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CHAPTER 11

Beyond Nutrition:

Meanings, Narratives, Myths¹

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Abstract: As Roland Barthes (1961) effectively pointed out, food is “not only a collection of products that can be used for statistical or nutritional studies. It is also, and at the same time, a system of communication, a body of images, a protocol of usages, situations, and behaviors” (ET 1997: 21). This has become even more evident in present-day “gastromania”: not only do we eat food, but also and above all we talk about it, we comment on it, and we share its images on various social networks, thus investing it with multiple meanings and values that in turn mediate our gastronomic experiences. This phenomenon has become progressively more expansive, encompassing the sphere of nutrition. Going beyond the purely dietetic and medical domains, the link between food and health has become an unavoidable element of TV programmes, newspapers, magazines, social networks, advertising, marketing, and other forms of communication. Thus a series of food “myths” have proliferated, with evident impact on consumers’ choices and behaviours. What is more, the role played by media companies, marketing operators and various other public and private actors in the negotiation of food meanings and practices has further

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increased, pointing to the need for deeper consideration of the processes of signification and valorisation brought about by the discursive strategies adopted for communicating food in the political, journalistic, regulatory and even scientific domain. This chapter investigates such dynamics by considering relevant literature in the related fields of research and analysing some interesting case studies.

Keywords: nutrition, nutritionism, myth, value, meaning

11.1. Introduction

As its title suggests, this essay presents a thought-provoking reflection on the relation between nutrition, which is one of the aspects of food mostly associated with the material level, on the one hand, and culture and meaning, on the other hand. To this purpose, it deals with some crucial issues related to nutrition and its understanding in contemporary foodscapes, mainly adopting a semiotic approach.

Let us start, as usual in semiotics, by focusing on the very definition of our object of research: *food*. The Collins Dictionary defines it as “any nourishing substance eaten or drunk to sustain life, provide energy, and promote growth” (2020), thus highlighting the connection of eating to other basic needs, namely the sustenance of our body and its vital functions. Merriam-Webster further enhances such a conception, also stressing the chemical and nutritional composition of food: “Material consisting essentially of protein, carbohydrate, and fat used in the body of an organism to sustain growth, repair, and vital processes and to furnish energy” (2020).

From a semiotic point of view, it is interesting to consider such definitions in light of the so-called “square of valorisations” introduced by Jean-Marie Floch² (1990): the idea of food highlighted by the above-mentioned definitions is evidently linked to a *practical valorisation*, since eating is inserted in a second-level narrative programme aimed at achieving other values such as survival, growth, and energy. This is precisely what we generally call *nutrition*, that is to say, “the process of providing or obtaining the food necessary for health and growth” (Merriam Webster 2020), with dietetics being “the science or art of applying the principles of nutrition to feeding” (Merriam Webster 2020).

However, as Roland Barthes effectively showed, food is “not only a collection of products that can be used for statistical or nutritional studies. It is also, and at the same time, a system of communication, a body of images, a protocol of usages, situations, and behaviors” (1961; Engl. Trans. 1997: 21). In fact, not only do we eat foods that allow us to maintain or recover health, but, more or less consciously, we eat foods that express our identity (in accordance with the famous idea “bon à penser, bon à manger” described by Claude Lévi-Strauss (1962)), in a *utopian valorisation*. Also, and not less importantly, eating can give us pleasure (in terms of flavours, but also of visual appraisal, ludic entertaining, etc.), thus inserting food in a *ludic* or *aesthetic valorisation*.

² Projecting the categorical distinction between use values and basic values—described by Greimas and Courtés (1979) through the well-known example of the banana that the monkey tries to reach (basic value) and the stick he uses to execute such a process (use value)—onto a semiotic square, the French semiotician identifies four major “valorisations” of products in advertising: the practical valorisation puts the emphasis on utilitarian or use values, presenting its object as a tool, that is to say, as a means to reach another goal; the utopian valorisation rather stresses existential or basic values such as life, identity, freedom, etc.; the ludic or aesthetic valorisation is the negation of the practical one, and emphasises values such as gratuity and refinement; finally, the critic valorisation, which represents the negation of the utopian one, corresponds to a logic of calculations and interests (costs/benefits or quality/price ratios). Although developed in reference to advertising, this model in fact concerns all processes consisting in the projection of specific values onto specific objects or practices.

Sometimes, moreover, a costs/benefits ratio comes into play, resulting in a *critic valorisation* (Fig. 11.1).

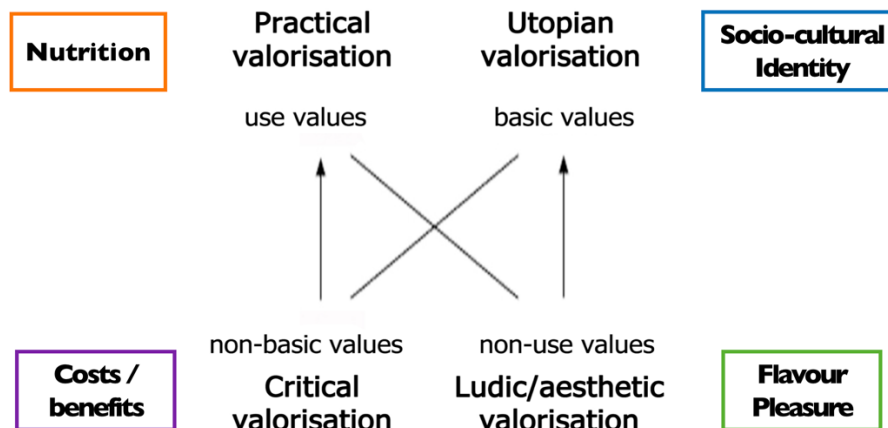


Figure 11.1. The square of valorisations of food.

It is important to note that such valorisations are not irreconcilable, but rather complementary, as the history of nutrition itself highlights. We will consider some interesting examples in the following paragraphs, adopting a diachronic approach that will lead us to highlight the role and conception of nutrition, and more generally of food, in contemporary foodscapes.

11.2. Food, Health, and “Myths”

Eating healthy food is not a novel concern. The link between food and health has always played a crucial role in human societies: because of their properties, various food substances and practices have historically been used to prevent and cure body alterations. What has changed is rather how various societies and cultures have understood the link between food and health, and the systems of values they have projected on such a link.

As Rachel Laudan (2004) interestingly points out, for instance, before the middle of the seventeenth century, cooking represented the basic metaphor for vital systems: the sun “cooked”

seeds into plants and the latter into fruits and grains; humans then “cooked” such substances into edible dishes; and finally their internal organs “cooked” the ingested food by digesting it to produce energy and vital substances, excreting wastes and returning them to the soil, where the cosmic culinary cycle began again. This led to categorising food into easily digestible foods, which were preferred in healthy diets, and those substances difficult to digest, which had to be avoided as much as possible but could also be used as drugs, if well administered.

After 1650, the metaphor of cooking was replaced by that of “fermentation”, which was associated with putrefaction, distillation and the interaction of acids and salts. Although always starting with seeds and ending with the release of waste, the cosmic culinary cycle of that era therefore involved a different approach to food itself: “the cosmos was still a kitchen but was now equipped with brewers’ vats, and the human body held miniature copies of that equipment” (Ibid.: 15). As a consequence, a preference emerged for food products that fermented readily (e.g. oysters, anchovies, green vegetables, mushrooms and fruits) and thus did not need complicated preparation in the kitchen to be pre-digested, with evident changes in the “healthy diet” of that time. Different substances were thought to be healthier and hence adopted in people’s diets based not merely on their material composition, but rather depending on the values attributed to such material aspects.

This fact has become even more evident with the recent inclusion of the Mediterranean Diet in the UNESCO Representative List of the Intangible Cultural Heritage of Humanity. Originated from the scientific field, in the wake of medical research (Keys and Keys 1975; Keys 1980) correlating the low incidence of cardiovascular diseases among the inhabitants of specific areas and a particular nutritional regime, the Mediterranean Diet was initially mainly defined by the use of certain ingredients and specific techniques of preparation of food. As time went by, the focus of attention moved from the simple definition of healthy rules regulating nutrition to the social and cultural implications of the particular “lifestyle” that came to be identified with the Mediterranean Diet (with special emphasis put on conviviality, sharing and tradition, see UNESCO 2012, 2013). It

thus became a general model, a sort of universal form as indicated by the attempt to adapt other—and sometimes even very different—food codes to it (cf. Stano 2018).

While material changes are certainly important, the significance goes well beyond it. Rather, specific “myths”, intended—in Barthes’ (1957) terms—as “second order semiological systems” or “meta-languages” naturalising specific views and ideologies so that they remain unperceived, are at play. Food issues are at the crossroads of public institutions, media companies, marketing operators and various other public and private actors, which participate in a vibrant battle of negotiation for the attribution of meanings of specific products and practices. In contemporary foodscapes, such processes have become not only widespread, but also extremely important, as we will discuss in detail in the following paragraphs.

11.3. Nutrition(ism) in Contemporary Gastronomania

In the last decades the so-called phenomenon of “gastromania” (Marrone 2014) has progressively intensified, expanding to encompass the sphere of nutrition: not only do we eat food, but also and above all we talk about it, we comment on it, we share its images on various social networks, and so forth, thus investing it with multiple meanings and values that in turn mediate our gastronomic experiences. Going beyond the purely dietetic and medical domains, the link between food and health has become an unavoidable element of TV programmes, newspapers, magazines, social networks, advertising, marketing, and other forms of communication. Thus nutrition has come to embody itself a cardinal principle of contemporary food myths, triggering interesting meaning-making processes.

Let us consider, for instance, the obligation to include information on food values, including energy density (calories) not only on food labels, but also in qualifying restaurants, in the United

States³ and other countries, as well as the increased attention paid to nutritional information by both the food industry and consumers. This is part of a more general trend, which has been described and critiqued under the name of “nutritionism”:

Nutrition scientists, dieticians, and public health authorities—the nutrition industry, for short—have implicitly or explicitly encouraged us to think about foods in terms of their nutrient composition, to make the connection between particular nutrients and bodily health, and to construct “nutritionally balanced” diets on this basis. ... I refer to this nutritionally reductive approach to food as the ideology or paradigm of nutritionism. This focus on nutrients has come to dominate, to undermine, and to replace other ways of engaging with food and of contextualizing the relationship between food and the body. Nutritionism is the dominant paradigm within nutrition science itself, and frames much professional—and government—endorsed dietary advice. But over the past couple of decades nutritionism has been co-opted by the food industry and has become a powerful means of marketing their products. (Scrinis 2008: 39)

The nutritional dimension, which in itself would not constitute a culinary text (Marrone 2016: 188), becomes in such a discourse a real system of signification of food—and, more specifically, a “system of classification” (cf. Douglas 1972) of edible and inedible substances, although—as Scrinis (2008; 2013) denounces—in a reductionist manner and on the basis of a process of de-contextualisation, simplification and exaggeration of the role of nutrients.

In her book *Food Politics: How the Food Industry Influences Nutrition and Health*, Marion Nestle (2013 [2002]) reports an interesting example of food communication that seems highly significant in relation to such a phenomenon. In 1999, Heinz released an advertisement showing a

³ The reference is to the so-called “calorie count laws”, requiring qualifying restaurants (i.e. with over 20 locations nationwide) to post food energy and nutritional information on the food served on menus and menu boards.

bottle of ketchup with the headline “Lycopene may help reduce the risk of prostate and cervical cancer*”, using the asterisk to refer to a review article on the health benefits of such a component and thus associating the product with cancer prevention. In addition to the lack of scientific substantiation of the reported claim, the evident problem with this message concerns precisely the isolation of a specific nutrient, which is de-contextualised and given meaning independently from the other components of the food it is part of:

Ketchup contains processed tomatoes, sugars, and salt (in that order) and could hardly be considered a health food, not least because it typically is used as a garnish for hamburgers and fried potatoes. The advertisement singled out one component of ketchup, lycopene (a plant pigment naturally present in tomatoes and other fruits and vegetables), and it clearly associated ketchup with cancer prevention by including a prominent endorsement from the Cancer Research Foundation of America”. (Nestle 2013 [2002]: 334)

Despite these issues, such a communicative strategy proved quite effective, and the brand reported a 4% increase in market share as a result of the ad.

Evidently, it is not the food item that is meaningful in such a paradigm, but rather one or a few of its constituents, independently from their—symbolic, and also material—context. In fact, a number of scholars and movements have increasingly pointed out this fact. The Spanish movement “Realfooding”⁴, for instance, denounces:

Hablamos en términos de hidratos de carbono, grasas, proteínas, vitaminas, minerales... cuando todo eso no tiene nada que ver con la salud. La salud tiene que ver con los alimentos, que son mucho más que la suma de sus nutrientes y calorías. [*We speak in terms of carbohydrates, fats,*

⁴ <https://realfooding.com>.

proteins, vitamins, minerals... but all that is not related to health. Health is related to food, which is much more than the sum of its nutrients and calories, our translation.]

This has resulted in the evident increase of “free from” (gluten, lactose, etc.) products and diets, as well as in the large adoption of “functional foods” (i.e. foods containing health-giving additives and promising medicinal benefits) and dietary supplements, with evident impact on the axiologisation of food. The nutritional discourse has become a symbolic logic itself, a “mythology” regulating the food realm, mainly based on a negative logic of deprivation. While there have always been taboos⁵ in the food realm, today prohibition itself has become a basic choice. Diets have thus ceased to be a measure of well-being to become a real condition of being. In other words, as Marino Niola (2015) argues, if once we were the ones making our diet, now it’s “our diet that makes us”, neglecting that, in principle—as Marrone (2019) reminds us—dietetics should not eliminate but rather organise foodstuffs; it should not prohibit but rather regulate food choices; it should not restrict but rather direct one’s possibilities.

Let us consider, for instance, the present-day “gluten-free mania”. Until about a decade ago, little attention was paid to the coeliac disease—an autoimmune disorder properly identified only in the 1950s⁶, which occurs exclusively in genetically predisposed subjects—, and people rarely seemed to give gluten much thought. Driven by books like *Wheat Belly* by cardiologist William Davis, *Grain Brain: The Surprising Truth About Wheat, Carbs, and Sugar—Your Brain’s Silent Killers* by neurologist David Perlmutter, and other texts strongly criticised at first, and later a number of posts and comments on social media, a gluten-free movement originated and largely spread across the globe. It also gave birth to a real syndrome, called “(non-coeliac) gluten sensitivity” (NCGS), which is not genetic and does not involve autoimmune comorbidities (see in

⁵ Whose importance and significance have been effectively illustrated by scholars such as Mary Douglas (1966).

⁶ In 1956, British physician Margot Shiner pioneered the use of intestinal biopsy capsules, leading to conclusive evidence that gluten affected the intestinal mucosa in celiac patients.

particular Ludvigsson et al. 2013; Volta et al. 2013; Elli et al. 2015; Fasano et al. 2015; Schuppan et al. 2015; Vriezinga et al. 2015), and for these reasons is still matter of debate within the scientific community. Yet it represents an increasing factor in today's "orthorexic societies"⁷ (cf. Nicolosi 2006/2007; 2007), often based on self-diagnosis or unorthodox diagnostic practices. While the material dimension is certainly crucial to the coeliac disease, whereby gluten as such cannot be digested by celiac people, gluten sensitivity seems to be more linked to the values or meaning that are generally associated to such a material component: the risks deriving from agribusiness, the industrialization and manipulation of food, and so on. Thus, if in the 1920-40s, when technological progress was emphasised, famous brands such as Barilla or Buitoni proudly advertised their "pastina glutinata" (gluten-enriched pasta), claiming that it helped healthy kids to grow, today gluten is rather condemned as the result of a manipulated and irresponsible science, which cannot but lead to disease and death (cf. Stano 2016).

In fact, this is part of a broader "praise for Nature" phenomenon, and the consequent condemnation of any "ultra-processing" of food (to recall the words of the Realfooding movement). Eating has been increasingly subjected to a logic of marked denial: to be considered healthy (that is, "good to think"), food must in a certain sense deny its own "culturalness", realizing a process that, drawing on Lotman's work, Cervelli (2012) has effectively described as an "incursion" of the extra-semiotic chaos of Nature (which is then positively connoted) into the semiotically ordered universe of Culture (dysphorised due to its presumptuous ambition to dominate Nature), as it is evident in the case of another crucial issue characterising contemporary foodscapes: the opposition between organic food, on one hand, and transgenic or genetically modified food, on the other hand.

⁷ Building on Bratman's definition of "orthorexia nervosa" (see in particular Bratman 1997 and Bratman and Knight 2001) as a psycho-cultural syndrome consisting in a state of hyper-attention paid to eating healthy food, Nicolosi criticises contemporary societies' obsession with food, as related not only to the fear of physical contamination, but also the fear of a loss of a symbolic-identity purity (Nicolosi 2006/2007: 49).

11.4. Organic vs GM Food: The Nature/Culture Myth

Although scientific consensus on the safety of GM foods has increased in recent years, most people still perceive them as a major threat for health. By contrast, the organic market is flourishing precisely for the opposite reason. While certainly linked to material factors, such trends also depend on specific mythologies—and, more precisely, on the above-mentioned diffused praise for “Nature” characterising contemporary foodspheres.

The World Health Organization defines GMOs as “organisms in which the genetic material (DNA) has been altered in a way that does not occur *naturally* by mating and/or *natural* recombination. The technology ... allows selected individual genes to be transferred from one organism into another, also between nonrelated species” (WHO 2014, emphasis added)⁸. Although largely shared and adopted by a number of institutional entities, such a description is problematic: not only does it refer to a classification system based on the techniques of production of the considered organisms rather than on their final characteristics, but it relies on manifestly arbitrary and not at all clear criteria for defining the “naturalness” of such techniques. According to the European legislation, for instance, some practices, such as the recombination of nucleic acids, cell fusion, or the injection of external heritable material into one organism, are considered forms of genetic modification, while others, such as the so-called mutagenesis or some methods of cell fusion not involving nucleic acids recombination, are not (cf. Bressanini and Mautino 2015; Stano in press). This creates a series of borderline cases, as well as huge differences in legislation, with the US law HR 933 (2013) preventing federal judges from introducing any ban on the sale of GMOs (not without opposition and bottom-up initiatives increasingly manifesting discontent

⁸ Such a definition is echoed, with only slight variations, by other international institutions, such as the European Directive 2001/18/CE (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32001L0018>), the American National Bioengineered Food Disclosure Standard (2018, <https://www.federalregister.gov/documents/2018/12/21/2018-27283/national-bioengineered-food-disclosure-standard>), the NON-GMO Project (<https://www.nongmoproject.org>), etc.

towards such a regulation⁹) versus Europe adopting a “precautionary principle” that bans any recognised genetic modification of food.

The same aura of indeterminateness surrounds organic food, whose definition also calls on nature: “as the chemical paradigm is about controlling *nature*, the organic paradigm is about respecting *nature*” (Rodale 2010, *Organic Manifesto*). However, what such a “nature” is is not always clear: sometimes defined as an “ecological balance” (SARE and the EU Commission), sometimes rather described in differential terms as “anything that is non-synthetic” (FAO and WHO), the term returns to emphasising the arbitrariness of the definition it is part of, pointing out the same issues characterising GM foods and their management.

From a semiotic point of view, it is particularly interesting to focus on the collective representations of the Nature/Culture mythology underlining present-day narratives concerning GM and organic food. First of all, it is essential to note the differential and inchoative characterisation of Nature suggested by such discourses: as shown in detail in Stano (in press), Nature is how things are “originally”, with such an origin being either a “here” crystallised in an idyllic past to be preserved or rather a still uncontaminated “elsewhere” to be safeguarded. In any case, it consists in denying Culture, which is generally associated with a negative axiologisation. On the contrary, most representations of GM products are characterised as *terminative*, connoted as the end of a transformation process and even “subversion” of the natural order. Thus, the mechanisms of manipulation of food, which are concealed as much as possible or at least disguised under the aesthetics of a distant tradition discursively associated with organic products. These mechanisms become predominant, finding expression through figurative elements such as the human hands (carefully protected by latex gloves as in any hazardous scientific experiment) and injections, which are in fact very recurrent.

⁹ Especially as a result of food activism campaigns via social media, as highlighted by Adamoli 2012.

Oranges-kiwis, apples-watermelons, banana peels revealing salamis inside them and other visual paradoxes, then, evidently mark the dysphoric characterisation of such a process: if the lack of processes of alteration in organic products suggests a veridictory intent (that is, making such products *appear as they are*, cf. Greimas 1966), transgenic foods rather oscillate between secret (*they do not seem what they are*) and lie (*they are not what they seem*). Building on the distinction introduced by Jean-Marie Floch (1990) between the representational and the constructive function of language, it is in fact possible to associate the biological market with a *referential* strategy based on a disengaged and informative style, often using quantitative data, graphs and nutritional tables to suggest that consumers are told the “truth” about products. Communication of GM foods, by contrast, seems to oscillate between an *oblique* strategy based on paradoxes, hyperboles and forms of irony aimed at highlighting the dangers related to their consumption, and a *mythical* strategy inserting food into new narratives and investing them with symbolic meanings. The recurrent figure of “Frankenfoods” is emblematic in this sense: pieces of fruit sutured together evidently recall Mary Shelley’s famous novel, thus evoking the dysphoric myth of a science that dares to go beyond the limits of humanity and is therefore destined to succumb to its own creations (cf. Ortoleva 2019). Such an idea is in fact very common in the debate on genetically modified foods. In 1998, for instance, Prince Charles reproached food biotechnologists for taking humankind into realms that belong exclusively to God, warning his readers about the “the long-term consequences for human health and the wider environment of releasing plants bred in this way” (Prince of Wales 1998). Similarly, in 2010 Pope John Paul declared that using genetically modified organisms to increase production was “contrary to God’s will”, also advising farmers that when they “forget this basic principle and become tyrants of the earth rather than its custodians ... sooner or later the earth rebels” (in Lyman 2000).

11.5. Conclusion

The brief overview examined here, while certainly capable of further development, is nonetheless significant, showing that, despite the peculiarities of each case, even in the field of nutrition which is generally thought to be regulated by “objective” and “measurable” material factors, materiality is always manifest in discourses. As such, it is given specific meanings and values, which inevitably affect the way we perceive it. More specifically, the nutritional dimension, which in itself is certainly regulated by materiality, becomes in such discourses a real system of signification of food—and, more specifically, a “system of classification” of edible and inedible substances, according to the crucial yet often unperceived processes described by scholars such as Mary Douglas (1972) and Lévi-Strauss (see in particular 1962; 1964).

This leads us to a final and crucial consideration, which points out a sort of “reversal” of course in food cosmologies—in Laudan’s terms—, or mythologies—as we would say to emphasise Barthes’ description of mythical language as a meta-language or operation of re-semantisation. From a system in which cooking was conceived, euphorically, as a bridge between (the disorder of) Nature and (the order of) Culture, according to the famous definition introduced by Lévi-Strauss (1965; 1966), modernity has marked first a shift to fermentation, that is, to a more natural transformation of food, and finally the passage to a real denial of Culture—a Culture that is no longer conceived as an Order, as it was in the systems studied by Douglas or Lévi-Strauss, but rather as an *in-sub-ordination* (to the laws of Nature); no longer as a form of science (in the Latin acceptance of *scientia*, that is to say, knowledge), but rather as a form of *incoscienza*, namely the dystopic realisation of a too pretentious humanity that does not recognise its limits. Only the future will show us where such myths will lead—provided that we succeed in the compelling and also necessary attempt, as this chapter has demonstrated, to deal with nutrition from a broader perspective, able to grasp the processes of meaning-making to which it is inevitably linked. It is in this sense—we might argue, paraphrasing a well-known quote by Claude Lévi-Strauss (1965)—that

we can hope to discover how nutrition is a (meta-)language in which societies unconsciously translate their structure, unless, equally unconsciously, they agree to reveal their contradictions.

References

- Adamoli, Ginevra C.E. 2012. Social media and social movements: A critical analysis of audience's use of Facebook to advocate food activism offline (Doctoral dissertation). Florida: College of Communication and Information, Florida State University.
- Barthes, Roland. 1957. *Mythologies*. Paris: Editions de Seuil.
- Barthes, Roland. 1961. Pour une psychosociologie de l'alimentation contemporaine. *Annales ESC* XVI(5): 977–986. English edition Barthes, Roland. 1997. Toward a Psychosociology of Contemporary Food Consumption. In *Food and Culture: A Reader*, ed. Carole Counihan and Penny Van Esterik, 20–27. New York and London: Routledge.
- Bratman, Steven. 1997. The health food eating disorder. *Yoga Journal (September-October)*, 42–50.
- Bratman, Steven, and David Knight. 2001. *Health food junkies. Orthorexia nervosa: Overcoming the obsession with healthful eating*. New York: Broadway.
- Bressanini, Dario, and Beatrice Mautino. 2015. *Contro natura: dagli OGM al "bio", falsi allarmi e verità nascoste del cibo che portiamo in tavola*. Milan: Rizzoli.
- Cervelli, Pierluigi. 2012. Tecniche della natura umana. Biopolitica e semiotica del potere. In *Semiotica della natura (natura della semiotica)*, ed. Gianfranco Marrone, 103–117. Mimesis: Milan-Udine.
- Douglas, Mary. 1966. *Purity and Danger. An Analysis of Concepts of Pollution and Taboo*. London: Routledge and Kegan Paul.
- Douglas, Mary. 1972. Deciphering a meal. *Daedalus* 101(1): 61–81. Reprinted in Douglas, Mary. 1975. *Implicit Meanings*, 249–275. London: Routledge.

- Elli, Luca, Federica Branchi, Carolina Tomba, Danilo Villalta, Lorenzo Norsa, Francesca Ferretti, Leda Roncoroni, and Maria Teresa Bardella. 2015. Diagnosis of gluten related disorders: Celiac disease, wheat allergy and non-celiac gluten sensitivity. *World Journal of Gastroenterology* 21(23): 7110–7119.
- Fasano, Alessio, Anna Sapone, Victor Zevallos, and Detleff Schuppan. (2015). Nonceliac gluten sensitivity. *Gastroenterology* 148(6): 1195–1204.
- Floch, Jean-Marie. 1990. *Sémiotique, marketing et communication*. Paris: PUF.
- Greimas, Algirdas J. 1966. *Sémantique structurale*. Paris: Larousse. English edition Greimas, Algirdas J. 1983. *Structural Semantics: An Attempt at a Method* (trans: McDowell Daniele, Ronald Schleifer, and Alan Velie). Lincoln and London: University of Nebraska Press.
- Greimas, Algirdas J., and Joseph Courtés. 1979. *Sémiotique: Dictionnaire raisonné de la théorie du langage*. Paris: Hachette.
- Keys, Ancel. 1980. *Seven Countries. A multivariate analysis of death and coronary heart disease*. Cambridge and London: Harvard University Press.
- Keys, Ancel, and Margaret Keys. 1975. *Eat well and stay well, the Mediterranean way*. Garden City: Doubleday.
- Laudan, Rachel. 2004 [2000]. Birth of the Modern Diet. *Scientific American*, 283(2): 62–67.
- Lévi-Strauss, Claude. 1962. *Le totémisme aujourd’hui*. Paris: PUF. English edition Lévi-Strauss, Claude. 1963. *Totemism* (trans: Rodney Needham). Boston: Beacon press.
- Lévi-Strauss, Claude. 1964. *Mythologiques I. Le cru et le cuit*. Paris: Plon. English edition Lévi-Strauss, Claude. 1969. *The Raw and the Cooked* (trans: Weightman, John, and Doreen Weightman). Chicago: The University of Chicago Press.
- Lévi-Strauss, Claude. 1965. Le triangle culinaire. *L’Arc* 26: 19-29. Reprinted in *Le Nouvel Observateur Hors-Série* (2009): 14–17.
- http://palimpsestes.fr/textes_philo/levi_strauss/triangle_culinaire.pdf. Accessed 30 April 2020.
- English edition Lévi-Strauss, Claude. 1997. The Culinary Triangle. In *Food and Culture: A*

- Reader*, eds. Carole Counihan and Penny Van Esterik, 28-35. New York and London: Routledge.
- Lévi-Strauss, Claude. 1966. *Mythologiques II. Du miel aux cendres*. Paris: Plon. English edition Lévi-Strauss, Claude. 1973. *From Honey to Ashes* (trans: Weightman, John, and Doreen Weightman). New York: Harper and Row.
- Ludvigsson, Jonas F., Daniel A Leffler, Julio C. Bai, Federico Biagi, Alessio Fasano, Peter H.R. Green, Marios Hadjivassiliou, Katri Kaukinen, Ciaran P Kelly, Jonathan N. Leonard, Knut Erik Aslaksen Lundin, Joseph A. Murray, David S. Sanders, Marjorie M. Walker, Fabiana Zingone, and Carolina Ciacci. 2013. The Oslo definitions for coeliac disease and related terms. *Gut* 62(1): 43–52.
- Lyman, Eric. 2000. Pope expresses opposition to GMOs: Cites need for ‘the respect of nature’. *Bureau of National Affairs*, 221. <http://online.sfsu.edu/~rone/GEessays/PopeGMO.htm>. Accessed 14 April 2020.
- Marrone, Gianfranco. 2014. *Gastromania*. Milan: Bompiani.
- Marrone, Gianfranco. 2016. *Semiotica del gusto. Linguaggi della cucina, del cibo, della tavola*. Milan-Udine: Mimesis.
- Marrone, Gianfranco. 2019. *Dopo la cena, allo stesso modo. Dieci anni di immaginario gastronomico*. Palermo: Torri del Vento.
- Nestle, Marion. 2013 [2002]. *Food Politics: How the Food Industry Influences Nutrition, and Health*. Berkeley: University of California Press.
- Nicolosi, Guido. 2006/2007. Biotechnologies, alimentary fears and the orthorexic society. *Tailoring Biotechnologies* 2(3): 37–56.
- Nicolosi, Guido. 2007. *Lost food. Comunicazione e cibo nella società ortoressica*. Catania: Ed.it.
- Niola, Marino. 2015. *Homo dieteticus. Viaggio nelle tribù alimentari*. Bologna: Il Mulino.
- Ortoleva, Peppino. 2019. *Miti a bassa intensità. Racconti, media, vita quotidiana*. Turin: Einaudi.

- Prince of Wales. 1998. Seeds of disaster. *Daily Telegraph* (London), June 8. Reprinted in *Ecologist*, 28(5): 252–253.
- Schuppan, Detlef, Geethanjali Pickert, Muhammad Ashfaq-Khan, and Victor Zevallos. 2015. Non-celiac wheat sensitivity: differential diagnosis, triggers and implications. *Best Practice & Research Clinical Gastroenterology* 29(3): 469–476.
- Scrinis, Gyorgy. 2008. On the Ideology of Nutritionism. *Gastronomica* 8(1): 39–48.
- Scrinis, Gyorgy. 2013. *Nutritionism: The Science and Politics of Dietary Advice*. New York: Columbia University Press.
- Stano, Simona. 2016. Tell Me What You Do Not Eat, and I Shall Tell You What You Are. Food, Health, and Conspiracy Theories. *Lexia* 23-24: 327–343.
- Stano, Simona. 2018. Glocal food and transnational identities: The case of the Mediterranean diet. In *Cross-Inter-Multi-Trans – Proceedings of the 13th World Congress of the International Association for Semiotic Studies (IASS/AIS)*, ed. Audra Daubariene, Simona Stano, and Ulrika Varankaite, 450–459. Kaunas: IASS Publications and International Semiotics Institute.
- Stano, Simona. In press. Food, Health and the Body: A Biosemiotic Approach to Contemporary Eating Habits. In *Food and Medicine: A Biosemiotic Perspective*, ed. Victoria N. Alexander, Yogi H. Hendlin and Jonathan Hope. Berlin: Springer.
- UNESCO. 2012. Mediterranean diet. <http://www.unesco.org/culture/ich/en/RL/00884>. Accessed 14 April 2020.
- UNESCO. 2013. Mediterranean diet. <http://www.unesco.org/culture/ich/RL/00884>. Accessed 14 April 2020.
- Volta, Umberto, Giacomo Caio, Francesco Tovoli, and Roberto De Giorgio. 2013. Non-celiac gluten sensitivity: questions still to be answered despite increasing awareness. *Cellular and Molecular Immunology* 10(5): 383–392.

Vriezinga, Sabine L., Joaquim J. Schweizer, Frits Koning, and M. Luisa Mearin. 2015. Coeliac disease and gluten-related disorders in childhood. *Nature Reviews Gastroenterology & Hepatology* 12(9): 527–536.

WHO – World Health Organization. 2014. 3. Is the safety of GM foods assessed differently from conventional foods? Frequently asked questions on genetically modified foods.

http://www.who.int/foodsafety/areas_work/food-technology/faq-genetically-modified-food/en/.

Accessed 12 April 2020.