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Edible Speculations: Designing Everyday Oracles for Food Futures

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First Author:	Markéta Dolejšová
Corresponding Author:	Marketa Dolejsova Aalto University Espoo, FINLAND
Corresponding Author Secondary Information:	
Corresponding Author E-Mail:	marketa.dolejsova@aalto.fi
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Edible Speculations: Designing Everyday Oracles for Food Futures

Markéta Dolejšová¹

¹ Charles University, Prague, Czech Republic; Aalto University, Espoo, Finland

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Digital food technologies carry promise for better food futures but they are often problematic in their impact on food cultures. While proponents suggest that food-tech products such as smart kitchenware or diet personalization services can support efficient food practices, critics highlight various risks. This paper presents our findings from Edible Speculations, a long-term design research project exploring the contested space of food-tech innovation through a series of speculative design (SD) events situated in everyday public contexts. We illustrate the opportunities and limits of eventful SD in supporting critical engagements with food-tech issues through an Edible Speculations case study called the Parlour of Food Futures. Our discussion of selected Parlour events can inform readers interested in food-tech themes as well as those keen on experimenting with eventful approaches to SD research.

Key words:

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Edible Speculations: Designing Everyday Oracles for Food Futures

ABSTRACT

Digital food technologies carry promise for better food futures but they are often problematic in their impact on food cultures. While proponents suggest that food-tech products such as smart kitchenware or diet personalization services can support efficient food practices, critics highlight various risks. This paper presents our findings from Edible Speculations, a long-term design research project exploring the contested space of food-tech innovation through a series of speculative design (SD) events situated in everyday public contexts. We illustrate the opportunities and limits of eventful SD in supporting critical engagements with food-tech issues through an Edible Speculations case study called the Parlour of Food Futures. Our discussion of selected Parlour events can inform readers interested in food-tech themes as well as those keen on experimenting with eventful approaches to SD research.

INTRODUCTION

Human food practices are an essential part of everyday life that can be a source of gustatory pleasures as well as good health. However, numerous public health and sustainability reports published in recent years make it clear that the ways in which we produce and consume food are harming the health of individuals as well as the Planet (e.g., Willet et al., 2019). Issues with malnutrition and environmental unsustainability in food systems motivate a growing sector of food-technology designers and entrepreneurs aiming to solve food problems through technological innovation (CBInsights, 2018). Digital technologies such as AI-based kitchenware, online diet personalization services, or various smart food apps carry a promise of better food futures but they also raise some concerns (Dolejšová et al., 2019; Lupton, 2017; Norton et al., 2017). What are the implications of food-technologies for social rituals and cultural traditions that typically emerge around food? How are these technologies changing the creative involvements we have with food as cooks and chefs? Is it safe to rely on recipes and diet recommendations provided by algorithms? What are the privacy implications of sharing personal data over online food services? How is food-tech innovation impacting the food job market?

The social impact of food-tech innovation is a relatively recent topic of interest for scholars. Food Studies, as the flagship in the area of food-related research, has shown only a peripheral interest in food-tech innovation issues (Lupton, 2017). A relevant discussion has been developing in Human-Food Interaction (HFI), an emerging field gathering food-oriented authors across disciplines that originated in Human-Computer Interaction (Altarriba Bertran et al., 2019). A recent literature review of HFI scholarship (ibid) shows that authors in the field have, to a large extent, embraced techno-centric perspectives oriented to the design of solutions. HFI projects that propose to fix, speed up, ease, or otherwise make interactions with food more efficient outweigh those reflecting on broader—and often challenging—social circumstances of embedding technology into everyday-life contexts. Critical works addressing not only the

opportunities but also the potential risks of food-tech innovation are thus underrepresented in existing HFI literature.

This gap in HFI, and the overall lack of critical scholarly reflection on the possible implications of food-tech innovation for food practices and cultures, motivates the *Edible Speculations* project. Initiated in 2011, the ongoing project involves a series of design research case studies examining food-tech issues through speculative design (SD) events situated in various public venues. SD and related approaches such as design fiction are recognised for enabling critical thinking rather than problem-solving (Blythe et al., 2016; Dunne & Raby, 2013; Elsdén et al., 2017). This is typically facilitated through design exhibitions and expert workshops where design and research professionals discuss contemporary socio-technical problems and collectively imagine what “our” futures might look like. These approaches to SD have been criticized for disseminating only to selected social groups, with critics asking: who is included in the generalised “we” of SD futuring and who is left behind; why and for whose benefit? (Martins, 2014; Tonkinwise, 2016). In line with this critique, Edible Speculations experiments with the format of co-creative SD events that are accessible to diverse publics. Using a variety of speculative food design artefacts, the project creates experimental spaces for interested stakeholders to come together and engage in critical as well as imaginative reflections on existing food-tech issues.

In this paper, we discuss one selected Edible Speculations case study, the *Parlour of Food Futures*, and a series of five Parlour events that were implemented at five public festivals between 2017-19. At the events, participants engaged in one-on-one Tarot readings performed over a bespoke deck of Food Tarot cards, and crafted food futures scenarios. Through empirical observations and analysis of what participants made and said, we explored the potential of eventful SD in supporting creative and reflective human-food-tech engagements. Our findings can inform HFI and other food-oriented scholars, as well as broadly any authors interested in eventful approaches to SD. Besides contributing to these design and research areas, Edible Speculations events enable experiences that are meaningful also for the participating public, as we unpack later in this text. Before discussing the Parlour study, we start with an overview of food-tech innovation and related issues, followed by a brief introduction to the larger Edible Speculations project and the eventful speculative food design approach that stands in its center.

FOOD-TECH INNOVATION: SOLVING OR MAKING PROBLEMS?

The use of online digital technology for food-related purposes is not new. Already in the mid-1990s, consumers privileged with Internet access could search websites and chat forums for recipes and dietary advice. Since then, the variety of food technologies has increased dramatically, catering to a full spectrum of people’s food needs and desires. Recently popular is the category of smart kitchenware, such as the Wi-fi enabled oven *June* designed to support convenient, remote-controlled cooking. The smart oven has a system of embedded sensors and cameras that can recognize what food is inside and automatically adjust the ideal cooking time and temperature. Users can provide additional commands via the *Alexa* voice assistant and receive notifications about the cooking progress via the June smartphone app. Other than that, they do not need to do much. Instead of getting their hands dirty, they can just sit back and relax

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4 and wait till their dinner gets done. While potentially convenient, this hands-free remote-
5 controlled cooking strips the user—cook, chef—of their active, or even creative, involvement in
6 the food making process. With June, food practices become disembodied: human cooks are put
7 on autopilot, while technology becomes the driver of culinary decisions and actions.
8 Furthermore, as reported in the available user reviews, the algorithmic chef June does not
9 always get it right and might serve meals that are undercooked and potentially unsafe to eat
10 (Wilson, 2016).
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14 A rather different approach to data-driven optimisation of mundane food practices is embraced
15 within the recent trend of gene-based personalised nutrition. Companies like DNAFit provide
16 diet personalization services based on a low-cost analysis of a user's genetic predisposition to
17 process particular food and nutrients. By following diet plans tailored to their DNA, users are
18 promised to become “masters of their health” (quoted from DNAFit website). Yet at the same
19 time, by sharing their personal genetic information with such commercial services, users are at
20 risk of privacy infringements. Their sensitive data could be misused by third parties, such as
21 pharmaceutical companies or healthcare insurers (Solberg, 2018). Instead of empowering users
22 in their relationship to their health as promised, these diet services limit the control that users
23 have over their personal data and, hence, their lives.
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28 The practice of tracking consumers' personal data stands in the centre of automated shopping
29 systems and “unmanned” grocery stores like Amazon Go or *Bodega/Stockwell*, where there is
30 almost no human staff. To enjoy the cashier-less shopping in the Amazon Go supermarkets,
31 customers need to use the Amazon Go app that tracks any item they take from store shelves
32 and place in a shopping bag. An appropriate sum for the purchased goods is then automatically
33 deducted from their Amazon account, leaving the Amazon empire with a track record of
34 customers personal purchases and preferences. Such data insights, retrieved from their
35 physical visit to a brick-and-mortar store, are the extra price that Amazon Go customers have to
36 pay for this *Just Walk Out Shopping* experience that is fast, efficient and stripped of any social
37 interaction. While it might be efficient for some, the sterile convenience of unmanned grocery
38 shopping is certainly not a good fit for all social and cultural contexts.
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44 The removal of jovial chats and brief social encounters with their local grocers—for many people
45 a common part of their shopping experience (note that this text was originally written and
46 submitted in summer 2019, before the Covid-19 pandemic)—was famously criticized with
47 regards to another automated shopping solution, the Bodega pantry. The ‘smart’ AI-based
48 pantry containing essential food and drugstore products was designed with the intention to
49 replace the traditional *bodegas*—mom and pop stores popular around the USA (Morabito,
50 2018). Shortly after its launch, the high-tech pantry got hit with a harsh criticism spread around
51 social media pointing out that Bodega diminishes social aspects of grocery shopping,
52 jeopardizes jobs of traditional bodega grocers and supports gentrification (facing this criticism,
53 the Bodega company changed its name to a somewhat less culturally offensive “Stockwell”).
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58 These brief examples illustrate various opportunities and risks of integrating technology into
59 everyday food practices and show the ambivalent impact of food-tech innovation on food
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4 cultures. Food-tech services designed to simplify food practices and solve problems “through a
5 click” typically offer a generic fix while ignoring the diverse social and cultural contexts where
6 these practices are situated. As a result, many of these techno-solutions are limited in their
7 functions, and not only fail to solve what they promised, but also create new problems on their
8 own. Technologies can reduce socio-culturally and sensorially rich food experiences into
9 utilitarian, standardized tasks performed by algorithms; erode the creative potential embedded
10 in material food practices; compromise consumer privacy; and bring other challenges to the
11 table. This is not to say that we should avoid any attempts to innovate food systems through
12 technology, but that any of such attempts need to be mindful of social food contexts and
13 carefully consider the diverse impacts that innovation may have on food cultures. HFI
14 scholarship, a prime venue to discuss food-tech innovation, has shown only a minor interest in
15 these issues and the ambivalent socio-economic role of technology innovation in food cultures
16 remains largely unexplored (Altarriba Bertran et al., 2019). The Edible Speculations project
17 enters this space and explores the opportunities and limits of food-tech innovation through the
18 critical lens of speculative design.
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25 **EDIBLE SPECULATIONS: APPROACH**

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27 The Edible Speculations project started with our interest in exploring the diverse—existing as
28 well as imagined—ways in which novel smart technologies impact our everyday lives. Turning
29 our focus to food, an everyday-life practice carrying diverse social, cultural and emotional
30 meanings and values, was a convenient way to follow this interest in a creative and tasteful
31 way. The ongoing project has so far involved six case studies that address a distinct scope of
32 food-tech themes.¹ Before we proceed with our discussion of the Parlour of Food Futures case
33 study, we outline the speculative design approach driving Edible Speculations.
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38 **Speculative Design**

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40 The use of speculative design (SD) in the Edible Speculations project supports our goal to
41 explore, reflect on and problematize existing food-tech solutions. As an approach to design
42 research and practice, SD is fundamentally anti-solutionist, building on the recognition that a
43 search for technological solutions can close down problems. Instead of reifying pragmatic
44 solutions, SD enables “problem setting”, which entails the development of conditions for
45 problems to be discussed and understood from multiple viewpoints (Schön, 1984). The problem
46 setting process is commonly facilitated through design artefacts that are provocative,
47 interrogative and “slightly strange”—falling out of the common logic of things and supporting
48 imaginations of the “not-quite-yet” realities (Dunne & Raby, 2013). Although SD supports future
49 imaginaries, it does not intend to predict the future but rather to speculate on how things could
50 be, in order to critique and discuss possibilities.
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57 ¹ These are: the HotKarat & OpenSauce (www.hotkarot.cz), the StreetSauce (www.streetsauce.cz), the
58 Fermentation GutHub (<http://foodguthub.github.io>), the BYOP[oop] (www.pooperleaks.tumblr.com), the
59 Extreme Biopolitical Bistro (www.extremebistro.tumblr.com) and, finally, the Parlour of Food Futures
60 (<https://foodtarot.tech>), which we discuss here.
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While the use of speculation as a design research approach was proposed already in the late 90s (e.g., Gaver & Dunne, 1999; Gaver, 2002), SD came into a wider recognition upon the publication of Anthony Dunne and Fiona Raby's *Speculative Everything* (2013). Dunne & Raby's book outlined SD as an exhibitable practice to be presented in art and design galleries, in the form of finished, fine-art looking artefacts. While recognizing its merit in articulating SD to a broader design audience, the exhibitable approach outlined by Dunne & Raby soon became a subject of critique. This critique—often articulated by SD practitioners themselves—points out that SD exhibitions are detached from everyday-life realities, and, instead of considering concerns of wider public, cater to privileged (intellectual and wealthy) social groups (e.g., Martins, 2014; Tonkinwise, 2016). Furthermore, the finished form of exhibitable SD artefacts provides a limited option for the audience to intervene with their own active inputs and interpretations (DiSalvo, 2016). These critiques and debates concerned with the need to make SD socially accessible, responsible and responsive, led to an increased interest in eventful, participatory forms of SD.

These SD approaches have been articulated through diverse formats, including public co-design workshops (Baumann et al, 2017; Blythe et al., 2016), performative enactments (Elsden et al., 2017), labs in the wild (Wilde, Underwood & Pohlner, 2014), and speculative interventions into everyday-life realms (DiSalvo, 2016). Authors in this area often draw on the methods and techniques from participatory and co-design (Baumann et al., 2017; Blythe et al., 2016; Wilde, Underwood & Pohlner, 2014), design anthropology (DiSalvo, 2016) and performative arts (Elsden et al., 2017). Such speculations—presented as events rather than installation artefacts—extend the possibilities of SD to support critical and creative public engagement. Using SD to support a “designerly version of public engagement”, as the sociologist Mike Michael suggests, offers an alternative to the “orthodox” public engagement methods commonly used by social scientists (2012, p. 540). Edible Speculations leverages these SD capabilities to create experimental spaces for participants to engage in critical, imaginative reflections on food-tech issues. The long-term project has been developed and refined through our own speculative practice but it bears resemblance to and is loosely inspired by the eventful SD approaches listed above. Edible Speculations makes use of the performativity of design enactments; the everydayness of speculative interventions and labs in the wild; as well as the hands-on character of SD workshops.

Speculative Food Design

Design research projects that use SD methods and techniques are sporadic in the existing food-oriented scholarship, both in and beyond HFI (Altarriba Bertran et al., 2019; Dolejšová, 2018). The existing body of speculative food design works comprises mostly art gallery artefacts and installations that are presented as art/design showcases rather than research inquiries. Recent years have seen a variety of curated exhibitions addressing possible food futures through spectacular SD objects. Marije Vogelzang's *Future Food House* (2013) presented, among others, Martí Guixé's installation *Tonic Death Diet* fantasizing about a Matrix-like food future where people live in virtual realities and nurture their physical bodies through magic food pills. The *Meat the Future* exhibition (2013) curated by the Next Nature Network showcased a variety of speculative lab-grown meat products such as the diegetic *Knitted Steak* prototype made of

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4 cultured muscle tissue threads, or the *Celebrity Cubes* that are cultured from stem cells of pop-
5 culture celebrities. More recently, exhibitions such as the *Future Food* and the *Edible Futures*
6 (both 2019) presented a range of food futurist visions, such as the diegetic *Human Hyena*
7 foodware enabling users to digest rotten food.
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10 While undoubtedly thought-provoking, these speculative food design exhibitions showcase
11 finished authorial artifacts that are available for mere spectatorship and enable only limited
12 options for audiences to actively participate and reflect on the food issues at hand. These
13 exhibitable food speculations can be subjected to the same critique as exhibitable SD in
14 general: to borrow from Carl DiSalvo, they are at risk of serving as mere “reductively
15 spectacular commentaries”, leaving us “hungry for more critical engagement” (2012a, p. 116-
16 117). Incidentally, one of the first SD projects that sparked a wave of criticism against
17 exhibitable SD was food-oriented: the *Republic of Salivation* (2011) by designers Burton Nitta
18 offered a dystopian vision of future food scarcity, where citizens receive limited portions of
19 foodstuff rationed accordingly to the emotional and physical demands of their jobs. While the
20 Republic of Salivation aimed to spark a debate about food insecurity issues, it was met with
21 criticism highlighting the overt spectacularity of the project, which presented a shocking vision of
22 future food scarcity. This scarcity however, is a daily reality for many people already today
23 (Thackara, 2014). The project was condemned for being a decontextualized, reductionist
24 commentary on food cultures that is detached from the real-world problems that it speculates
25 upon.
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32 To our knowledge, there exists only a handful of speculative food design projects aiming to
33 engage their audiences in a participatory manner, enabling them to contribute their personal
34 food experiences and insights. Notable example in this niche field is the long-term work of the
35 Center for Genomic Gastronomy (CGG), consisting of public workshops, experimental tastings,
36 field trips and other participatory events addressing issues in food and biotechnological
37 advancement. CGG’s *De-Extinction Deli* (2013) is a fantastic food stall inviting visitors to
38 discuss the speculative possibility of reviving, and possibly consuming, extinct species such as
39 the woolly mammoth. Stall visitors are offered the opportunity to taste diegetic samples of
40 extinct foods, engage in a public poll, and write pre-addressed postcards that can be mailed to
41 leading researchers in the field of de-extinction. This speculative design in the form of a
42 provocative food stall treated visitors as more than mere spectators and encouraged them to
43 contribute their creative and reflective inputs.
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48 Following on from our earlier discussion of SD, we propose that these participatory, eventful
49 approaches to speculative food design carry a promising yet largely unexplored potential for
50 public engagement. The Edible Speculations project leverages this potential and extends the
51 niche space of eventful speculative food design through its series of six case studies. The case
52 studies are organised as design research events that are situated in various everyday-life
53 contexts to engage food experiences and reflections of diverse publics, mostly casual
54 passersby. Considering that most people eat and make food, and as such are implicated in food
55 system issues as well as in the shared food futures to come, gathering food insights from a
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PARLOUR OF FOOD FUTURES: EDIBLE SPECULATIONS CASE STUDY

The Parlour of Food Futures is a speculative oracle that explores possible food-tech futures through the 15th century game of Tarot. These explorations are performed over a bespoke Food Tarot card deck that presents 22 food-tech tribes imagining how food and eating practices might look in the near future (figure 1). Although primarily future-oriented, each tribe refers to some existing or emerging food-tech trend: for instance, Datavores refer to quantified diets, Turing Foodies to the use of AI in the kitchen, Genomic Fatalists to DNA-based diet personalisation. During the one-on-one readings performed in the Parlour, participants are prompted to discuss food-tech issues shown on their selected cards, share their food experiences and craft future food scenarios.

The Parlour project is inspired by the Tarot technique that has been traditionally used in card games as well as for divinatory purposes and future speculations. With Tarot, we aim to enable playful human-food interactions and support the notion of food futures as uncertain but also always connected to the past and reflecting how we engage with food in the present. The Food Tarot cards are inspired by the Tarot de Marseille deck (Major Arcana) that includes 22 cards

with various philosophical and astronomical motives embodied by elements such as The Empress or The Magician. Each of these elements has a specific symbolic meaning, which we kept and translated into our Food Tarot version. For instance, the Tarot card of The Emperor that symbolises the urge to *rule and control* was matched with the card of Datavores—a tribe of Quantified Self dieters controlling their bodies through self-tracking of their metabolic processes (figure 2). The card of The Magician—signifying the potential for transformation—is matched with the diet tribe of Food Gadgeteers who experiment with 3D food printing to transform ordinary food items into more spectacular forms. The card of the Empress—representing the dominion over growing things—became a food-tech tribe of Gut Gardeners who experiment with DIY biohacking to grow their own food. To arrive at the 22 Food Tarot tribes, we conducted a literature review of existing and emerging food-tech trends (details in Dolejšová, 2018). Drawing on the review, we selected 22 trends and matched those with the original Marseille symbolics.

Figure 2: Datavores and The Emperor.

Parlour Events and Participants

The Parlour of Food Futures was initiated in 2017 in Phoenix, Arizona (USA) as part of a larger project called *Parlour of Futures* (<http://futureparlor.tumblr.com/>). The initial Parlour was created for the annual *Emerge: A Festival of Futures* by a group of designers, philosophers, technologists and Tarot readers. Since the first Emerge event, the Food Parlour has been performed as a standalone project by the author of this text and various guest collaborators. Here, we focus on five selected Parlour events organised between 2017-19 at the following occasions: the initial Emerge festival in Phoenix (25. - 26. 02. 2017); the *Maker Faire Singapore* (22. - 23. 07. 2017); the *VVitchVVaVVe* festival in Melbourne, Australia (8. 12. 2018); the *Biotopia EAT* festival in Munich, Germany (26. 05. 2019); and the *Cross Festival* in Prague, Czech Republic (26. 07. 2019). All hosting festivals were free of charge and open to the public. At all five occasions, the Parlour oracle was attended by participants of various ages, professional backgrounds and personal interests. The number of participants ranged from 53 at the crowded Maker Faire to one single participant who sat down for a 2-hour long Food Tarot session at the sparsely populated Cross festival.

Following our aim to engage a casual audience of lay food practitioners, we did not set any specific requirements on participants' skills and expertise. Although there were no criteria for participant selection, we paid careful attention to choosing an appropriate venue for each of the Parlour events. Each of the five hosting festivals was thematically relevant to the scope and focus of the Parlour project: Biotopia EAT was explicitly focused on emerging food trends; Maker Faire revolved around emerging tech innovations, including innovations in the food-tech sector. The main theme of the Emerge festival was "Frankenstein" and biotechnological futures, where food-tech plays an important part. Finally, the VVitchVVaVVe and the Cross Festival looked into the possible futures of humanity, while focusing on techno-shamanistic practices and post-digital aesthetics. The Parlour was a good fit there as well.

Event Activities

At each event, Parlour activities involved participants in one-on-one Food Tarot card readings, followed by crafting of food futures scenarios. The readings were largely similar to card readings performed in a traditional Tarot parlour: visitors (participants) sat down, shuffled the deck and picked a card, and the reading began. The reader then initiated a conversation about the selected card and the possible future that it represents, asking questions about participants' experiences, ideas and opinions. Based on the responses, the reader kept selecting 2-4 additional cards from the deck that were either aligning or contrasting to what had been said. Eventually, we thus ended up with a larger card collage—or a prophecy—representing a possible food future co-created together with the participant. The reading conversations usually took between 10-30 minutes, depending on the participant's willingness to engage.

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4 When the reading was finished, each participant was asked to select one card from the final mix
5 that felt “the most important” and craft a short what-if scenario imagining that she or he is a
6 member of the selected food-tech tribe. We wanted to support the notion of food-tech issues as
7 personal affairs and frame the idea of *possible* food futures as *personal* food futures that should
8 concern each one of us. The scenarios could have multiple forms, including a written text, a
9 drawing, or a crafted artefact (we provided basic tools such as sheets of coloured paper, pens
10 and color pencils, post-its, duct tape, glue and scissors).

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14 During the five events, we collected notes from 145 Food Tarot readings, and the same number
15 of scenarios. We took hand-written notes rather than recording the dialogues—this less
16 obtrusive method of note-taking proved to be more suitable for the public and casual context of
17 the events. The notes and scenarios were analysed manually, using an inductive, qualitative
18 analysis approach (Miles et al., 1994). Parlour events were always introduced as research
19 events. Participants were able to provide oral informed consent, ask further questions about the
20 project and withdraw from the interaction at any time.

21 22 23 24 **Participant Interactions & Reflections**

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27 During the card readings, participants often shared salient observations from the social context
28 of their local foodscapes. At the Emerge festival in Phoenix, many participants mentioned local
29 food security issues and the frequent presence of food deserts (i.e., areas with limited access to
30 affordable and nutritious food). In response to the Gastro Masochists card—referring to dieters
31 deliberately restricting their food consumption with the help of calorie trackers and smart
32 utensils—one participant mentioned that such “masochism” is often involuntary for people living
33 in the Phoenix food deserts. He pointed out the global food security paradox, where wealthy
34 consumers often need to avoid “an overload of ubiquitous food options and dietary information”.
35 Less privileged people, on the contrary, suffer from hunger—both for food and food knowledge.
36 This remark directed our reading dialogue towards the issue of unequal socio-economic access
37 to food technologies: food-tech products are often accessible only to consumers with
38 purchasing power and, hence, extend the socio-economic inequalities that already constrain
39 food systems (more on such inequalities can be found in Norton et al., 2017). Provoked by the
40 SD card, our reading conversation unfolded into a critical reflection on existing food system
41 problems.

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47 At the Maker Faire, a local food sustainability advocate opened a discussion on Singaporean
48 food policy issues. Reacting to the Urban Foragers card—a food tribe making and using online
49 crowdsourced maps of free-growing edible plants, as a form of sustainable food practice—she
50 highlighted that although Singapore suffers from substantial food sustainability problems, local
51 authorities restrict foraging in a majority of public (i.e., state-owned) areas. She also mentioned
52 that although foraging is in the “grey zone” there, other sustainable food practices are available
53 to citizens, such as app-assisted food sharing. We thus added two additional cards on the Tarot
54 table, the P2P Farmers and the Food Altruists—tribes using online forums and apps to share
55 their surplus produce and leftover food. In her future scenario, the participant proposed a
56 speculative “Compost in a Pocket (CiP)”: a wearable device to help users overcome the local
57 foraging restrictions. Using the Pocket and a connected smartphone app, CiP volunteers would
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walk around the city and collect people's food waste. The Pocket would process this legally "foraged" food waste into compost for the volunteers to deliver to local small-scale farms that can use it as a fertiliser (figure 3). Her scenario presented an optimistic vision of a food future where technology extends, rather than replaces, existing food practices and is designed with a consideration of the specific local social conditions.

Figure 3: Compost in a Pocket scenario.

However, this optimism was not frequent during the Tarot readings, and many scenarios involved skeptical or even dystopian views of food futures. Reflecting on the Genomic Fatalists card, a participant at the Cross festival, highlighted that there is a growing volume of sensitive personal data that people share over online diet personalisation services. As a user of the *FitBit* tracker and the *DNAFit* genetic testing service herself, she mentioned that she feels somewhat uncomfortable sharing her biological data with commercial service providers. Her scenario included a drawing of herself walking on a street full of food shops—bakeries, ice cream parlours, cheese and wine boutiques—staring sadly into the shopping windows, unable to buy anything (figure 4). As she explained, her credit card (in the scenario world) is connected to her personal genetic data profile, which is managed by her health insurance company. Aiming to keep its clients fit and as profitable assets, the insurance company does not allow her to purchase unhealthy food or alcohol. This dystopian scenario illustrated participant's concerns with the potential role of novel food and diet personalisation technologies as surveillance tools restricting people's personal preferences and choices.

Figure 4: *Genomic Fatalists and future food-tech surveillance.*

The food ideas and envisionments shared in the Parlour were, to some extent, determined by the distinct thematic framing of the five hosting festivals. This can be demonstrated by the different ways in which participants reacted to the Food Gadgets card—a tribe using smart kitchenware such as Wi-fi enabled ovens or 3D food printers. At Emerge, a young mother of two kids highlighted the simulacral character of cooking with such smart food technologies: while having the illusion of preparing their food by themselves, users rely on algorithmic commands prescribed by smart machines. In her scenario, she envisioned a Food Gadgets future where people stop eating food altogether and become “Food Replicants”. As she mentioned: “food practices will be effective but joyless. We will become a tasteless society of Food Replicants”. At VVitchVVaVVe, the Food Gadgets card provoked an idea of rogue smart kitchenware that would use negative stimuli to change users’ unhealthy food behaviour. For instance, a smart coffee machine that would release mild electric shocks to a user who wants to make more than one cup of coffee a day. These critical scenarios embodied participants’ fears about a future where human-food relationships become fully automated and eaters get deprived of their control over food practices.

In contrast to this techno-scepticism, Parlour participants at Maker Faire—a festival celebrating technological innovation and tinkering—were often positive about human-food automation and highlighted the opportunities that novel food technologies afford to users. Many Maker Faire visitors had a personal experience with the latest smart food gadgets. One participant even thought that we are actually selling 3D food printers at the Parlour stall. This faux pas made us realise how important it is to maintain the “slight strangeness” of speculative designs (Dunne & Raby, 2013) and tailor them carefully to specific local social contexts. The nuances of balancing

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4 slightly strange speculations were also felt around our Ethical Cannibals card—future dieters
5 preferring to “eat themselves” as an ethical alternative to consuming animal protein. The card
6 provoked both enthusiastic and puzzled reactions. For some participants, the idea of
7 cannibalism as a positive ethical act was inspiring: a university student at Emerge imagined
8 that, as a future Ethical Cannibal, he would consume specially modified probiotics to “hack” his
9 gut flora to be able to grow edible mushrooms on his skin. Aside from feeding himself, he would
10 offer this mushroom harvest to his friends and potential dates in a bar, which he named a
11 *Human-Food Exchange Club* (figure 5). As he summarised: “rather than buying a
12 depersonalised drink for my acquaintances, I’d offer my very own mushrooms”.
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Figure 5: Ethical Cannibals and Human-Food Exchange Club scenario.

In his scenario, Ethical Cannibalism was not only a form of sustainable personalized nutrition but also a way to socialise with others. This speculation was not meant as a mere joke, but rather as a critical reflection of ethical issues related to the emerging trend of in-vitro meat grown in labs. One of the frequently discussed problems with lab-grown meat, as a supposedly cruel-free way of meat production, is that the trend foregrounds the idea that eating meat is not only fine, but also desirable and necessary. Critics suggest that promoting a plant-based diet is far more innovative than spending resources on costly in-vitro meat cultivation (see e.g., Schaefer & Savulescu, 2014). In reflection, the Parlour participant explained that although his mushrooms would be grown on a human body and, hence, have the nutritional qualities of animal protein, the final product would look like a plant. Thereby, he would conveniently avoid

promoting the idea of eating meat, and instead attract people's attention to plant-based nutrients. Similar imaginative response to Ethical Cannibals was presented at VVitchVVave, by a participant who suggested the idea of "social breastfeeding". Instead of breastfeeding only her baby, the participant mentioned that she could imagine sharing the nourishing protein in her milk with a broader circle of her friends and family.

Unlike these two examples, many participants considered the Ethical Cannibals card as rather far-fetched and absurd, which limited their ability to relate to the idea and produce an interesting reflection. At the Biotopia festival, we collected several Ethical Cannibals scenarios that were overly simplistic: there were for instance the Broccoli Fingers—a scenario imagining growing broccoli seeds in the dirt behind one's fingernails, or the Herb Hairs, proposing to turn one's head into a herb garden (figure 6). While these scenarios were seemingly similar to the Human-Food Exchange Club, their authors did not provide any critical framing for their ideas: how, where and why would Broccoli Fingers and Herb Hairs work? For whom? No matter how cute or amusing these creations were, they did not help us to shed light on any of the food-tech issues related to the Ethical Cannibals card.

Figure 6: Broccoli Fingers and Herb Hairs scenarios.

At all five events, some participants kept fooling around rather than engaging in any reflective way. Their scenarios and reading contributions were often merely fun commentaries. One such scenario, crafted by a Maker Faire attendee, proposed that Nutri Explorers—a tribe exploring alternative nutrient sources such as insects and lab-grown food replacements—will “hate to eat insects with heavy poops”. Why poops? Why heavy? What insects? The participant's cheeky response: “because everybody hates poops” was numbing. In cases like this, the Food Tarot deck functioned as a merely spectacular and fun tool rather than a speculative design tool prompting critical thinking. We will address these nuances, together with the other findings from the Parlour fieldwork, in the following discussion.

DISCUSSION: EVENTFUL FOOD SPECULATIONS

Our aim with the Edible Speculation project is to explore the opportunities and limitations of eventful SD as an approach to HFI research, and its potential in provoking people's creative, reflective engagements with food-technology issues. We outlined our findings from the Parlour

of Food Futures case study that engaged diverse participants from the public in conversations about their food-tech experiences and concerns, followed by having them create imaginative proposals for possible food futures. These engagements were prompted by the Food Tarot deck, a SD artefact designed to provoke critical thinking about diverse social contexts of new food technologies. Such food contexts can be quite complex and challenging topics to engage with. The deck presents them in a playful way, to make the debate on food-tech practices and futures accessible for many people. During the Parlour events, issues related to food-tech innovation become a casual topic within reach of lay food practitioners. While certainly not accessible to all (not everyone has the option to visit festivals to engage in food design speculations), the Parlour engagements reached beyond the realm of professional designers, researchers and technologists.

The personal food-tech reflections shared by participants were both techno-optimistic and sceptical; provocative and practical; whimsical and serious. They touched upon broader social and political circumstances of food-tech innovation, as well as on specific local or personal contexts of food-tech practices. The breadth of these ideas illustrates a variety of perspectives on how to approach contemporary food-tech issues. Critically, the participation at Parlour events was motivated by the element of *speculation*—the provocative character of the Parlour oracle and the card deck artefact. Many participants mentioned that they would not be willing to contribute to more traditional food research formats, such as surveys and focus groups. The practice-led Parlour research project, along with its designerly approach to public engagement (Michael, 2012) centred around eventful SD, thus yielded an opportunity to glean insights from people who would likely not share them otherwise. Considering the everydayness of food and its diversity across social food contexts, such insights from diverse food practitioners can provide important contributions to research inquiries into food-tech issues and possible futures.

In the case of the Parlour, participants' contributions helped us to expand the ways in which we—as food design and research professionals—think about and reflect on the food-tech sector. The unfolding series of Parlour events enables us to collect food knowledge in various social settings and reflect in an iterative process of reflection-in-action (Schön, 1984): emerging insights are used to move forward with the research, but also to revisit previous considerations. In other words, each card reading and scenario session within the design research series generates some new insights into human-food-tech relationships that inform the events to come as well as our overall reporting of the Parlour project (c.f., Dolejšová, 2018a). Our first-hand perspective and involvement in-situ as researchers co-performing the speculation together with participants, is crucial in this regard. It is the direct creative engagement with participants and their responses to our initial speculative provocations (cards) that constitutes the Parlour as a knowledge-generating HFI project.

These engagements are meaningful not only for us from a design research perspective, but also for the participants themselves. Many people mentioned that they enjoyed staying in the Parlour: they were often keen on chatting with us and finding out more details about the project and upcoming events, as well as the possibility of getting a copy of the Food Tarot deck. Quite often we heard that the card readings revealed some new food-tech knowledge to participants

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4 and helped them understand how specific food-tech tools and practices work. One participant
5 even mentioned that visiting the Parlour and engaging with the Food Tarot deck felt like being in
6 an experimental “live food Wikipedia”. Such feedback suggests that the events provided a
7 playful occasion for mutual knowledge exchange and learning. That the at-the-moment Parlour
8 experiences were in some way rewarding for the participants is vital, as they are the main form
9 of remuneration for participants’ contributions to the project.
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13 However, it is important to note that not all interactions in the Parlour were meaningful from the
14 design research point of view. On several occasions, participants stayed preoccupied with the
15 whimsical character of the cards and unable to provide any reflective feedback. The Broccoli
16 Fingers, Herb Hairs, and Insect Poop scenarios provide illustrative examples. This failure to
17 elicit a meaningful response from participants may have been due to a variety of reasons.
18 Besides a host of personal factors, such as participants’ momentary mood or the limited time
19 they had available for the interaction, the Food Tarot cards might have felt too far-fetched or
20 perhaps too whimsical to some people, making the proposed speculations unrelatable to them.
21 This is not an unusual problem in SD projects that need to carefully balance the “slight
22 strangeness” of their provocations. Failing to keep this balance might result in what Francisco
23 Laranjo (2015) calls “criticool” speculative designs that function as a mere spectacle rather than
24 prompts for critical thinking. In exhibitable SD, this is often determined by aesthetic aspects of a
25 SD artifact and its immediate appeal to the spectators. SD events at which designers interact
26 with participants in-situ provide a better possibility to assist participants in their engagements
27 with an artifact and help clarify its intended purpose. While this option to shepherd the
28 interactions and steer them towards a meaningful exchange is an advantage of eventful SD,
29 designers need to be careful with how and how much they intervene. During the Parlour
30 readings, we wanted to keep our presence as neutral as possible and avoid being didactic, or
31 influencing participants with our own food-tech interpretations. A challenge for us, and for other
32 SD authors as well, is to keep our design provocations relatable and comprehensible without
33 being too explanatory and suggestive.
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41 The Parlour events performed in uncurated public settings present an especially challenging
42 case in this regard, since it is virtually impossible for us to know who will show up at the Food
43 Tarot table. People of any age, with various levels of food/design/technology experience can sit
44 down for a reading, which creates an opportunity for collecting very diverse and potentially
45 interesting insights as well as the risk of encountering misunderstanding and ending up
46 facilitating un-critical food drawing sessions. We do not have any good way to solve this:
47 stopping participants from drawing broccoli fingers and asking them to please be more reflective
48 does not make any sense. Even seemingly silly scenarios, such as the Human-Food Exchange
49 Club, can end up being meaningful and inspiring food-tech reflections. In the spontaneous,
50 everyday Parlour setting, any response is potentially interesting: our job is to ask good follow-up
51 questions about the scenarios content and help participants articulate a compelling future food
52 narrative. When the answers are simplistic, such as in the poop case, and participants do not
53 wish to go more in depth with their future envisionments, then we are left with just that.
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59 This may be seen as a limitation of eventful speculations implemented in everyday public
60 venues: the benefit of engaging diverse food perspectives and enabling spontaneous
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1 participation comes with some uncertainty and unpredictability attached. While acknowledging
2 this limitation, we consider this a worthwhile trade-off and we value the food insights generated
3 through the spontaneous Parlour engagements. Besides the five public events discussed here,
4 we have used our Food Tarot deck in more curated contexts of workshops at academic HFI/HCI
5 conferences (e.g., FoodCHI'17, CHI'18, OzCHI'18, DIS'19, DIS'20). These venues provided a
6 more formal setting, where selectively enrolled participants with expected expertise in food-tech
7 themes engaged in carefully structured design activities. The discussion and scenarios
8 provoked by the cards were typically quite focused, and there was less space for confusion or
9 disengagement as compared to the public Parlour events. Still, this does not mean that such
10 workshop reflections were "better" than those elicited in the everyday and more unpredictable
11 public contexts. In fact, some of the most inspiring responses that we have gathered so far
12 come from the public Parlour sessions (the Human-Food Exchange Club scenario, for instance,
13 inspired our short speculative fiction story published in a food studies journal: see Hey &
14 Dolejšová, 2018). To us, it thus seems that speculating in the everyday—naturally messy and
15 contingent—world creates some risks but also opportunities to gain surprising and valuable
16 insights into our design research themes. Collecting critical reflections in the everyday
17 wilderness opens the opportunity to find out something new, unexpected and beyond our limited
18 horizons as (food) design and research experts.

19 For now, Parlour of Food Futures remains an exploratory work that focuses on in-the-moment
20 experiences in the oracle, without the ambition of facilitating long-term engagements and action.
21 While this limited reach—caused largely by our limited time options—is not ideal, interested
22 Parlour participants who get inspired by the cards can take it from there and follow on their own.
23 After all, the card deck is available for anyone to use under a CC license. We do wish to
24 acknowledge, however, that in light of current climate emergencies and public health crises,
25 food practices urgently need to change and continuous long-term work supporting such
26 changes is needed. Projects like the Parlour that help people reflect on food issues and imagine
27 food futures are just a small, humble contribution to such efforts. A transformation of food
28 systems, whether through technological innovation or other means, certainly requires more than
29 a Food Tarot oracle. Still, if we cannot imagine how possible futures could look and what a
30 positive change should entail, we have nothing to start with.

31 CONCLUSION

32 In this paper, we proposed that eventful SD can serve as a potent approach to critical HFI,
33 enabling researchers to engage with diverse audiences and collect food insights. While drawing
34 on our first-hand experience of design researchers as Tarot readers working with participants in
35 the Parlour of Food Futures oracle, we outlined several opportunities and limitations of SD
36 events in provoking critical food engagements in everyday settings. The Parlour events created
37 a compelling opportunity for participants to engage in playful and imaginative, but also critical
38 and reflective explorations of food-tech issues. Although the Parlour interactions were not
39 flawless, the insights gathered through the card readings and scenarios helped us to expand
40 our own understanding of diverse roles that technological innovation can play in food cultures.
41 Other HFI and food researchers may find the eventful SD approach useful as well, and leverage

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4 it to learn more about diverse food-tech concerns and experiences. While our SD work focuses
5 on food contexts, we suggest that the eventful approach to SD that is central to Edible
6 Speculations can be used also elsewhere, in other areas where insights from diverse public
7 stakeholders would have a value. We thus hope that our work will inspire not only food-oriented
8 scholars but broadly any design researchers and practitioners interested in incorporating
9 eventful SD approaches into their work.
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