically modified' and 'natural' face each other in every definitional effort; there is no definitive legal operationalization of either one, no bounded categories, but rather cycles of propositions in which each term is defined as the antithesis of the other and thus remains dialectically open.

The variety of idioms of naturalism used to describe 'functional' foods suggests a similar fluidity of classification regimes. In fact, making a nutritional claim 'beyond basic nutrition' is equivalent of adding, through genetic modification, a form of artificiality beyond what might be considered *naturally artificial*. In this scenario, consumers are confronted with a bewildering diversity of claims and choices, a slippery terrain of ingredients that 'help strengthen your natural defences', products offering 'immunity blends', and compounds that 'sustain vitality while ageing' [for examples of vaguely 'functionalist' labels, see Center for Science in the Public Interest (2010)].

There is a link, we have argued, between the limited closure of regulatory frameworks and the marketing and consumption patterns that surround these novel products. The recursive nature of legal definitions, the gap they allow between regulatory categories and the biochemical constitution of foodstuffs, creates an opening for new recombinations. The indeterminacy of legal taxonomies, the distributed manner in which food choices are governed, the transposition to food consumption of the tropes of creativity and entrepreneurship, and the centrality of a suitably imprecise notion of naturalism to strategies of commercialization and self-enhancement generate a flourishing 'economy of qualities', in the sense proposed by Callon *et al.* (2002).

This is an economy in which the ever-shifting categorization of products and their attributes represents the central engine of innovation, and in which consumers must constantly enact variable forms of calculation and 'qualculation'. The stance of consumers devoted to ever-new forms of analysis and self-care in relation to their eating practices is highly productive: it energizes a system of endless scientific and marketing innovation. At the centre of our economies of food qualities stand consumers keen to consider the qualification of foods not only as a matter of fact, but as a matter of concern (Latour, 2004); consumers highly, able to shift rapidly between their private and public roles—between the selection of a particular product in the marketplace, on the one hand, and the advocacy of one or another vision of healthfulness and naturalism, on the other (Hirschman, 1981). The intensity of consumer involvement guarantees never-ending cycles of product innovation and differentiation.

References to the figure of the 'consumer-citizen', or to 'consumer sovereignty' (Elam and Bertilsson, 2003; Trentmann, 2007; Dodds *et al.*, 2008; Mol, 2009) capture only partially the condition of consumers driven to be proactive in the search for relevant markers, calculative in the assessment of risks and benefits, and creative in integrating food consumption into their existential projects. We have suggested the term *restless consumption* to hint at the normative ambiguity of being in a permanent 'situation of choice'—a state of limited knowledge, unlimited desire, elastic rules of action and a constant obligation to choose.

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Notes

[1]See also OECD (2000). For an overview of the career of the principle of 'substantial equivalence', see Millstone *et al.* (1999) and Levidow *et al.* (2007).

[2]The actual marking of the physical product requires a reference material—a non-legal (or at least non-textual) artefact that brings the legal category into contact with material things, a sort of transitional object in connecting the law to the world (see Lezaun, 2012).

[3]After this generic definition, the group proceeds to list the possible modalities of 'functional food': 'A functional food can be a natural food, a food to which a component has been added, or a food from which a component has been removed by technological or biotechnological means. It can also be a food where the nature of one or more components has been modified, or a food in which the bioavailability of one or more components has been modified, or any combination of these possibilities. A functional food might be functional for all members of a population or for particular groups of the population, which might be defined, for example, by age or by genetic constitution' (Diplock *et al.*, 1999, p. S6).

[4]'Claims' are to be differentiated from 'mandatory statements'. The Regulation concerns itself with voluntary health or nutrition claims. Statements (labels) that are mandatory are covered by a different regulatory framework. On the link between the proliferation of voluntary food labels and the emergence of new forms of economic governance see Guthman (2007).

[5]Perhaps the most famous example so far concerns probiotics. Danone submitted for review the claim that fermented milk containing the *Lactobacillus casei* DN-114001, a product marketed under the brand-name Actimel, 'decreases the presence of *C. difficile* toxins in the intestinal tract and reduces the incidence of acute diarrhoea associated with their presence in the gut of susceptible ageing people'. EFSA's Panel on Dietetic Products, Nutrition and Allergies rejected this 'reduction of disease claim', on account of the absence of sufficient scientific evidence to support it. Note that the claim submitted to the review panel differs significantly from those made to consumers in advertising. Actimel has, in the past, been marketed with statements such as 'helps strengthen the body's defences' or 'your daily defence drink'. Prior to EFSA's decision, Danone had pre-emptively withdrawn broader health claims pertaining to Actimel and Activia. Following a class-action lawsuit against the company, Danone also agreed to change the marketing of its probiotic drinks in the United States. The claim that DanActive (Actimel's brand name in North America) has 'a positive effect on your digestive tract's immune system', for instance, was replaced by the statement that the product will 'interact with your digestive tract's immune system'.

[6]Organic food provision offers the most clear example of the power of the idiom of naturalism to create new product categories and, ultimately, new markets. While it falls outside the scope of this paper, one could argue that the principle that particular forms of manipulation and care in the production and consumption of food can result in a higher mode of naturalness, a key leitmotif of the 'functional' foods sector, is directly imported from the experience of organic food marketing (see Guthman, 1998, 2003).

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