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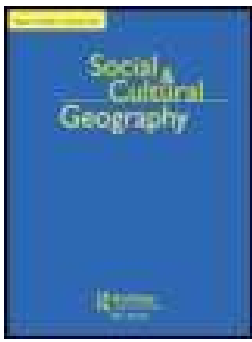
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Jonas House

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Insects are not ‘the new sushi’: theories of practice and the acceptance of novel foods

Jonas House^{a,b} 

^aSociology of Consumption and Households Group, Wageningen University, Wageningen, Netherlands;

^bDepartment of Geography, University of Sheffield, Sheffield, UK

ABSTRACT

Food geographies have long grappled with the interplay between production and consumption. Theories of practice offer productive new ways of conceptualising the mutual implication of supply and demand in shaping food consumption, yet little work has approached the subject of novel foods from this perspective. This paper applies practice-theoretic analysis to two novel foods, aiming to demonstrate the utility of the approach for a number of substantive areas and to extend conceptual and theoretical debates within food geographies. The paper compares sushi (a novel food successfully established in the US in the 1960s) and insects (a novel ‘sustainable’ protein source for Western markets, which to date has been relatively unsuccessful). Many accounts portray sushi’s success as the result of marketing efforts and the role of a ‘gateway dish’, arguing that insects – as ‘the new sushi’ – can follow this model to achieve widespread acceptance. It is argued that sushi’s initial Western establishment was instead due to pre-existent practices ‘carried’ to a new location, where the practices’ relevant constituent elements were also present. Conversely, European food insects are not clearly assimilable within pre-existing practices; instead, integration into existing food practices has been attempted. Such efforts are demonstrably problematic.

Les insectes ne sont pas ‘les nouveaux sushis’: théories de pratique et acceptation de nourritures différentes

RÉSUMÉ

Les géographies de la nourriture sont confrontées depuis longtemps à l’interaction entre la production et la consommation. Les théories de pratique proposent de nouvelles manières de conceptualiser l’implication mutuelle de l’offre et de la demande en donnant forme à la consommation de la nourriture, et pourtant peu de recherche a été faite sur l’approche des nourritures différentes dans cette perspective. Cet article applique l’analyse pratique-théorie à deux nourritures différentes, visant à démontrer l’utilité de cette approche pour un ensemble de domaines importants et afin d’élargir les débats conceptuels et théoriques au sein des géographies de la nourriture. Cet article compare le sushi (une nourriture différente établie avec succès aux Etats-Unis dans les années 60) et les insectes (une

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CONTACT Jonas House  jonas.house@wur.nl

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source de protéine ‘durable’ différente sur les marchés occidentaux, qui jusqu’à présent a été relativement infructueuse). Beaucoup de rapports décrivent le succès du sushi comme le résultat d’efforts de marketing et de son rôle de ‘plat d’introduction’, soutenant que les insectes – en tant que ‘nouveau sushi’ – peuvent suivre ce modèle pour accomplir une acceptation généralisée. On fait valoir que l’établissement initial du sushi dans le monde occidental était plutôt dû aux pratiques préexistantes ‘transportées’ sur un nouveau lieu, où les pratiques des éléments constitutifs pertinents étaient aussi présentes. Inversement, les insectes comme nourriture européenne ne sont pas clairement assimilables avec les pratiques préexistantes; au lieu de cela, il y a eu une tentative d’intégration aux pratiques de nourriture existantes. De toute évidence, de tels efforts sont problématiques.

Los insectos no son ‘el nuevo sushi’: teorías de la práctica y la aceptación de alimentos novedosos

RESUMEN

Las geografías de los alimentos han luchado durante mucho tiempo con la interacción entre la producción y el consumo. Las teorías de la práctica ofrecen nuevas formas productivas de conceptualizar la implicación mutua de la oferta y la demanda en la configuración del consumo de alimentos; aun así, pocos estudios han abordado el tema de alimentos novedosos desde esta perspectiva. Este documento aplica el análisis de la práctica teórica a dos alimentos novedosos, con el objetivo de demostrar la utilidad del enfoque para una serie de áreas sustantivas y ampliar debates conceptuales y teóricos dentro de las geografías de los alimentos. El documento compara el sushi (un alimento novedoso establecido con éxito en los Estados Unidos en los años ‘60) y los insectos (una novedosa fuente de proteína ‘sostenible’ para los mercados occidentales, que hasta la fecha ha sido relativamente infructuosa). Muchos retratan el éxito del sushi como resultado de los esfuerzos de comercialización y el rol del ‘plato portal’, argumentando que los insectos – como ‘el nuevo sushi’ – pueden seguir este modelo para lograr una aceptación generalizada. Se argumenta que el establecimiento occidental inicial del sushi se debió en cambio a prácticas preexistentes ‘llevadas’ a una nueva ubicación, donde también estaban presentes los elementos constitutivos relevantes de las prácticas. Por el contrario, los insectos comestibles europeos no son claramente asimilables en las prácticas preexistentes; en su lugar, se intentó la integración a las prácticas alimentarias existentes. Tales esfuerzos son demostrablemente problemáticos.

Introduction

In the context of climate change and a rapidly increasing global population, efforts are underway across Europe and North America (henceforth ‘the West’) to increase the ‘sustainability’ of the current agri-food system. Becoming more common in this respect is the proposal that insect consumption (‘entomophagy’) be adopted by Western populations, of which a defining example is the report published on the subject in 2013 by the Food and Agriculture Organization of the United Nations (FAO) (van Huis et al., 2013). This argument is based chiefly on the manifold perceived benefits of insects relative to conventional food animals: for example, insects have comparable levels of protein and nutrients to cows, pigs

and chickens, yet are argued to be considerably less resource-intensive to produce than those species (e.g. van Huis et al., 2013). The FAO report sparked a considerable amount of interest in the subject in academia, business and the popular media, and a number of insect-based food products have since appeared on Western markets (e.g. Bugsolutely, 2017).

A common refrain is that insects are – or could be – ‘the new sushi’ (e.g. Ballingall, 2014; Watson & Treanor, 2016 – although there are many other examples). Sushi is provided as an example of a food which until relatively recently the majority of Westerners did not want to eat because it generally involves the consumption of raw fish and other culturally unusual ingredients such as seaweed, but which has undergone a remarkable repositioning and is now widely enjoyed. ‘The world of entomophagy’, Killingsworth (2013) argues, ‘is ready for its sushi moment – the normalization and subsequent integration of an unusual ingredient into the American diet through food trends’. The notion that sushi provides a model for the introduction of insects as food is also reflected, albeit not always as explicitly, in some academic sources (e.g. Dunkel & Payne, 2016).

In drawing comparisons between sushi and the potential introduction of insects, ‘ento-pre-neurs’ often suggest that gaining Western acceptance of insects as food ‘is just about how it is marketed’ (Hickey, 2015) or ‘comes down to nothing more than branding’ (Sewitz, 2015). The idea that widespread acceptance of insects (or other unusual new foods) is largely a question of convincing or educating consumers is reflected in academic research in the area, which exhibits a distinct tendency towards methodological individualism (see House, 2016).

Academic research in the area also suggests that disguising insects in food is likely to encourage consumer acceptance (e.g. Hartmann, Shi, Giusto, & Siegrist, 2015), and that integrating insects into familiar forms of food may be the most suitable way to introduce them to Western markets (e.g. Verbeke, 2015). This, indeed, is the line commonly taken by producers of insect-based foods, which tend to resemble more conventional products such as pasta or protein bars (e.g. Bugsolutely, 2017).

Manufacturers often draw explicit comparisons with sushi, arguing that their familiar-looking products will act as a pathway to wider consumer acceptance of insects as food. For example, Sewitz (2015) explains that his insect-based protein bar company are ‘looking to what we call “the California Roll Effect” as we position cricket protein in the market’. The California Roll is an ‘inside-out’ sushi roll with the seaweed on the inside and including no raw fish, held to be a ‘gateway drug’ introducing sceptical consumers to sushi more generally. Insects, Sewitz (2015) and others suggest, can follow this model.

This paper argues that insects are not, in fact, ‘the new sushi’, and that efforts to encourage acceptance of insects as food through marketing or by integrating insects invisibly into conventional products are unlikely to be successful. Analysis of how sushi became an established food in the United States (US) illustrates necessary conditions for the successful introduction of a novel food to a new location. Subsequent comparative analysis of two current attempts to introduce insects to Western diets indicates that these efforts are, in a number of crucial ways, very different to sushi. As the comparison of insects and sushi is a common fixture of entomophagy discourse, addressing it head-on offers an apt means of framing the analysis at the core of the paper.

In the following analysis, theories of practice (e.g. Schatzki, 2002; Shove, Pantzar, & Watson, 2012) are applied to the study of novel foods and how they become accepted and routinised. Beyond contributing to our understanding of this particular subject, one of the paper’s principal objectives is to demonstrate the appropriateness of practice-theoretic analysis to

this substantive area. Particularly instructive, it is argued, is the ability of such investigation to go beyond abstract ideas of 'willingness to eat' novel foods such as insects (e.g. Gmuer, Guth, Hartmann, & Siegrist, 2016). Instead, such analysis engages with the social and geographic context of food consumption in determining the 'acceptance' of novel foods: the *how, what, when, where* and *why* that affect food consumption outside of the psychology lab.

The paper also seeks to extend key relevant debates within the geographies of food, particularly regarding the mutual implication of production and consumption (or supply and demand) in the positioning of particular foods (e.g. Goodman, 2002; Hollander, 2003). It is argued that theories of practice can make a useful contribution to such debates, and to future research applications within the geographies of food, by offering a productive means of conceptualising the production–consumption nexus that nevertheless remains attentive to the practical realities of eating. Practice-theoretic analysis of novel foods may also have much to offer ongoing debates within geographic scholarship that question the sovereignty of individual consumers in relation to food consumption (e.g. Jackson, 2016). This suggests an opportunity for productive interdisciplinary dialogue with more individually-focused research around the introduction of novel foods.

Theories of practice

Contemporary 'theories of practice' (e.g. Reckwitz, 2002; Schatzki, 2002; Shove et al., 2012) can be understood as a set of broadly related theoretical approaches to the study of society that share certain philosophical and methodological characteristics, most significantly in their location of 'the social' in social practices rather than determined by social structure or inhering in the individual social actor. Thus, to take the example of food, practice-theoretic analysis places analytic emphasis on – *inter alia* – the diverse and intersecting practices of shopping, cooking and eating, rather than individual attitudes or values or on the determining influence of abstract systems. Social life is conceptualised as the aggregate of innumerable interdependent practices, and practices themselves are a central object of analysis (e.g. Reckwitz, 2002).

The version of practice theory drawn upon in the present paper is that developed by Shove et al. (2012). These authors conceive of social practices as being comprised of the interaction of three key elements: materials, competencies and meanings. Materials are 'objects, infrastructures, tools, hardware, and the body itself' (2012, p. 23). Competencies are 'multiple forms of understanding and practical knowledge' including such things as 'practical consciousness, deliberately cultivated skill, or [...] shared understandings of good or appropriate performance in terms of which specific enactments are judged' (2012, p. 23). Meaning is 'the social and symbolic significance of participation at any one moment', a collapsing into a single category of 'mental activities, emotion and motivational knowledge' (2012, p. 23).

Each of these three elements are necessary but not sufficient conditions for the development of a particular social practice: they must all be present for a practice to develop, but can theoretically all be present without a particular practice actually developing. As Shove and Pantzar argue, 'when thinking about how practices evolve, it becomes clear that *relations* between material objects and associated images [meanings] and forms of competence are of defining importance' (2005, p. 45, original emphasis). Thus, for example, if a new food is to be consumed, it is not enough for it simply to arrive in a new place; rather, it must be

integrated within the active reproduction of a practice, which is itself dependent upon the presence of other elements of practice with which it may be integrated.

People do not simply participate in practices but are rather 'carriers' of them (Reckwitz, 2002), who *actively reproduce* them in the process of participation (Shove & Pantzar, 2005). If practices 'travel' to new locations it is not the outcome of direct transferral, but rather a process of reinvention in a new context (Shove & Pantzar, 2005). It is through the constant re-articulation of social practices that changes occur, but such changes are not sudden shifts: rather, they are achieved by gradual metamorphoses in practices as they are reproduced. Changes in practice are thus emergent and path-dependent (Shove et al., 2012). Practices, and the elements of which they are comprised, 'prefigure' possible courses of social action (Schatzki, 2002).

Elements of practices can be shared between different practices, meaning that changes to an element in one practice can have implications for others (Shove et al., 2012). Indeed, practices are always to some extent mutually implicated. Although practices may be discussed separately for heuristic purposes, practice-theoretic research is particularly attentive to the enactment of social life as the outcome of multiple, interdependent practices. The application of this mode of social theorising to the study of food has, accordingly, yielded a number of critical insights into the way diets are established, maintained and change.

Food and social practices

The application of theories of practice to the study of food has indicated how notions of 'consumer choice' may offer a limited understanding of food consumption. Although individual preferences and perceptions no doubt exert some influence on food intake, food consumption always occurs at the intersection of different social practices within the rhythms and routines of people's daily lives. As well as practices directly associated with provisioning and eating, these include practices which in some way have a bearing on food consumption, such as work practices, care practices, travel practices and so on (e.g. Halkier & Jensen, 2011; Warde, 2016). Food consumption events may be situated within (potentially concurrent) 'meta-practices' enacted via a skein of interdependent practices, such as mothering (Molander, 2011), 'critical consumption' (Bellotti & Mora, 2016) and 'ethical' or 'environmental' food consumption (Fonte, 2013).

As Fonte (2013) notes, despite the emphasis in much practice-theoretic food studies scholarship on habit and routine, the theoretical orientation is also particularly apposite for investigating how practices change. Dietary change, whether self-directed or targeted through deliberate interventions, has been shown to involve all elements of a practice, rather than simple attitudinal shifts (e.g. Hargreaves, Longhurst, & Seyfang, 2013; Twine, 2014). However, it is often unclear whether or not deliberate interventions, even when addressing all elements of social practice, have successfully effected long-term change (e.g. Micheelsen, Holm, & O'Doherty Jensen, 2014; Sahakian & Wilhite, 2014).

Research on food using theories of practice has for the most part focused on sustainable, healthy or 'alternative' food consumption. Many of the objects of study, such as alternative food networks (Fonte, 2013; Hargreaves et al., 2013), are in a meaningful sense 'new', as they represent the (attempted) introduction of novel practices of food provisioning and consumption. However, there has been little attention so far within practice-theoretic literature on *novel* foods in particular, which can be understood for present purposes as foods which,

although they may be already established somewhere, are newly introduced to a particular context. Possible exceptions include House (2016) and Micheelsen et al. (2014): however, House's (2016) broadly practice-framed study did not make an explicit engagement with practice theory, and Micheelsen et al. (2014) focused on an experimental dietary intervention, rather than investigating novel foods within the context of mundane food acquisition practices. The present paper extends practice-theoretic analysis to two examples of novel foods, to elucidate how such foods may or may not become 'accepted' and routinely consumed.

Methodology

The sushi section of this paper is based on an extensive literature review and research conducted using an online newspaper archive (reported fully in House, 2018). The insect section of this paper is based on semi-structured interviews conducted with six individuals involved in some way with the development of an edible insect sector in the Netherlands. The Netherlands has a reasonable claim to be the European 'hub' of recent research associated with the human consumption of insects (e.g. van Huis et al., 2013). It is also the centre of production for European food insects, with a number of specialised breeders producing food-grade insects which are used in products both in the Benelux region and further throughout Europe (e.g. Kreca Ento-Food, 2017c). The individuals interviewed were involved with science, insect breeding, retail, food manufacture and supermarket category management. Also drawn upon in this section are semi-structured interviews with 40 consumers of a range of insect-based convenience foods in the Netherlands (House, 2016). The research project under which all interviews were conducted was granted ethical approval from the author's university. Participants provided informed consent and all interviews were recorded and transcribed.

Analysis of interviews followed the 'general inductive model' of qualitative research (e.g. Thomas, 2006). Interview material was coded inductively and thematically using NVivo 11 software, both in relation to the theoretical orientation of the research (focusing on practices) and internally (identifying emergent themes relevant to consumption of insect-based foods) (Strauss, 2003). Categories were subsumed within superordinate categories where relevant (Thomas, 2006). Although the analytic focus on practices was an explicit part of the research design – contra orthodox individualistic approaches (see House, 2016) – no a priori assumptions were made regarding either the substantive content or theoretical 'fit' of the data.

Insects are not 'the new sushi'

The central argument of this paper is that insects are not 'the new sushi'. The argument has two main components. Firstly, the paper examines the establishment of sushi in the US in the 1960s. The success of sushi at this point is argued to be because (a) there were pre-existing sushi practices that could be drawn upon and (b) because the requisite constituent elements for each practice (materials, competencies and meanings) were available in the US at that time. In general terms, sushi is defined as a component of Japanese cuisine (see House, 2018). For present purposes sushi is further conceptualised as a 'bundle' of associated practices, pertaining broadly to either its consumption or production (cf. Shove et al., 2012).

This practice-based definition focuses specifically on the sushi bar format, which played a key role in sushi's US establishment. (However, the definition may be extended to other

culinary forms). Conceptualising sushi in this way helps to address the potential analytic difficulty posed by the occasional conflation of 'raw fish' with 'sushi' in popular discourse. From a practice-based perspective, both the US acceptance of sushi (part of a cuisine) and of raw fish (a type of ingredient typically used in that part of a cuisine) can be understood in the same terms: as the re-enactment of a bundle of practices, involving particular food-stuffs, in a new location. Through their coherent location within relevant practices, formerly unusual ingredients are made intelligible.

The second part of the analysis examines recent attempts to introduce insects as food in the Netherlands. This section examines both the introduction of insect-based convenience foods and of whole, freeze-dried insects. It is argued that the low levels of consumption of both varieties can be understood via a comparison with sushi in practice-theoretic terms. Insect-based foods currently available in the Netherlands do not have clear a place within cuisines that could be re-enacted in a new location; rather, attempts have been made to integrate them into existing, non-insect-based food practices. In this way, they fundamentally differ from sushi, whose 'new' ingredients – in particular, raw fish – had a distinct place within an appropriate, pre-established bundle of practices. Consequently, efforts to integrate insects into existing practices have encountered significant difficulties.

Sushi

Sushi is a component of Japanese cuisine, typically involving rice, soy sauce, fish or seafood and nori (seaweed). Sushi's currently popular global form derives from the Tokyo version that became relatively standardised in metropolitan Japanese sushi bars in the mid-twentieth century (Issenberg, 2007). A key point in sushi's global development was its adoption by Americans in the 1950s and 1960s. From around 1959 sushi began to be sold in Japanese restaurants targeted at American customers; this was followed in around 1963 by the introduction of sushi bars in Japanese restaurants in New York and Los Angeles, targeted at both Japanese and American customers (House, 2018).

It was through the sushi bar format that sushi first appears to have become relatively widely popularised among a subset of American diners (House, 2018). As such the 'practices of sushi' associated with the introduction of US sushi bars in the mid-1960s are the analytic focus here. Although sushi bars were evidently a phenomenon on both US coasts, the illustrative analysis below draws on a case study of Los Angeles (House, 2018). I examine sushi production and consumption practices in turn, following a brief outline of what eating at a sushi bar involves.

Eating at a sushi bar

Although a post-Second World War creation, the metropolitan Japanese sushi bar appears to have been the model for the US versions which were established during the 1960s (Corson, 2008; Issenberg, 2007). A sushi bar is a countertop with relatively few high stools (typically between around six and ten) at which customers sit. They watch the chef prepare dishes, have a degree of conversation and rapport with the chef which is relatively unusual compared to prevailing forms of Euro-American dining, and eat a succession of small dishes. The dishes are prepared to fairly exacting standards and generally involve similar ingredients (such as particular fish species, rice, nori and soy sauce). They are prepared in a number of

typical ways, which all tend to be framed in terms of both their aesthetic and gustatory qualities. It is possible for diners to order specific dishes; however, the *omakase* mode of dining, in which diners are simply presented with a succession of dishes chosen by the chef, is also popular.

Production and supply practices

In order for sushi to be 'accepted' by Americans in Los Angeles, it was necessary that sushi was *there*, in the first place, for diners to be able to accept. This entailed the routine enactment of sushi production practices, themselves dependent on the presence of appropriate materials, competencies and meanings.

Early US sushi bars tended to be situated within larger Japanese restaurants, many of which were long-established and relatively successful (such as Los Angeles' Kawafuku, a popular Japanese restaurant that could seat some hundreds of people). Such restaurants provided a stable site in which sushi bars could be trialled, without the risk of poor custom jeopardising the parent business. The necessary materials for the production of sushi were available through existing food supply infrastructure and an established Japanese food supplier in Los Angeles. Issenberg (2007, p. 88) suggests that this company could provide everything a Japanese restaurant could possibly have needed, excepting premises and staff.

Practitioners with the requisite competencies were also required. To this end, the early sushi bars were staffed by experienced Japanese chefs, many of whom migrated to the US specifically for the purpose. These individuals 'carried' the practices of sushi production with them; the presence of the requisite materials enabled the re-enactment of those practices. Clearly, prominent meanings regarding suitable production practices were in operation: a number of sources refer to US-based sushi chefs' glowing credentials, such as their previous employment for Japanese heads of state (e.g. United Press International, 1964).

Consumption practices

The practice of eating at a sushi bar in the US in the mid-1960s was clearly popular with Japanese Americans and Japanese business visitors to the country (Al-Jamie, 2013; Claiborne, 1967), as indeed still appears to have been the case into the 1970s (Rossman, 1972). Populations of experienced practitioners, in the shape of Japanese managerial expatriates, are suggested to have recruited American neophytes to the practice by introducing their US business colleagues to sushi bars (Al-Jamie, 2013). Contact with existing practitioners is a key way in which people become recruited to practices (Sahakian & Wilhite, 2014). Thus, both the requisite materials (sushi bars) and competencies ('carried' and demonstrated by experienced practitioners) were accessible to Americans. Further, a number of social and discursive factors provided the meanings necessary for the enactment of sushi consumption practices among white Americans.

A significant point is that the discursive context during the 1950s and 1960s was highly conducive to the acceptance of sushi. Japan was popular as a location for Hollywood films, Japanese food was reportedly popular in domestic cooking – with one contemporary commentator noting that 'Oriental foods are now served in American households almost as much as the great favorite, Italian pasta of some kind' (Vanderbilt, 1965, p. 5) – and Japan was positioned as an exotic and desirable tourist location. As part of the latter positioning,

Japanese cuisine was, in general, highly positively framed. There are also suggestions that 'raw fish' – or at least, fish not 'cooked' in the prevailing contemporary sense of the word – was beginning to be positioned as increasingly acceptable, an example being ceviche. The 1960s also marked the beginning of a phase of modernity in which dining out, as with other forms of consumption, began to become part of the construction of individual lifestyles (e.g. Featherstone & Tamari, 2006).

Taken together, these social and discursive factors hint at a context in which the enactment of sushi consumption practices was both feasible and (at least for some sections of the US population) increasingly likely, not least due to the affordances for social distinction represented by a demonstrable familiarity with Japanese cuisine (e.g. Claiborne, 1966).¹ Shove et al. (2012, p. 75) suggest that 'mass defection [from a practice] is possible, and perhaps even likely, where practices are not consistently internally rewarding, not laden with symbolic significance and not enmeshed in wider networks'. I would suggest that these principles may be operative, in an inverse fashion, with encouraging recruitment to a practice.

Indeed, it appears that sushi in the 1960s US met all of these criteria. The novel and relatively singular experience of eating sushi at a sushi bar, and its sensory and performative elements, have routinely been praised since the US establishment of that 'new dine out experience' (Johnson, 1963). 'A great part of the pleasure' in eating at a sushi bar, Dwan (1974, p. 4) observed, 'is in watching the clever-fingered chefs as they shape the beautifully precise rolls of vinegared rice and raw fish'. The practice appears to have been laden with symbolic significance, then as now, along the lines of exoticism and authenticity. It was also a socially distinguishing activity to participate in, and was popular with both metropolitan elites and the rich and famous (e.g. Claiborne, 1966; Issenberg, 2007). As Claiborne (1966, p. 11) drily observed of the mid-1960s trend for Japanese dining in New York, 'Americans for whom "chopsticks" was once a childish piano exercise [...] dine on the raw fish dishes, sushi and sashimi, with a gusto once reserved for corn flakes'. Associated with dining out, sushi was likely to have been a part of other related (meta-)practices, such as business dining or the enactment of culinary adventurousness (Al-Jamie, 2013; House, 2018).

Summary

Sushi was able to become established in the US for a number of reasons, but two in particular are the most germane to the present analysis. Firstly, practices of sushi (on both the production and consumption side) already existed. Secondly, the materials, competencies and meanings necessary for the successful re-enactment of these practices were present.

The sushi consumption practices of visiting Japanese managerial workers and their white American counterparts may well have differed fundamentally in the meanings that partially constituted them. For the former, such practices may have been a 'taste of home'; for the latter, they may have represented a means of enacting social distinction. Nevertheless, the materials and competencies were essentially shared, and the meanings, however diverse, were evidently equally propitious to the enactment of the practices. Sushi consumption practices were situated within a broader mesh of interdependent practices, such as those associated with dining out.

The practice-based account of sushi points at why it was able to 'travel' to – which is to say, become reinvented in (cf. Shove & Pantzar, 2005) – a new location. Constituent practices

were 'carried' to a new location (cf. Reckwitz, 2002), and the constituent elements of these practices, in turn, were available to practitioners both old and new. The practice-based approach also indicates why an unusual ingredient – raw fish – was accepted by a population who had previously not consumed it. It was not simply presented, out of context, in a new location, but rather made intelligible through the framework of practices in which it was situated. Edibility of foods, in this account, is an achievement of practice, not a straightforward psychological repositioning of particular foods within an otherwise unchanged social landscape.

Here it is necessary to briefly discuss the California Roll. As noted in the Introduction, a number of 'ento-preneurs' consider the California Roll to be the key to Western acceptance of sushi by offering US diners 'a stepping stone to eating raw fish' (Clegg, 2015, p. 12). However, the dish is not mentioned in print prior to 1979, by which time sushi had been eaten by Americans for twenty years (see House, 2018). Ascribing widespread public acceptance of sushi to a single dish is likely to be an oversimplification. Practice-based analysis suggests that individual dishes may matter less to the acceptance of new foods than the establishment and repetition of a set of interdependent food practices that contain them, as part of which an array of new ingredients is made sense of. It is not that single dishes can 'change the minds' of consumers, but rather that consumers evidently can become gradually recruited to new food consumption practices of which new foods are a fundamental part. Thus, as I suggest in the following section, new insect-based foods which do not have a coherent place within a broader mesh of situating practices are unlikely to become routinely consumed.

Insects

Insects have been eaten all over the world for millennia. Some 2111 edible species have been recorded, which are evidently consumed in a wide range of different ways (Jongema, 2017). It is thus rather difficult to identify a 'practice of eating insects', because 'insects' are not all the same and the same species may be eaten in a number of different ways (e.g. Evans et al., 2015).

Greater specificity is afforded by the availability of only four insect species for human consumption in the Netherlands, the country of focus due to its centrality in current Western efforts to encourage entomophagy. These four species – henceforth, the 'Big Four' – are the buffalo worm, mealworm, cricket and grasshopper. The first two species are not actually 'worms' but are the larvae of two species of darkling beetle. The 'grasshopper' is in fact the migratory locust, a species within the taxonomic family of grasshoppers which thus enjoys a more positive-sounding alternative nomenclature.

The Big Four are now the 'industry standard' food insects in Europe. Their selection as food species was the result of a number of technical, practical and arbitrary decisions following the inception of a pioneering Dutch insect breeders' association in around 2007, as well as a number of other external factors, such as legislation, that have affected the development of the Dutch insect sector. An important point concerning these species is that they were initially produced as feed for exotic pets and zoo animals, and thus their production for human food simply represents a reassigning of their intended destination. Production practices for human food draw heavily upon those extant for the animal feed market, along with their attendant technology and expertise. Although more stringent safety criteria (such

as HACCP testing) have to be met for human food applications, with implications for production practices, such practices are otherwise similar to those used for the production of insects for animal feed.

Already a clear difference with sushi is evident. The fish species used in sushi, as well as the other ingredients, have been integrated into developing practices of sushi over time (e.g. Corson, 2008; Issenberg, 2007; Sand, 2015). The Big Four, by contrast, are the product of a set of animal feed production practices, which are associated with a related set of animal feeding practices. There is in general relatively little connection between these species and human food practices. The buffalo worm appears to have no recorded use as human food, and available data on human mealworm consumption do not indicate how the species is eaten (relevant research is documented in Jongema, 2017). The Dutch-bred cricket and grasshopper, although of species that are eaten more widely, have some crucial differences with existing eating practices. These are explained further below. At this juncture, it will suffice to note that whereas the practices of sushi involve a range of foodstuffs (materials) that have been integrated within the practices as they have been developed, the practices of (the Big Four) insects do not exist: rather, efforts have been made to integrate the material used in practices of animal feeding into existing European human food practices, which initially developed with different materials. This, as I will show, is problematic.

The following two sections each address a different aspect of current European efforts to encourage the consumption of insects. The first, insect-based convenience foods, involves integrating insects invisibly into one specific form of familiar foods, and thus its attendant practices. The second, whole freeze-dried insects, involves integrating insects into established eating practices more broadly.

Insects and social practice 1: insect-based convenience foods

As noted above, a prominent theme in Western commercial efforts to create insect-based food is the idea that insects should be invisibly incorporated into familiar foods. This approach, reflected in some academic work on the subject (e.g. Verbeke, 2015), is argued to mitigate against the ‘yuck factor’. It also appears to be aimed at easing the integration of insect-based foods into existing diets, as it does not appear to require sharp readjustments of eating practices. To this end, insects have been invisibly incorporated into foods such as pasta, bolognese sauces, cookies and potato chips (e.g. Bugsolutely, 2017).²

A prominent European insect-based food of the ‘invisible’ variety was the Insecta range of convenience foods, produced by the Belgian functional food company Damhert Nutrition. This range, which at the time of research included burgers, nuggets and schnitzel, was in many ways comparable to vegetarian convenience foods. They were made of similar ingredients, looked and tasted similar, and were cooked in a similar way. Their main distinguishing characteristic was the 14% ground-up buffalo worms or mealworms incorporated into the products.³

In the example of sushi discussed above, the unusual ingredient – raw fish – is a prominent and integral part of relevant dishes, which are themselves part of a bundle of production and consumption practices that constitute ‘doing’ a cuisine. With Insecta, the unusual ingredient – beetle larvae – was invisibly incorporated into food products that were part of a number of distinct but related bundles of provisioning and consumption practices, but which were developed without reference to insects. As such it was a form of somewhat

clandestine integration into pre-existing practices, rather than prominent positioning within insect-specific ones. The practices that Insecta products fitted into were, broadly conceived, the practices of eating 'meat replacers'.

Meat replacers

'Meat replacers' (*vleesvervangers*) are meat-free products designed to be consumed in the place where meat would typically be used in a meal. The paradigmatic example of such foods is perhaps the 'veggie burger', but other examples of this now rather substantial range of products includes plant-based versions of sausages, meatballs and chicken pieces, as well as items such as cheese 'schnitzel'.

In practice-theoretic terms, these products are designed to be easily accommodated within established eating practices by drawing on existing culinary competencies (what kind of meals people know how to make) and materials (the other constituent parts of such meals, such as vegetables and carbohydrates, as well as existing kitchen equipment). They are also intended to fit into the fabric of existing food provisioning practices, for example by being available for purchase in the same supermarket where other food shopping normally takes place. However, the meanings associated with eating meat replacers (for example, enacting a sustainable diet or care towards animals) are crucially different to those associated with the consumption of meat (for example, enacting masculinity or 'traditional' food consumption).

Insecta products were positioned as a meat replacer within production and supply practices, as well as those associated with consumption.

Production and supply of Insecta

During product development, Damhert reportedly reached an internal decision to integrate insects into familiar foods, rather than trying to imitate existing insect-based dishes from elsewhere. People seeking to reduce but not completely cease meat consumption ('flexitarians') were selected as the target market. The form of Insecta was affected by the difficulties faced in finding a willing production partner for the products: ultimately, a company was identified, whose prior involvement in the production of vegetarian convenience foods (including existing expertise, equipment and an ingredient supply network) all shaped the products.⁴

In the Netherlands, Insecta products were stocked in all (~550) branches of Jumbo, a Dutch national supermarket chain, during 2015 (the number has since been substantially reduced). Insecta products were typically stocked in the same aisle as meat replacer products (or other comparable foods, such as tofu, tempeh and falafel). While acknowledging the decision to stock insect products in what is effectively a vegetarian section was 'polarizing', the relevant party at Jumbo reported that it seemed more coherent to stock Insecta with other 'protein alternatives' than in the chicken, pork or beef sections. Market research conducted for the supermarket, which suggested that vegetarians and flexitarians may be relatively favourably disposed to the products, was reportedly also a consideration.

As a result of their production and retail practices, Insecta were 'scripted' as a meat replacer (Akrich, 1992). 'Scripting' is not equivalent to marketing: rather, it denotes the way in which objects may – either by accident or design – 'configure the user in specific and practical ways' (Ingram, Shove, & Watson, 2007, p. 8). Although alternative culinary applications for Insecta were not absolutely precluded, the products' inscription appears to have strongly shaped

the range of practices – the ‘framework of action’ (Akrich, 1992, p. 208) – into which they might be integrated (cf. Schatzki, 2002, pp. 44–47), as it was as a meat replacer that the products were typically positioned in both food provisioning and consumption practices.

Consumption practices

Insecta’s flexitarian target market was reflected in the dietary inclinations of participants. Although around a third self-defined as vegetarian, many of this subgroup ate some form of animal protein – typically fish – as well (see House, 2016). All participants ate meat replacers at least occasionally, with most eating them regularly. Participants’ practices of eating meat replacers were remarkably coherent. For the most part, they were consumed in a distinct place in a similar range of meal types (such as the traditional Dutch ‘potato-meat-vegetable’ meal format) where in a general sense meat may conventionally have been used.

Insecta products had often been selected from a range of meat replacers during routine shopping trips. Typically they were eaten as a direct alternative to other meat replacer products, and were generally prepared in the same way. Existing culinary competencies (e.g. regarding meat-based meals) and familiar materials (e.g. vegetables, carbohydrates and cooking equipment) were drawn upon, as they would be during the preparation of conventional meat replacers. Other than the novelty or variety Insecta were considered to offer, the meanings around their consumption were largely congruent with those associated with conventional meat replacers: for example, the enactment of ‘ethical’ diets, framed in terms of sustainability or animal welfare.

However, most people did not eat the products more than once. Some participants reported that they simply did not eat burger-type meat replacers very often, and thus saw little opportunity to eat Insecta despite otherwise being willing (the burger version being generally the only one of the range available). Although for many the format was appropriate, for most of these participants a number of significant problems with Insecta reportedly remained: they were too expensive, their availability was low and/or intermittent, and they did not taste good enough.

Thus, the example of Insecta suggests that if a new or unusual ingredient is integrated, invisibly, into a familiar and heavily ‘scripted’ form of food, it will tend to be used in practices associated with that form of food. Once this happens, the new food becomes one among many possible selections from an array of feasible alternatives. Consequently, without a significant reason to select the new food for use in food consumption practices rather than an alternative, it will not be used. Rationalised considerations such as the sustainability of a given food tend to be subordinate to those such as price and taste (e.g. Hoek, Pearson, James, Lawrence, & Friel, 2017; House, 2016). If a sustainable food or drink option is to be selected from an array of alternatives, there are indications that it must be highly comparable in all other respects (e.g. Hoek et al., 2017; Spaargaren, van Koppen, Janssen, Hendriksen, & Kolfshoten, 2013).

Practices of food provisioning are also an important consideration here. Participants’ food shopping was frequently interdependent with other practices, such as those associated with childcare, education or leisure. Accordingly, food provisioning was often fragmented across a range of locations. Positioned as a meat replacer, Insecta became just one potential material in one potential shopping location, with little criteria to warrant a specific rearrangement of practices in order to acquire it. One participant, for example, said that she might buy Insecta again if at the nearest Jumbo, but that this depended on her already being on the

way to visit a particular relative by car, which was a relatively infrequent occurrence. Her purchasing of meat replacers otherwise occurred as part of routine shopping in more proximate stores. In cases where participants did usually shop at a single Jumbo, the intermittent availability of *Insecta*, or the availability of only one type, had a similarly negative effect on its positioning as a feasible alternative meat replacer.

Summary

Unlike the example of raw fish and sushi, the attempted introduction of beetle larvae to Dutch diets via convenience foods did not draw on the practices of an established cuisine in which insects are an integral part. Rather, the products were intended to fit within the materials, competencies and meanings of existing practices in which meat replacers were eaten.

The attempt to smoothly integrate a new ingredient within the armature of existing, non-insect-based eating practices led to its positioning in a product range that was only one among a substantial array of feasible alternatives. The criteria by which particular materials were selected from this array frequently could not be met, and the new product was not eaten.

The bundle of practices that constitutes sushi positions an array of foods, including raw fish, as edible. Furthermore, those ingredients are a prominent and distinctive part of sushi. The integration of insects into a meat replacer product removes the singularity and distinctiveness of the insect ingredient, which appears to play a part in rendering their selection as food unlikely. However, distinctiveness is not by itself a sufficient condition for the routine consumption of new foods, as the example of whole insects demonstrates.

Insects and social practice 2: whole insects

Efforts to introduce insects to Dutch diets have not only been confined to insects' use as an invisible ingredient in familiar food types: a number of companies in the Netherlands also market whole insects for consumption as a snack or for use in cooking. Among my participants, a handful reported having experimented with cooking the whole insects that are available. Their accounts suggest that the practice-based mode of analysis advanced above can also explain why uptake of these products remains low.

Production and supply of whole insects

In the Netherlands, the Big Four are freeze-dried and sold whole in portions of between 20–50 g. They are expensive relative to other protein sources: for example, from one supplier a 50 g bag of buffalo worms costs €5,79 and a 20 g bag of grasshoppers costs €10,59 (Kreca Ento-Food, 2017a, 2017b). Sale is either direct to consumers online, at events such as food fairs, or via physical stores. Stores include small delis and specialist food shops, as well as some branches of larger supermarkets where regional managers or franchise owners have a degree of influence over the foods stocked. It is unclear exactly how such sales are split, although one insect producer told me that their insects were sold roughly half online and half in physical stores. Whole insects in general are difficult to find: they appear to be unavailable in most cities in the Netherlands, and when they are available it is typically only at one retailer in a given town or city.

Consumption practices

Although the buffalo worm and mealworm lack a clear position within relevant food practices, the species of cricket (*Acheta domesticus*) and grasshopper (*Locusta migratoria*) bred in the Netherlands are both eaten in various non-European places. For example, the cricket is a popular food in certain regions of Thailand (e.g. Halloran, Roos, Flore, & Hanboonsong, 2016) and the grasshopper is consumed in a number of African countries (e.g. Anankware, Osekre, Obeng-Ofori, & Khamala, 2016). Expanding focus slightly to accommodate comparable species yields another range of relevant practices, such as the consumption of *chapulines* – grasshoppers – in Mexico. These insects are from the same taxonomic family (*Acrididae*) as the Dutch variety, and are eaten primarily as a snack, but also as a condiment or ingredient in larger meals (e.g. Cohen, Sánchez, & Montiel-Ishino, 2009).

Despite the potential existence of relevant consumption practices for some Big Four species, there are crucial differences between the Netherlands and elsewhere. One pertains to the material properties of Dutch food insects, which are freeze-dried. This appears to be something of a global novelty, and has implications for their use in preparation and eating practices (i.e. there appear to be no comparable established insect consumption practices from elsewhere involving freeze-dried insects). Another key difference concerns the practices by which Dutch food insects are supplied and purchased. As noted above, this involves their acquisition from online stores, a handful of specialist retailers or events such as food fairs. These are evidently not typical sites of mundane food consumption, in contrast with non-European examples of the sale of whole insects for food (e.g. Halloran et al., 2016).

It could potentially be argued that Dutch-bred grasshoppers may be used in broadly equivalent food practices to those already existing elsewhere, such as those involving the consumption of *chapulines* in Mexico. However, in Europe, there appears to be little connection with such ‘traditional’ or ‘authentic’ insect consumption practices, either in popular discourse or among my participants’ accounts.⁵ This relates, I would argue, to the absence of these practices in Europe more generally. Such absence is not simply a lack of public awareness of relevant practices. Rather, it is an absence of both the constitutive elements of these practices (materials, competencies and meanings) and of a population of practitioners who routinely integrate these elements through the performance of practices. In a similar vein to the example of *Insecta*, the general approach to the consumption of whole insects in the Netherlands – that is, of producers, advocates and potential consumers – is one in which they are integrated into existing European culinary practices.

Integrating insects into existing food practices

In order to ease the integration of insects into Western diets, advocates and companies have produced recipe collections on the subject (e.g. van Huis, van Gurp, & Dicke, 2014) and published online recipes (e.g. Duurzaam Insecten Eten, 2017). Based largely on familiar forms of food, these recipe books are aimed at helping people to integrate a new material into their diets by drawing on existing competencies and appealing to the meanings of sustainability and healthiness prominent in pro-insect discourse.

Only one of my participants had attempted to make an insect dish (a mealworm curry) using a recipe she found online. This was unsuccessful, because she felt that the material properties of the insects (particularly their small size) made them unsuitable for use in a meal format that usually involved larger pieces of meat or vegetables. The same participant

regarded the small, crunchy insects as more closely resembling a snack food, and so had finished the remaining mealworms as a snack in front of the television.

Another self-confessedly 'foodie' couple I spoke with, who spent upwards of an hour each day cooking their evening meal, had bought a pot of buffalo worms several months previously but had not attempted to cook with them. They, too, thought that materially the worms seemed rather snack-like, and reported that they had neither the ability nor inclination to integrate them into a meal, despite being both interested in the idea of entomophagy and frequently engaged in cooking meals 'from scratch'.

A different participant had obtained some buffalo worms at a food fair. She occasionally ate these on top of toast with brie and honey due to her assessment that they seemed closest to nuts in terms of taste and texture. Other than this, she reported not really knowing what to do with them.

Summary

It is not enough for a new food to simply 'appear' in a new location (particularly if it is expensive and difficult to find). Rather, it must be part of a *practice* if it is to be eaten beyond occasional experimental consumption, and the other relevant components of that practice must be present. As Shove et al. (2012) note, 'competence, material and meanings are often so closely related that if one element should travel [to a new context] alone [...] it is likely to remain dormant until joined by others capable of bringing it into the frame of a living practice'. Clearly the publication of insect recipes is alone insufficient to develop competencies necessary for the establishment of new insect-eating practices in the Netherlands.⁶

The above examples indicate some attempts to integrate insects into existing culinary practices, which face similar difficulties as the inclusion of insects in meat replacer products. That is, the practices of making a curry, snacking or eating brie on toast could all equally be conducted with tofu, potato chips or nuts, respectively. In these examples, insects are again positioned among an array of feasible alternatives: but why, if insects are of questionable suitability, more expensive and much more difficult to acquire, would they be selected? Again it is worth emphasising that food consumption does not occur in a vacuum, but is rather situated within a skein of interdependent provisioning practices. Thus, if insects are to represent a feasible alternative material for the practices of making curry or snacking, then they must at least be obtainable within the shopping practices (and other interdependent practices) associated with provisioning for those modes of consumption.

To a significant degree the form of a food shapes its consumption. With the example of *Insecta*, the strength of its 'scripting' as a meat replacer was evidently somewhat problematic; with the whole insects, their *lack* of 'script' is equally problematic. These insects appear to be situated *outside* of relevant food practices, in contrast with routinely consumed foods. As both examples of insect-based food suggest, integration of insects into existing culinary practices, developed independently of their insect ingredients, is manifestly rather difficult.

Discussion

The analysis of sushi indicated that for new foods to become integrated into diets in a new location, a bundle of relevant practices is necessary, as is the presence of the requisite

materials, competencies and meanings. Situated within a framework of relevant practices, new foods become culturally intelligible. The existence of practices in which new foods are an integral part, rather than an optional extra, is important. Further, a 'gatekeeper' population, already acquainted with and engaging in the relevant food practices, is evidently a significant help.

The examples discussed above indicate that a lack of insect-specific consumption practices leads to the attempted integration of insects into other practices, developed without reference to them. This is evidently rather unsuccessful. Integration of novel ingredients into existing practices leads to the positioning of new foods as one among an array of feasible alternatives. So positioned, the new foods become subject to selection criteria (e.g. price, taste, availability) which they appear largely unable to meet.

Of course, when sushi first 'arrived' in the US, it too had to be selected from an array of feasible alternatives as part of practices of dining out. (Sushi was, for many years, mostly unavailable in contexts other than Japanese restaurants). Why have sushi when you could have steak? Here, I repeat my argument that the practice of eating sushi was internally rewarding, laden with symbolic significance and enmeshed in wider networks (cf. Shove et al., 2012, p. 75). Thus, from among the array of feasible alternatives that were the other restaurants in Los Angeles or New York during the 1960s, there were several positive reasons to select a sushi bar above other possible locations for the enactment of the practices of dining out.

If insects were to be the new sushi, a range of criteria would need to be met. A nominally 'authentic' cuisine would need to be identified which made significant use of insects. Those insects would need to be available in a new location, as would a population of practitioners versed in the creation and consumption of the insect-based cuisine. Sites of production and consumption would need to be established, which would require a stable customer base in order to ensure their survival; based on the example of sushi, it appears these may need to be of a novel, singular variety, as the sushi bar was in the US during the 1960s. The insect-based cuisine itself would also probably need to be singular and distinctive; it could not just be an existing cuisine with insects invisibly added, but would rather need to foreground its insect component.

It would seem that Mexican cuisine might offer a way to encourage entomophagy in this fashion, at least for such efforts in the US. In the context of the huge US popularity of Mexican food, enterprising US-based restaurateurs have now begun to sell notionally 'authentic' tacos with *chapulines* (e.g. Carman, 2016). This approach draws explicitly on the established insect consumption practices of Oaxacan cuisine (e.g. Cohen et al., 2009). However, I would suggest that there are nevertheless some potential problems with this approach.

One such difficulty is that Mexican cuisine has become popularised in the US without reference to insects; thus, the use of *chapulines* in Mexican dishes, while arguably an 'authentic' manoeuvre, may well encounter the problems associated with integrating new ingredients into established cuisines discussed above. Another is that Mexican food 'continues to be regarded as a thoroughly vernacular cuisine' (Martínez-Cruz, 2016, p. 247), and thus, perhaps due to the endurance of 'the contamination effect of low class association' (Ray, 2017, p. 44), has not become consecrated as a form of haute cuisine to the extent that sushi has in America. It seems possible to suggest that high status association may be important in the repositioning of foods that are widely considered to be inedible, although this would require verification. Beyond sushi, another example might be the framing of viscera as part

of eating 'nose to tail' in fashionable metropolitan restaurants in the UK (e.g. Rayner, 2007), rather than as a something associated with the industrial working classes (e.g. Houlihan, 2003).

The above analysis has problematised the notion of a 'gateway dish' that is evident in some accounts of insect-based food products. There is a lack of evidence that sushi was popularised through a gateway dish, and it seems unlikely that insects will be either. Attention to the social practices of eating suggests that if new foods are to be successful they must be integrated into established eating practices, rather than simply judged, in an abstract sense, as 'acceptable'.

This paper has sketched two distinctive practice-based modes by which novel foods may be introduced. First is what might be termed the 'full spectrum' mode, in which a cuisine (conceived of as a bundle of practices), and its attendant array of new ingredients, is re-enacted in a new location. Second is the 'single ingredient' approach, in which a new food is incorporated into existing food practices by drawing heavily on extant elements of comparable or proximate practices, and in which the new food's successful integration depends on its positioning as a superior material in relation to feasible alternatives. Further research could profitably attend to other examples of novel foods in order to establish, for example, the extent to which the single ingredient mode of introduction is ever actually effective. Although constraints of space preclude exploration of this topic here, I would suggest that foods such as sugar and tea are examples of individual foodstuffs whose initial uses as novel foods in the West appear to have been based upon pre-existing practices from regions in which they were already established (Ellis, Coulton, & Mauger, 2015; Mintz, 1985).

While established social theory and work within the 'new cultural geographies of food' (Freidberg, 2003) offer valuable analytic insight into processes relating to recent and emerging food innovations, such foods bring new conceptual and methodological challenges (e.g. Sexton, *forthcoming*), and their analysis may stand to benefit from fresh theoretical perspectives. Theories of practice have been fruitfully applied to food consumption in broad terms (e.g. Warde, 2016) as well as the more specific question of dietary change (e.g. Hargreaves et al., 2013). I would argue that the cultural geographies of *new* food – an area which, in the light of current efforts to encourage sustainable food alternatives, appears to be of ever-increasing relevance – stand to benefit from the application of a practice-theoretic 'lens' to their field of study. Such an approach furnishes a conceptual account of eating which can account for food's place at the intersection of production and consumption while also attending to the practical reality of food consumption: points which are of perennial salience to the geographical study of food, 'speak' to established debates in the field (e.g. Goodman, 2002), and may offer a fruitful theoretical basis for future research.

Particularly relevant is the practice-theoretic emphasis on the routinisation of food consumption, which is a significant question both for conceptual accounts of the establishment of dietary practices and the substantive area of more sustainable foodways. Within recent cross-disciplinary research investigating the potential of Western insect consumption, these points have hitherto remained largely unacknowledged. Practice-theoretic research into emerging food innovations thus also appears to offer an avenue of productive dialogue with other disciplinary traditions into the complex matter of how new, more sustainable ways of eating may be achieved. In light of the purported benefits of insects and other 'alternative proteins' vis-à-vis the objective of sustainable public nutrition, such a research agenda is likely to be of enduring importance.

Notes

1. Here it is worth emphasising that – while important – sushi’s increasingly positive discursive framing did not, in itself, lead to the food’s widespread popularity. The practice-based account advanced here conceptualises discursive framings as only one relevant aspect of changing public diets and tastes. For diets to change – and new foods to be ‘accepted’ – the necessary competencies, materials and other meanings that constitute relevant practices must also be present, and must be dynamically integrated in performances of those practices (cf. Shove & Pantzar, 2005).
2. Also currently available are insect-based protein bars, protein powder (i.e. ground-up insects), and other derivative products such as protein drinks. I would suspect, as with the insect-based products listed at the site of this note, that the central arguments of this paper probably apply to such foods as well. However, more research would be necessary to verify whether this is the case.
3. At the time of writing, only the Insecta burger was still in production. High-quality photographs of the product are available at <https://web.archive.org/web/20171111153739/http://glowofbeauty.nl/insectenburger/>.
4. It would be useful to know whether other product forms were under consideration during the design stage, and if the constraints of a low number of willing production partners dictated that vegetarian-style convenience foods were the only possible option. Regrettably this information is not currently available.
5. The idea of ‘authenticity’ in relation to food (as elsewhere) is inherently complicated and problematic (e.g. Jackson, 2013). A food’s authenticity may best be conceived as being achieved relationally and through particular strategies, rather than signifying a ‘truly’ originary dish or cuisine of some sort. Nevertheless, appeals to authenticity are commonly invoked in the positioning of ‘ethnic’ foods in the West, a strategy which – while acknowledging the potential problems associated with cultural appropriation – is arguably a logically coherent approach to the positioning of insects as food.
6. Here it is important to note that even the materials (insects) for the practice have not really ‘travelled’, as they are fundamentally different (i.e. freeze-dried) than their counterparts in insect consumption practices in other locations. This point provides a further indication as to why, from a practice-theoretic perspective, insect consumption has not become popular in the Netherlands.

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ORCID

Jonas House  <http://orcid.org/0000-0002-6003-8276>

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