

Food, Food Substitutes and Food Supplements

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Abstract

Distinguishing between food, food substitutes and supplements is common in everyday life and academic work. The aim of this paper is to analyze this distinction. The question is approached from the point of view of functions. The hypothesis reads as follows: "Food has several nutritional, culinary, social, cultural, aesthetic and other functions. These functions are necessary and sufficient for something to be food. Food substitutes and supplements, serve some, but not many, functions of food. Thus, food substitutes and supplements are not food". The contemplations of the paper speak against accepting the hypothesis. This negative view is reached by defining the central terms, discussing the differences between eating and swallowing, analyzing the different meanings of the term 'edible' and a throughout analysis of functions of food, substitutes and supplements. As a part of the discussion an idea of origin based functions is developed. If the hypothesis is false (as argued), then the distinction between food and other edible entities must be based on something else than differences in functions. Alternatively the distinction may lack metaphysical justification. The view following this latter alternative is developed for the purpose of further studies.

Keywords: Food, Substitutes, Supplements, Functions, Edible, Eating, Swallowing, Origin.

1. Introduction

Distinguishing between food, food substitutes and food supplements is common in everyday life and also in academic work (see e.g. Fox *et al.* 2016; Pajor *et al.* 2017; Siegrist and Harmann 2019). The aim of this paper is to analyze this distinction and, thus, also shed some light to the very fundamental question of philosophy of food: What distinguishes food from other edible substances, and vice versa? The question is philosophically fascinating. Understanding regarding the issue contributes, not only to philosophical theorizations, but also to food science, food product development and food policy related decision-making.

The question is approached from the point of view of functions. It is generally accepted in academic literature that food serves several functions in human life. It is a source of energy and nutrients. Food provides pleasure through culinary

experiences. Eating food also relieves uncomfortable sensations and feelings including, but not limited to, the sensation of hunger. Food has various social functions related to sharing, caring and hospitality but it is also used for showing off and expressing social status. Moreover, people communicate their culture, identity and group membership through food and eating. (Henschke 2014; Pascalev 2003; Murdock and Noll 2015; Ternikar 2014.) The hypothesis of this study was inspired by this kind of understanding of food. The hypothesis reads as follows:

Food has several nutritional, culinary, social, cultural, aesthetic and other functions. These functions are necessary and sufficient for something to be food. Food substitutes and supplements, serve some, but not many, functions of food. Thus, food substitutes and supplements are not food.

According to the hypothesis, *x* is food, if and only if *x* fulfills various functions of food. Edible substances that fulfill only few functions of food are not food. Thus, hamburgers, for example, are food. They are sources of nutrition and hamburger eating can be an occasion full of social, aesthetic and cultural functions. Vitamin D pills, on the other hand, do not count as food since they do not serve the numerous functions food has in human life.

Few clarifications need to be made. First, the hypothesis concerns types of food—not food tokens such a particular hamburger eaten by someone at some time. A case of someone eating a hamburger just in order to receive nutrition, thus, does not form a counter-example to the hypothesis. Neither does a case of a lousy tasting meal of a hermit. Second, the hypothesis does not imply that something can be food only if it fulfills all functions food can have. Certainly some types of food serve higher number of functions than others. Thanksgiving turkey, for example, has symbolic functions that a lunch sandwich lacks. Still both are food. Third, the hypothesis does not rest on the assumption that the status of edible substances is stable. Rather, the hypothesis allows that something that is not food today may become food in future. Vice versa, something that is food today, may not be taken as food in future.

A possible criticism towards the hypothesis is that it is far too unspecific. The hypothesis does not state how many functions an edible substance must fulfill in order to be food. Thus, it cannot offer a practical tool for distinguishing between food and other edible substances. However, for the purposes of this paper, the hypothesis is specific enough for the following reason: In what follows it will be argued that the hypothesis presented is false. Not just food but also food supplements and food substitutes serve multitude of functions. Moreover, they serve very similar types of functions than the ones that food is serving. Since the considerations presented in what follows will not support the hypothesis, the conclusion and results of the study can be described as negative ones. Negative results are often found less interesting and important than the positive ones (Matosin *et al.* 2014). Yet, these negative results raise some interesting questions. If supplements and substitutes do not differ from food with respect to their functions, how do they differ? Can the distinction between the three be philosophically justified in some other way? The study contributes to developing a new hypothesis (which may be studied in another paper in future) according to which the distinction between food, substitutes and supplements actually lacks metaphysical justification. Rather the common distinction between food, substitutes and supplements is quite arbitrary and reflects common habits and customs. From the point of view

of functions, it is appropriate to understand food substitutes and supplements to be food or one instance of food among many others.

The terms of the study will be described and defined in section two. Section three consists of a closer look on a similarity between food, substitutes and supplements: They are all edible. The functions of food, supplements and substitutes are compared in section four. Functions related to origin of edible entities are analyzed in section five. The conclusions are discussed at section six.

2. Central Terms

2.1. Food and Its Functions

In order to discuss the distinction between food, substitutes and supplements some understanding regarding the three have to be adopted. Philosophers have had very little interest in defining food supplements and substitutes. However, some discussion on understandings regarding food can be found (see e.g. Kaplan 2012; Borghini 2014; Szymanski 2017; Eskine 2017). Even though there is no consensus among philosophers about the conception of food, there is an agreement that a good philosophical understanding of food has to be in line with what people eat and identify as food. A simple account of metaphysics of food can be formed by relying on these lay understandings and by defining food to be what people eat. This simple understanding of food, however, is problematic as it ignores the cultural differences on what is taken as food as well as the multiple functions food plays in human life (Szymanski 2017). What is actually eaten and identified as food differs from one society to another. Moreover, in all societies, food plays multitude of functions. Multitude of functions of food means that it is used for various purposes. Food eaten for maintaining life and bodily function and enhancing well-being. It is also used for expressing our social status and identity. Food has symbolic and religious functions. It can also be an object of exchange (economic good) and source of pleasure. Sometimes food is a way of expressing artistic visions. (Kaplan 2012; Gold 2015; Eskine 2017.)

The term 'food' can be understood in a narrow and wide sense. In its narrow sense term 'food' refers merely to the physical stuff that is eaten (or meant to be eaten). In its wider sense 'food' refers also to events—such as cooking—that led to the existence of that stuff. These wider understandings can differ with respect to their extensions—that is with respect to what are the limits for the events that should be included in the understanding of food. This kind of wider understanding of food allows seeing food as a multidirectional network. (Borghini 2014; Szymanski 2017.) In this study, the term 'food' is understood quite widely as the focus is, following the hypothesis, on various functions of food. Food is understood teleologically through its intended use and goals of stakeholders involved. Food, then, becomes understandable by recognizing the reasons and outcomes of consumption (Henschke 2014). This is not to say that everyone involved is always actively aware of all functions that food is serving on that particular occasion. However, if asked, at least some of the stakeholders could identify some of them.

2.2. Supplements

Food supplements are products meant to deliver nutrients that an individual is not receiving adequate quantities from his or her food. Food supplements may contain, for example, vitamins, fatty acids, minerals and proteins in the forms of

pills, capsules, powders, drinks and bars. Examples include protein powders for body builders and other athletes, multi-nutrient drinks for elderly people, B12-vitamin pills for vegans and folic acid supplements for pregnant women. The food supplements may be necessary because of increased need (e.g. through pregnancy or extensive training) or inability for sufficient nutrient intake (e.g. through illness, inability or non-willingness regarding eating). However, it is not uncommon to consume food supplements without particular physical need. People eat, for example, multivitamin supplements out of habit or just in case. Yet, even when food supplements do not really benefit the person consuming them, the consumption is usually motivated by a possible benefit. (McCann 2005; Pajor 2017.) As a result, food supplements are tightly connected to nutritional functions of food. This does not imply that food supplements lack other functions or that they are eaten *merely* to gain the nutritional benefits.

Understanding the food supplements in the described sense has interesting implications regarding the hypothesis. Support for the hypothesis requires spelling out differences in functions of food and food supplements. This may be challenging as the motives behind food supplement usage may also explain many food choices (e.g. choice of a protein rich dish). If such differences cannot be found, there are two options. Either the distinction between the two have to be justified in some other way or one has to give up the distinction and accept that food supplements actually are instances of food.

2.3. Substitutes

Generally speaking the term ‘substitute’ refers to an entity that is used for certain function instead of an entity which is usually or normally serving that function (Ryall 2008). A historical example of a food substitute is an inner bark bread. Inner bark of pine was used as a substitute of flours in bread at Nordic countries during food shortages (such as the ones at Finland at 1860’s). The bread was beaked by replacing (part of) flours with inner bark of pine. The inner bark bread keeps hunger away, but the taste is poor and the bread is low in nutrients (although in contains a lot of fiber). When food is plenty, food substitutes are consumed instead of a type of food that someone is, for some reason, unwilling or unable to eat. One instance of food substitutes are meal replacement products used in energy-restricted diets for weight reduction. They provide little energy but contain many necessary nutrients and keep the unpleasant feeling of hunger away. Further examples include plant based substitutes for cheese, yoghurt, eggs and meat. These substitutes are usually made to taste and look like the substituted animal based product. They often differ nutritiously from the substituted products. They may, for example, contain less fat and protein but more fiber than the animal based product they are substituting. Yet, contrary to meal replacements used for weight control, they are not designed to be particularly low in energy or high on nutrients. Rather they provide desired food products and related aesthetic and culinary experiences to consumers who are willing to go vegan.

A philosophically interesting questions regarding substitutes concern their relation to the foods they are substituting. What are the criteria for something to be a substitute? How do substitutes of x differ from other stuffs one could choose instead of x? As consumers we are often in situations where there are plenty of alternatives available and we have to choose between them. Most restaurant, for example, have various dishes to choose from and there may be dozens of breads

available at a bakery. Usually there is no reason name some of these alternatives 'substitutes'. The issue of substitutes arises only when the entity that is usually or normally serving some function becomes unavailable or someone, for some reason, does not want to use it. When making a vegan pizza, for example, one needs to find substitutes for cheese and when making a gluten free pizza one needs a substitute for wheat flours. The vegan "cheese resembling product" and gluten free flours are substitutes, since cheese and wheat flours are customary components of pizza. However, not all cases of replacing x with y concern substitutes. My choice to top my pizza with mushrooms today does not render various other alternative pizza toppings as substitutes. Substitutes differ from mere alternatives and spare entities in ways which are described in what follows.

As the above examples indicate, nothing is a substitute as such but only in relation to something it is substituting. Substitutes are always substitutes of something and strongly dependent on the idea of something else being real or authentic something. (Siipi 2014: 92; on similar ideas regarding copies see Carrara and Soavi 2010: 421, 423.) An almond drink, for example, is not a milk substitute as such, but only after someone finds it possible to use it instead of milk or creates it to be used instead of milk. Because of this close connection between authentic entities and substitutes, understanding authenticity contributes to understanding substitutes. The term 'authentic' is ambiguous and it is possible to distinguish between the quality meaning and identity meaning of the term 'authentic'. The quality meaning of authenticity refers to value and typicality of entities. Authenticity in this sense is a matter of degree. Members of a class or type can be more or less perfect and, thus, more or less authentic members of that class or type. American cheese cakes, for example, can be more or less authentic American cheese cakes in this sense. According to quality meaning of authenticity, the claim that something is not authentic x means that it is lousy x—but x nevertheless. (Siipi 2014: 78.) The second sense of authenticity is called identity meaning:

According to the identity meaning, if something is not an authentic x, then it is not x at all, but merely something else that more or less resembles x. [...] The identity meaning of 'authentic' makes a distinction between being an not-being something. [...] Authenticity is then seen as an either-or distinction that corresponds to class membership: if something is not authentic x, then it fails to be x. (Siipi 2014: 77.)

Substitutes relate to the identity meaning of authenticity. Meat substitutes, for example, are not low quality meat but plant based products. In similar lines, meal replacements used for weight loss or to enhance efficiency in time-pressured life styles are not low quality meals but not meals at all (even though they are often marketed as ones). This is not to say that raw materials of substitutes always differ from the ones of the authentic product. Suppose someone is always having and would prefer to have a banana yoghurt of brand x for the breakfast. Sadly, it is not available and the person settles for a banana yoghurt of brand y. The yoghurt of brand y may then well be seen as a substitute for the yoghurt of brand x—even though their raw materials may be the same. Yet, also in this case authenticity and being a substitute are a matter of identity: brand y yoghurt cannot be fairly described as a low quality yoghurt of brand x but a different product which fails to be an instance of authentic brand x yoghurt.

In order for something *y* to be used instead of something *x*—more strictly speaking, in order for *y* to substitute of *x*—*y* must share some of its qualities with *x*. Yet, substitutes never share all of their qualities with the entities they are substituting. Otherwise, they would instances of it. Thus, in a sense, substitutes are imperfect in comparison to the authentic entities (Bergin 2009: 260). Even though an almond drink may be tasty, healthy and able to serve many functions milk is used for, it still lacks some qualities of milk and cannot be identified as milk. In similar lines, the banana yoghurt of brand *y* can be substitute of the yoghurt of brand *x* only because it differs from it at least in one respect: it lacks the desired brand. This is also a sense in which substitutes differ from spare entities. Contrary to substitutes spare entities may be qualitatively similar to the actual choice (e.g. when taking a spare sandwich to a picnic). Thus, spare entities also lack the above described connection to the authentic entities.

None of the above mentioned should be taken to imply that the distinction between substitutes and authentic entities is static and similar in all contexts. What is authentic food within a culinary domain can be considered a substitute in another, and vice versa. Different people may also have different views of whether something is an alternative product or a substitute. Furthermore, whether something is a substitute or alternative product may change over time. A perfect example of this are butter and margarine. Margarine was first developed as a substitute to butter as butter was expensive and challenging to store (Deelstra *et al.* 2014). Nowadays, some consumers still see margarine as a substitute for butter but many take them as alternative products.

The understanding presented should not be taken to mean that authentic entities should always be favored to their substitutes. Quite contrary, there are often many good reasons to favor meat substitutes to authentic meat, for example, and a busy person has good reasons for choosing a meal replacement product instead of a time consuming proper meal. Even though substitutes are somehow imperfect in comparison to authentic entities, they may also carry qualities that speak in their favor. In the modern western world of easily accessible food, the imperfection of food substitutes usually carries with it an extra value which may provide a reason for favoring a substitute to the authentic entity.

The above considerations regarding substitutes are relevant for discussing the hypothesis for two reasons. First, obviously, in order to analyze whether substitutes differ from food with respect to their functions, one needs to define what is meant by substitutes. The second reason is more complicated and relates to the understanding of substitutes presented. As stated earlier “substitutes are always substitutes of something and strongly dependent on the idea of something else being real or authentic something” (Siipi 2014: 92). This real or authentic something can be a type of food (e.g. meat or dairy) or food in general. In the first case, the term ‘food substitute’ refers to products that are used instead of some more traditional or more commonly used food stuff type. Examples include soy burgers as substitutes for meat burgers and oat yoghurt as a substitute for dairy based yoghurt. Soy burgers and oat yoghurt are commonly understood as food and, strictly speaking, they are not substitutes for *food*, but rather substitutes for *types of food* (e.g. meat or dairy). In the second case, the term ‘food substitute’ designates substances that are consumed instead of food—not just some kind of food, but food in general. Inner bark may be example of such food substitute. A modern example are medical nutrient solutions, which are given to patients who are unable obtain necessary nutrients otherwise. Medical nutrient solutions may be taken orally. To

seriously sick individuals who are unable to swallow they are given via nasogastric tube.¹ A meat or dairy substitute can sometimes be food substitute also in this second sense of the term. However, importantly, meat and dairy substitutes do not have to be *food* substitutes in this second sense. The two understandings imply it possible to judge that a particular product (e.g. a soy burger) is a meat substitute but not a food substitute. In other words, it is a substitute for meat, but not a substitute for food in general.

The distinction between substitutes of food in general and substitutes of a type of food is important for analyzing the hypothesis for the following reason. Suppose, it turns out that practically all substitutes discussed in the food context are actually substitutes for a type of food, but not substitutes for food in general. Then, it becomes possible that these products are food. And if that is the case, their functions, of course, would not (and by definition could not) differ from the functions of food. As a result, the hypothesis would be falsified.

3. Something in Common: Eating and Edibility?

At first sight it seems that food, supplements and substitutes have at least something in common. They are all edible and they are all eaten. One might then suggest, following the simple account of metaphysics of food (Kaplan 2012), that since food substitutes and supplements are edible and eaten, they are actually instances of food. But what does being edible mean? And how does eating differ from closely related terms such as swallowing? Can other entities besides food be eaten?

The term 'eat' is sometimes used as a synonym of the term 'swallowing'. However, the term 'eat' also seems to have a narrower meaning. Some instances of swallowing are not instances of eating in its narrow sense. Some drug smugglers, for example, swallow tiny balloons containing cocaine or heroin. Moreover, medical devices (e.g. capsule endoscopy devices) are swallowed by patients in medical care. Thus, a question arises: Does the distinction between eating and swallowing follow the distinction between food and other edible entities? Is only food eaten and other entities—including food supplements and substitutes—merely swallowed? Two issues are worth noting regarding this idea. First, the difference between eating and swallowing does not rest on chewing. Chewing is neither sufficient nor necessary for eating. A bubblegum is chewed but not eaten and many jellies, puddings and soups can be eaten without chewing. Second, the suggestion does not imply that food is always eaten. One may well merely swallow food for example in an extreme hurry or when one is taste deprived (e.g. due to a flu). The suggestion is that *only* food is eaten. In what follows the suggestion is evaluated by analyzing the term 'edible'.

Eating something presupposes that it is edible. There is no general agreement on what counts as edible (Fuster 2014). At least the following four senses can be distinguished. First, the expression 'x is non-edible' may be taken to indicate that swallowing x is physically impossible. Large stones, for example, are non-edible in this sense. Accordingly, anything one can swallow is edible for her in this sense—including medical devices, drug balloons, food supplements, food and

¹ Someone might argue that inner bark and nutrient solutions are food. That kind of wider understanding of food is compatible with the general argument of the paper, and thus, their status is not further discussed here.

small stones. Thus, this sense of ‘edible’ corresponds to eating widely understood and does shed any light on the distinction between eating and swallowing. As the examples indicate, not just food but also many other entities can be edible in this sense. Thus, edibility in this sense does not offer a tool for distinguishing between food and other entities. Yet, edibility in the presented sense is certainly necessary for something to be food, food supplement or a substitute.

Second, the term ‘non-edible’ is used of poisonous or otherwise harmful substances such as fungus *Amanita phalloides* (also known as death cap) or food that has gone bad (see e.g. Gjerris and Gaiani 2014). Drug balloons may come close to being non-edible in this sense as swallowing them is very risky. Peanuts and fish are edible to most people in this sense. However, they are non-edible for individuals who are seriously allergic to them. Thus, edibility in this sense is not only about properties of a substance but also a relation between a substance and its potential eater. Also this sense of ‘edible’ fails to distinguish between eating and mere swallowing. Food poisoning results from *eating* spoiled (non-edible) food. On the other side of the coin, capsule endoscopy devices are safe and, thus, edible in this respect. Analogously to the first sense of ‘edible’, also this second sense is useless for telling food apart from other entities. Many non-foods are edible in this sense. This kind of edibility is not even necessary for something to be food. Spoiled food (or food one is allergic to) is still food. As a result, food can be non-edible in this sense.

Third, the terms ‘edible’ and ‘non-edible’ refer to religious, ideological and moral restrictions regarding food (Fuster 2014; Grumett 2014). Pork, for example, is in this sense non-edible for vegans, Muslims and Jewish people. Edibility is then very much a question about cultural, moral and religious conventions. This sense of edibility is irrelevant to the distinction between eating and swallowing. Of course, the moral, cultural and religious restrictions concern also swallowing, not just eating. Moreover, substances may count as food when they are found non-edible (by some people) in this sense of the term. Vegan, Muslims and Jewish people may understand pork as food. It is just a kind of food that they should not eat—non-edible food, for short. Thus, this sense of edibility does not distinguish between food and other entities.

Finally, something may be non-edible for aesthetic reasons (Kaplan 2012). It is not rare that an individual dislikes some food stuff—such as mushrooms, mussels or onion—to the extent of refusing to eat them. Sometimes food stuffs are found yucky (or too bad tasting, spicy, rough or slimy) to the extent that eating them becomes impossible or at least very difficult. This sense of edibility does not distinguish between food and other entities. A person disliking the taste of cheese to the extent of not being able to eat it may still understand cheese as food. It is just the kind of food he or she does not want to eat. As an outcome, edibility in this fourth sense is not necessary for something to be food. Yet, this sense on ‘edible’ succeeds in pointing towards differences between eating and mere swallowing. Suppose someone dislike the taste of garlic to the extent of being unable to eat it or foods containing it. This individual still might be able to swallow a glove of garlic (very fast and with a lot of water) in order to win a bet, for example. Moreover, she may be happy to swallow garlic capsules for health reasons. If this is the case, then eating in its narrow consist of swallowing but also of something else. In short, eating is more than mere swallowing. Might it be, that the multitude functions of food also concern eating and distinguish it from mere swallowing?

Eating and swallowing share a goal of digesting something—that is placing something inside one’s stomach. Eating in its narrow differs from mere swallowing in serving numerous functions that go beyond nutritional or medical values of the substances digested. Eating gives pleasure and relieves unpleasant sensations. Eating has numerous social, cultural and religious functions. Moreover, eating is a complex and composed practice which involves many elements relating for example to places and tools used for eating. (Scruton 2012; Henschke 2014; Murdock and Noll 2015.) Are these differences between the functions and goals of mere swallowing and eating somehow analogical to differences between food, food substitutes and food supplements? Are food substitutes and supplement merely swallowed or also eaten?

4. Functions of Food, Substitutes and Supplements

If the above distinction between eating and mere swallowing is accepted, it seems that some food supplements are merely swallowed but others are eaten. Vitamin pills are usually merely swallowed, whereas supplements such as protein bars are eaten. Protein bars are usually quite tasty and many outdoor sport enthusiasts, for example, use them as provisions during or between their sport activities. In similar lines, some substitutes are eaten and others merely swallowed. A soya burgers and oat yoghurt, for example, are most certainly eaten. Medical nutrient solutions—which are not only substituting a type of food but food in general—are merely swallowed. However, one might still claim that functions of food are wider than the ones of supplements and substitutes. It will be shown in what follows that this is not the case.

A central function of food is to provide energy and important nutrients. Some substitutes, such as baby milk substitutes, are designed to fulfill these nutritional functions very similarly to the stuff they are substituting. The more nutritiously similar to mother’s milk a product is, the more suitable it is of being used as a baby milk substitute (even though in order to work as a substitute it also has to fulfill some requirements regarding taste and preservability). A stuff nutritiously very different to mother’s milk cannot be sensibly be taken as a baby milk substitute.

However, even though some substitutes have to be nutritiously similar to the entities they are substituting, this is not always the case. Nutritious similarity is not necessary for something *y* to be a substitute for something else *x*. Meat and dairy substitutes, for example, are often nutritiously quite different from meat and dairy. In their case, the focus is in substitute’s ability to serve the culinary and social functions of the authentic product. Meat and dairy substitutes enable vegans (and other unwilling to consume animal based products) to enjoy food that is overtly similar to more conventional food. With the help of these substitutes individuals can have culinary experiences, follow traditions of their culture (to some extent) and realize social functions of food. Becoming a vegan, thus, does not need to imply giving up cappuccino drinking or eating hamburgers both of which have various social, culinary and cultural functions. Sometimes, as in the case of low calorie meal replacements used for weight control, nutritious differences between a food item and its substitute are not only tolerated but actually required. Meal replacements are very low in calories but serve some functions of food they are substituting. They, for example, remove the unpleasant feeling of hunger.

The multitude of functions of substitutes relate to the criteria for good substitutes. Not any entity can be a good substitute for any other entity. A suggestion to use slices of cucumber as substitute of beef in a classical cheese burger is, at its best, humorous. In somehow similar lines, a restaurant that used to serve a single lettuce leaf as a substitute of bread to its gluten intolerant customers received a mass of negative attention at social media and had to change its practice.² What distinguishes a good substitute of *x* from all other entities that are not *x*, is that good (or at least decent) substitutes of *x* can serve several functions of *x*. A good substitute of something *x* is capable of fulfilling many functions of *x*. (Ryall 2008: 59; Siipi 2014: 92; on similar ideas regarding copies see Carrara and Soavi 2010: 423.) Since a lettuce leaf is unlikely to serve culinary, social and nutritious functions of bread, it is not a good substitute of it.

The functions of food supplements vary less than the functions of food substitutes. All food supplements are meant to enhance the well-being or performance of an individual through serving some nutritional needs. However, contrary to food and food substitutes they are not meant to cover all energy or nutrient intake of an individual. At first sight it may seem that supplements focus mostly on fulfilling some nutritional needs whereas substitutes can substitute any functions of food. Yet, the nutritious functions people give to food and food supplements are various. Food is not only about receiving right amount of calories and nutrients necessary for avoiding deficiencies and related sickness. Rather people believe the right nutrition to contribute to their general well-being, including their looks (O'Neill and Silver 2016) and harmony of mind (Siró *et al.* 2008: 457; Sirico *et al.* 2018). Certain ways of eating as well as usage of certain food supplements may be central for a life style chosen (Sirico *et al.* 2018). In similar lines avoiding food supplements may be important for other ways of living a good life—for example, following the ideal of being self-subsistent. Thus, food supplements may, in addition to providing nutrients and energy serve many social and cultural functions of food. By them people can, for example, communicate group membership (or non-membership). One obvious example is (hobby) athletes all leaving the gym while sipping their protein supplement drink from a similar plastic container. They fulfill their high need for protein but also sign of belonging to the group of “hard training ones”. In similar lines, usage of certain vitamin supplements may indicate belonging to the groups of “caring parents” or “committed students”, for example.

To conclude, food substitutes and supplements serve many of the functions food is serving including the social, cultural and symbolic functions of food. As a result, the hypothesis presented in the beginning seems false. Yet, one might still try to save a somehow modified version of it by stating that food has a specific function (or functions) that substitutes and supplements cannot serve. This suggestion is discussed in the next section. The idea behind the contemplation is the following. Substitutes and supplements differ from the authentic entities with respect to their origin. Dairy and meat have their origin in animals whereas their substitutes are plant based. The banana yoghurt of brand *x* comes from the factory of brand *x* whereas its substitute has a different history. Thus, we need to ask: Does food have functions related to its origin? If yes, can food substitutes and supplements serve also those functions?

² <https://www.iltalehti.fi/uutiset/a/2016030121199078>

5. Origin Related Functions

If substitutes and supplements serve many functions of the authentic food, why are they *substitutes* and supplements rather than alternatives or spare entities? A soya ice cream, for example, is nutritiously equal (or even superior) to ordinary dairy ice cream. From culinary perspective it may be just as delicious as the dairy ice cream (it may actually be difficult to tell them apart by the mere taste). The soya ice cream can fulfill the social functions of ice cream eating. Yet, most take it a substitute for authentic ice cream. Why is that?

One suggestion is that authenticity of a food item partly follows from its history—that is from where it originates and how it came into being. Some functions of food also relate to its origin. In other words, food has origin related functions. These functions and their connection to the relation between authentic entities and substitutes can be illustrated by an example of *in vitro* meat. *In vitro* meat is produced in a cell culture of animal cells. It is not on the sale for consumers yet, but serious development work is going on. It has basically same nutrients and amount of energy as ordinary meat originating from slaughtered animals. Moreover, in biological and physical sense, it is not only similar to ordinary meat, but consists of the exactly same matter and substance as it. When further developed it will be able to serve same culinary functions as ordinary meat. It will taste, feel and look like the ordinary meat. Yet, as it does not originate from slaughtered animals, some consumers omit to take it as authentic meat. Rather they describe it as a meat substitute or even as fake meat (Bryant and Barnett 2018: 12). The view is shared by some researchers. Jean-Francois Hocquette (2016), for example, describes *in vitro* meat as one of the meat substitutes and takes it to be “artificial meat”. He explicitly states several times that *in vitro* meat is not meat. (For similar views or terminology see also Stephens 2010: 400; Bryant and Barnett 2018.) Why is *in vitro* meat not accepted as (authentic) meat? Does meat serve some functions that depend on its originating from slaughtered animals?

Not only meat and dairy food offers but also their production at farms at countryside is something that matters to people in cultural, social and aesthetic respects. Dowsett *et al.* (2018), for example, point out that a meat lamb related agriculture has a special role in national identity at Australia. In similar lines, turkeys play an important cultural role in the American Thanksgiving Day and cows at a mountain pasture are an integral part of a Swiss cultural landscape. *In vitro* meat and the plant based meat substitutes are unable to fulfill these functions which are strongly connected to the living animals as sources of food. Dowsett *et al.* (2018) further point out that meat may have other functions related to its animal origin. According to them, meat is sometimes consumed as a sign of one’s dominance, power and superiority over animals (and other people). If that is the case, then, of course, plant based substitutes as well as *in vitro* meat necessarily fail to serve these functions of meat eating.

Is it fair to say that only authentic food serves origin related functions? Do substitutes fail to serve origin related functions? This does not seem to be the case. Quite contrary, meat substitutes, for example, have social functions that relate to their non-animal origin. By consuming plant based meat substitutes instead of meat individuals can signal their kindness (towards animals and other people) and environment friendly attitudes and life style. Moreover, they can communicate certain group memberships (or non-memberships). These origin based functions of meat substitutes, of course, are not the same than the ones of meat. As a matter

of fact, some of them may be quite contrary to the origin based functions of meat. Yet, they are still origin based functions and, thus, the difference between authentic food items and their substitutes does not rest on serving origin based functions.

To sum it up, food has functions related to its origin and history. However, food substitutes can also serve very similar kinds of functions. Thus, the hypothesis (even in its modified form) is false. Food does not differ from its substitutes and supplements with respect to its functions. Thus, either there the distinction between food, substitutes and supplements is based on something else, or the distinction is metaphysically unjustified.

6. Conclusion and Discussion

The above discussions indicate that the hypothesis presented in the beginning of the paper is false. Food substitutes and supplements serve the same (or almost same) functions as food. However, some food substitutes fail to serve origin related functions of the corresponding authentic products. Meat substitutes (including in vitro meat), for example, do not serve those origin related functions of meat which relate to meat coming from slaughtered animals. Yet, meat substitutes serve other origin related functions.

If the hypothesis is false (as argued above), then supplements and substitutes must differ from food in some other respect than their functions. Alternatively, it might be argued that the distinction between food, substitutes and supplements lacks metaphysical justification. If it lacks metaphysical justification, what is it all about? The question is pressing since the above considerations fail to answer a fundamental question: Why are substitutes and supplements taken as *substitutes* and *supplements* rather than alternative products?

One possible answer might be that the distinction between authentic food products and their substitutes reflects our cultural habits and customs. Since ice cream was first made of milk and the soya ice cream only become later, and since the two differ with respect to their main ingredients and origin, it is fair to say that the soya ice cream is a substitute. Dairy based ice cream is what people are used to. If consumers see milk as a fundamental ingredient of an authentic ice cream, and if this main ingredient is replaced by something else, the outcome can, at its best, be a substitute. Thus, the question about substitutes and supplements is not about functions. It is (at least partly) about consumer experiences regarding essences of food stuffs. It may well be that people see the right essences to pretty much depend on having the right raw materials and ingredients. Only when a product has right ingredients—the ones that people judge to belong to the type of food under discussion—it is an authentic instance of that food product.

The suggested understanding regarding distinction between food, substitutes and supplement requires further philosophical analysis. The central terms need to be clarified and illustrative examples and counter-examples developed. The suggested understanding might also be interesting from the point of view of empirical studies. There are numerous studies on what people see as authentic food (see e.g. Tsai and Lu 2012; Sukalakamala Boyce 2007), but much less on what reasons they give for their authenticity views (see Stiles *et al.* 2011).

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