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# Participatory Research through Gastronomy Design: A designerly move towards more playful gastronomy

## ABSTRACT

*Socialization, eating and play are core activities that make us human. While they are often brought together, play theory suggests that their combination has unexplored potential in the context of gastronomy. Our research also indicates that a chef's desire to control the meal may be a key impediment to developing dining experiences in which the diner's playful engagement impacts taste, texture and flavour combination. We investigate if combining participatory research through design and play theory might better situate chefs to diversify their approach to playful gastronomy. Using experimental design methods, we interviewed a chef, a maître d', a professional gastronomist, two food enthusiasts and a novice, to identify overlooked opportunities to extend play in gastronomy. We then conducted a series of dinners – designed with and for experts, enthusiasts and novices – to explore these opportunities, and tested the resulting method through a workshop with student chefs and game designers. We present the method: Participatory Research through Gastronomy Design (PRGD), using the case of its development to explicate its*

## KEYWORDS

gastronomy  
play  
participatory research  
through design  
research methods  
playful design  
social eating

*characteristics. Our research suggests that PRGD supports the design of playful gastronomic experiences that appeal to a range of diners, affords exploration of play's impact on social dynamics and can productively inform concrete design choices. It also – crucially – supports chefs to partially transfer control of how a meal unfolds, without diluting their sense of controlling the overall experience. PRGD thus addresses a key impediment to extending play in gastronomy. Gastronomy that responds to diners' needs and desires for play are currently limited. We propose PRGD as an exciting – and viable – approach to address this limitation.*

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## Introduction

Eating is essential to life. It is one of the most intimate, recurrent human activities, and is undertaken for diverse reasons. Key motivations include *socialization*: mixing socially with others and learning to behave in ways that are acceptable to society; *nutrition*: gaining the nourishment necessary for health and growth; and *degustation*: the careful, appreciative tasting of various foods, focusing on the gustatory system, the senses, high culinary art and good company (Douglas 1972; Warde and Martens 2000; Ochs and Shohet 2006). Eating can be articulated in diverse formats and approached in myriad ways.

Play is equally important and diverse. Dutch historian and cultural theorist Johan Huizinga (1950) argues that play is a key factor in the development of civilization. American composer and artist John Cage says that 'the purposeful purposelessness' of play serves as 'an affirmation of life – not an attempt to bring order out of chaos nor to suggest improvements in creation, but simply a way of waking up to the very life we're living' (Kostelanetz 1971). Design professor William Gaver writes that ludic (playful) design can support values such as curiosity, exploration and reflection, arguing these values are not only important but are essential to wellbeing (Gaver 2002).

Our research investigates eating and play in the context of high gastronomy, or New Cookery – the kind of preparation and eating of food practiced in some of the world's best restaurants (c.f. The World's 50 Best Restaurants n.d.). According to some of its best-known proponents: Ferran Adrià of elBulli, Heston Blumenthal of The Fat Duck, Thomas Keller of The French Laundry and Per Se, and writer Harold McGee (Adrià et al. 2006), New Cookery:

1. is guided by a commitment to the principles of excellence, openness and integrity.
2. values tradition, builds on it, and is part of the ongoing evolution of the craft.
3. embraces innovation – new ingredients, techniques, appliances, information and ideas – whenever it can make a real contribution to the cooking.
4. is founded on the beliefs that cooking can affect people in profound ways and that a spirit of collaboration and sharing is essential to true progress in developing this potential.

Using experimental design methods that combine action research, co-design and participatory research through design, we investigate the extent of playfulness in New Cookery, and how its expression may be diversified. We do this over a three-phase research process, using food as a key material throughout. The research was undertaken in Catalunya, Spain, with a base at elBulli Lab, Barcelona, the research arm of elBulli Foundation (n.d.). We thus had direct access to some of the world's best practitioners of New Cookery.

In this article we describe all three phases of the research: Phase 1 investigates current practices and attitudes towards playful gastronomy, using play theory to understand how well its potential is explored, and *interviews-as-eating-encounters* with stakeholders, to diversify the perspectives taken into account. Phase 2 is a series of dinners, designed with and for experts, enthusiasts and novices to explore opportunities to extend play in gastronomy. Phase 3 is a workshop with student chefs and game designers that serves to refine and test the viability of the emerging method: Participatory Research through Gastronomy Design (PRGD). We thus use the case of the method's development to explicate its characteristics.

## Phase 1

In this phase, our aim was to characterize attitudes and practices around play in gastronomy. The research unfolds across three distinct activities: (1) we review the literature on play and playfulness, and position our findings in relation to gastronomy; (2) we investigate the dominant paradigm for gastronomy as it plays out in the world's best restaurants, using elBulli Lab as our ground zero for New Cookery practices; and (3) we investigate the attitudes of a range of stakeholders to play and gastronomy, to broaden our understanding of how their convergence is understood and experienced.

## The state of play

Play is ambiguous (Sutton-Smith 1997) and difficult to measure (McGonigal 2011). Play can be liberty and invention, fantasy and discipline (Caillois [1961] 2001). Whatever its form, it is ultimately fun (Huizinga 1950). French sociologist, Roger Caillois describes play as relating to unstructured and spontaneous activities. He writes:

we might call [play] a free activity standing quite consciously *outside 'ordinary' life* as being '*not serious*', but at the same time *absorbing the player intensely and utterly*. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds *within its own proper boundaries of time and space according to fixed rules and in an orderly manner*. It [also] promotes the formation of social groupings [...].

(Caillois [1961] 2001: 4, emphasis added)

As adults, we easily forget or overlook opportunities for play because of the dominance of utilitarian considerations – tasks we need to achieve, things we need to do, and the responsibilities that go along with these commitments. Yet, there is evidence that play is important. Games (and thus play) have been a central part of civilization throughout history. Play is, of course, the principal effect of games, but its influence is much greater – play penetrates all of social life (Caillois [1961] 2001; Huizinga 1950). It empowers



Figure 1: Dishes that challenge the diner. Left–right: ‘Las especias’ (elBulli); ‘Balloon’ (Alinea); ‘Tocaplats’ (El Celler de Can Roca).

people to learn through exploration and can help us make sense of the world we live in (Sproedt 2012).

Play is a self-rewarding activity that can provide people with satisfying work and learning, the experience of being successful, the pleasure of social connection and a purpose to their actions (McGonigal 2011). It has a positive impact on the well-being of groups of people (Huizinga 1950) and individuals (McGonigal 2011). The effects of play transcend the scope of pure entertainment – they are influential in most areas of human life. Further, play empowers people to simulate life and learn about it without putting themselves at real risk (Sproedt 2012). Human life implies a constant adaptation to changes in the environment and in relationships. The very nature of play – balancing bounded structure and freedom to innovate – makes for a robust strategy to embrace such change (Sproedt 2012). Playfulness helps us embrace uncertainty, encouraging us to learn through experience and exploration (Sproedt 2012). Play sets the perfect scenario for individual development, encouraging people to learn through experimentation. It sparks curiosity, positivizes risk and makes exploration attractive. It makes people curious to learn and to adopt a proactive role in whatever they are doing. It thus helps people be optimistic about their capacities – even in the face of failure: playful failure only makes a person more eager to explore and try things out.

Further, play empowers people to be both critical *and* imaginative. A playful game is complex and leads to uncertain outcomes. There is no right way to play (Sproedt 2012). Even though there are rules that regulate a game, for playfulness to emerge it needs to be the players who make sense of those rules and harness them in the search for strategies (Sproedt 2012). If the ways to play a game are strictly predetermined, it becomes predictable and no longer fun. It is essential for play to be in constant dialogue with the rules. Indeed, play can be characterized as a continuous negotiation between freedom and constraint. If the balance between the two is compromised, it is likely that players start breaking the rules and establishing their own rules, to set up a scenario that better fits their intentions.

Our research asks how play and gastronomy might come together. If play is *outside ordinary life* (Caillois [1961] 2001) and has a *purposeful purposeless*

(Cage in Kostelanze 1971), how might it be paired with gastronomy – an activity that is driven to achieve satiation through degustation and thereby affect people in profound ways (Adrià et al. 2006)? Can playful gastronomy be developed such that the play enriches and enhances the gastronomic eating experience, rather than disrupts it?

In his book, *Play Matters*, Sicart (2014) describes playfulness as a way of engaging with particular contexts and objects while respecting the purposes and goals of that object or context. In other words, while play is an activity with its own purpose, playfulness preserves the purpose of the activity to which it is applied (Sicart 2014: 26). Playfulness thus may provide a key to supporting diverse forms of play within gastronomy. To better understand this potential, we unpack how play currently plays out in New Cookery. We then analyse the diversity of play through the lens of the Playful Experiences (PLEX) framework (Lucero et al. 2014).

## Play in New Cookery

New Cookery is often characterized by what French gastronomy critic, Philippe Regol (2009), calls *play-food*: dishes that look one way, but taste another; feasting as a theatrical event; elaborations imbued with strong narrative or aesthetic significance. He asserts that avant-garde cuisine cannot be understood without taking into account the chef's willingness to 'put a smile on the diner's face' (Regol 2009). Importantly, what Regol calls play-food is focused on a particular understanding of play, one in which diners are amused by the chef through captivating, mysterious or surprising experiences. In this approach, interaction within the meal is rarely harnessed as an asset to enrich the experience as a whole. When interaction does occur, it is not at the diner's initiative, rather it is the chef who decides when and how interaction is appropriate. As Regol explains, the role of the gastronomic diner is to 'sit and contemplate', while the restaurant provides them with an experience that must not be disrupted (Regol 2009).

Few gastronomic dishes challenge the idea of the passive diner, despite the fact that interacting is a key characteristic of play (Sicart 2014), and socialization is fundamental to eating (Ochs and Shohet 2006). Among the exceptions (Figure 1, left–right): elBulli's 'Las especias' challenges diners to guess the names of twelve different spices positioned around their plate (Adrià et al. 2005); Alinea's 'Balloon' is a floating, helium-filled sugar bubble that you eat by sucking any point on its surface (Alinea n.d.); El Celler de Can Roca's 'Tocaplat's' ('Music to the tastebuds') transforms colour and position of food on the plate into musical tones, to 'play' changes in food composition as the meal is eaten (Carulla et al. 2016). These examples use interaction to great effect to engage the diner, and point to the potential of interaction in New Cookery.

In the field of eating design, we find many interactive expressions of eating (c.f. Vogelzang 2008; Guixé and Knolke 2010). Notably, New Cookery seems to be evolving in this direction. When Heston Blumenthal reopened The Fat Duck – after the restaurant's temporary relocation to Melbourne, Australia, for a year – he declared he was 'shifting gears' to cater more directly to diner's desires (Clay 2015). This 'new determination' includes enhanced interaction and social engagement from diners. For example, when guests make their booking they are asked to provide information, so that a memorable moment can be created for them. The restaurant then considers how to tailor the dining

experience to the individual diners. While this gesture has the potential to seem contrived, apparently the experience can be surprising, delightful, even profound (Clay 2015). Blumenthal also proposes mailing cards with URL links, secret codes and atomizers to future diners after a booking has been made, to actively and sensually engage them in the dinner long before they arrive at the restaurant (Raynor 2011). In the restaurant itself, the menu card is presented like a treasure map, cocktails are chosen using secret messages, a coin will set a hand-crafted, kinetic dessert trolley off on its playful selection of desserts, and regular customers can be given the status of hosts and encouraged to explain the dishes to their fellow diners. As Blumenthal explains, listening to your 'expert' friends present the food is far better than listening to the waiter all the time (Clay 2015).

In a similar move, when designing eating experiences for the European Space Station, Thorsten Schmidt of Malling and Schmidt (2012), included hand-written messages from the astronauts' partners in a fortune-cookie style dessert. The cookies provide a playful – arguably even trite – context for the discovery of the notes. They combine the cookie: a familiar, trivial, even banal container for phrases of prophecy, compliment, advice and wisdom (Yin and Miike 2008), with a highly personal and significant artefact. This combination afforded a powerful emotional moment for the astronauts: a completely unexpected, personally resonant, tangible connection, created through the framing and discovery of the hand-written note (recounted by Schmidt at: Creative Tastebuds 2017).

These examples suggest the possibility of a shift in New Cookery towards interactive and personalized experiences. To better understand the breadth of play in New Cookery, we now turn to a framework for playful experiences to identify overlooked opportunities for play in this context.

## PLEX and New Cookery

The PLEX framework (Lucero et al. 2014; Figure 2) draws from theoretical work on pleasurable experiences, game experiences, emotions, elements of play and motivations for playing. It was developed by researchers at Nokia to assist them in their User-Centred (technology) Design (UCD) processes. While UCD is far from the context of our research, we nonetheless find the framework useful. PLEX proposes 22 types of playful experience, across a broad emotional range, not only the obviously pleasurable.

We mapped Regol's idea of play-food with the PLEX framework and found that play-food covers three forms of play: *captivation*, *discovery* and *sensation* (Figure 2A, following Regol 2009). The exceptions to play-food practices from elBulli, Alinea and El Celler de Can Roca cover another seven forms of play: *challenge* and *competition* (El Bulli's 'Las especias'), *expression* and *fantasy* (Alinea's 'Balloon'), *fellowship* and *humour* (El Celler de Can Roca's 'Tocaplats') and *thrill* (depending on the diner's personal predilections, any of these dishes may be considered thrilling). The Blumenthal and Schmidt examples add another two forms of play: *exploration* (Blumenthal) and *sympathy* (Schmidt) (Figure 2B). The remaining ten forms of play do not seem to be represented at the higher echelons of New Cookery. From this we might infer that, while gastronomic restaurants are recognized as platforms for creative and playful culinary proposals, the diversity in the forms of play they elicit remains limited.

To enrich our understanding of attitudes around play in gastronomy, we undertook a series of conversations on the subject with world-renowned chef,

EXPERIENCE	DESCRIPTION	A	B
Captivation	Forgetting one's surroundings		
Challenge	Testing abilities in a demanding task		
Competition	Contest with oneself or an opponent		
Completion	Finishing a major task, closure	?	
Control	Dominating, commanding, regulating	?	
Cruelty	Causing mental or physical pain	?	
Discovery	Finding something new or unknown		
Eroticism	A sexually arousing experience	?	
Exploration	Investigating an object or situation		
Expression	Manifesting oneself creatively		
Fantasy	An imagined experience		
Fellowship	Friendship, communality, or intimacy		
Humor	Fun, joy, amusement, jokes, gags		
Nurture	Taking care of oneself or others	?	
Relaxation	Relief from bodily or mental work	?	
Sensation	Excitement by stimulating senses		
Simulation	An imitation of everyday life	?	
Submission	Being part of a larger structure	?	
Subversion	Breaking social rules and norms	?	
Suffering	Experience of loss, frustration, anger	?	
Sympathy	Sharing emotional feelings		
Thrill	Excitement derived from risk, danger		

Figure 2: The PLEX framework's 22 categories of play. A: play in Regol's notion of play-food. B: play in interactively playful gastronomic dishes.



Ferran Adrià, his colleagues and researchers at elBulli Lab and Foundation. We also conducted *interviews-as-eating-encounters* with a selection of stakeholders including: Adrià, a maître d’ at a Michelin starred restaurant, a professional gastronomist, two food enthusiasts and a young game designer with very little experience of gastronomy, who is referred to as ‘the novice’. The following two sections report our findings.

**The chef-centric model**

According to elBulli Foundation, gastronomic restaurants follow a chef-centric model, one in which the chef’s creative process is driven by their personal culinary language, and the dining experience is an act of artistic expression. In this model, the chef takes the lead, surprising the diners or ‘telling them a story’, often making use of magic or make-believe. The chef surprises; the diner is surprised. The model is unidirectional and leaves little room for diners to explore personal preferences in relation to eating or play. Rather, the experience is controlled by the chef down to the minutest detail. As Adrià, explains:

When you come to elBulli, I wouldn’t let you choose [your dish], right? You eat what is served to you, yes? When you go to the cinema, you do not change the movie, right? Aren’t you coming to see the work of a creator?  
  
(interview, translated from Catalan by the author)

Adrià et al.’s view of the chef’s role in the dining experience aligns with what Fällman (2003) describes as the ‘romantic’ designer – an imaginative mastermind equipped with almost magical abilities of creation, a ‘creative genius’ with unusual talents who must fight opposition to defend their unique creativity and artistic freedom (building on Coyne 1995). This account of the romantic designer helps us understand why playful gastronomy is often articulated through surprise and make-believe: passive forms of play that can be delivered to a diner, allowing the chef to express their creativity without concern that their vision might be disrupted or diluted. Surprise and make-believe do not need to respond to an individual recipient’s idiosyncratic desires or habits. Indeed, according to elBulli Foundation, except in exceptional circumstances, such things are of little interest to the chef, whose creativity riffs off personal experience and cultural tropes to develop creative representations reflecting the chef’s personal idea of dining and play.

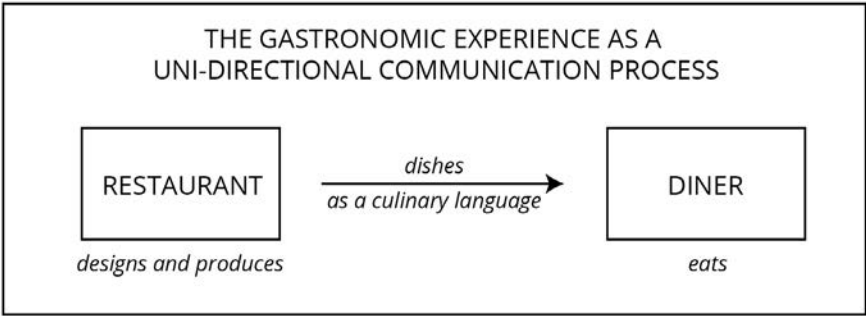


Figure 3: elBulli’s chef-centric model of the gastronomic experience.



If we look to play theory, we find that two basic characteristics of playfulness are at odds with this chef-centric model: (1) a playful attitude is one that disrupts the state of affairs, and (2) to be playful is to appropriate a context that is not created or intended for play (Sicart 2014: 26–27). These two characteristics challenge where control lies, they thus challenge the integrity – the unidirectionality – of the chef-centric model.

## Interviews as eating encounters

To diversify the perspectives we are drawing from, we conducted a series of ‘interviews as eating encounters’: carefully structured activities that use food as a key ingredient. ‘Interviews as eating encounters’ involve the researcher-interviewer in a shared dining experience with their guest-interviewee. They use tangibles to prompt discussion (Clatworthy et al. 2014, c.f. Figure 4) and make use of estrangement, to destabilize, ‘defamiliarize’ (Shklovsky [1917] 1965), to open guests to exchange unfiltered views (c.f. Wilde 2015). We interviewed six stakeholders using this method, each with a different relation to gastronomy. They included a chef: Ferran Adrià, long considered one of the best chefs in the world (Moore 2018); a maître d’ who works in Michelin-starred restaurants; a professional gastronomist; a couple who are long-time food enthusiasts; and a novice: a young game designer who has limited experience with gastronomy. To leverage estrangement, we conducted the interviews in diverse locations, chosen to raise tensions. For example, the novice was invited to lunch in a Michelin-starred restaurant, and the maître d’ to a random cafeteria for a sandwich.

Figure 5 demonstrates, stepwise, how the interviews as eating encounters unfolded. Step 1 serves as a warm-up. The objective is to destabilize expectations in a fun way, while beginning to gather data: the guest-interviewee is given four empty jam jars and a packet of M&Ms (a common American candy). Three of the jars are labelled with key motivations for eating: socialization, nutrition and degustation. The fourth label is blank. The guest-interviewee is asked to assess the importance of these motivations when they decide to have a gastronomic experience and place the M&Ms into the jars to represent how much of an impact these notions have in their decision-making. The jar with the blank label was provided to enable them to add an additional, personal, motivation (c.f. Figure 4, left). Significantly, in step 3, the guest-interviewee and the researcher eat the M&Ms together over coffee. This activity facilitates a smooth transition from open conversation to a more



Figure 4: Left: Props used to tangibly map personal motivations for going to a gastronomic restaurant, labelled (left–right): Socialization, Degustation, Nutrition and Reflective Interaction (in Catalan). The fourth label was filled in by the guest-interviewee. Right: Using PLEX cards to map desires around playful gastronomy.

1. To begin, the guest-interviewee is presented with four empty jam jars and a packet of M&Ms. Three jars are labeled with key motivations for eating: degustation, socialization, and nutrition. The fourth jar's label is blank, to enable the guest-interviewee to add their own value (figure 4, left). The guest-interviewee is then invited to distribute the M&Ms between the jars to represent their personal understanding of how these values relate to gastronomy.
2. Proceed with the meal.
3. Offer the M&M-filled jars as petit-fours, to accompany coffee.
4. Use tangible interview tools to discover the guest-interviewee's thoughts on *playful* gastronomy (figure 4, right). Ask them to use pre-filled cards to create the sequence of actions that happen at a gastronomic restaurant, then to place playful interactions drawn from the PLEX framework where they might be desirable.
5. To conclude, invite the guest-interviewee to fill in a recipe template with their personal idea of a "playful gastronomic experience."

Figure 5: Instruction set for the *Playing with Food* interview-as-eating-encounter. For more details, see: Altarriba Bertran and Wilde (2018).

focused reflection. Eating the data also acknowledges the ephemeral nature of opinions.

### Findings

Unsurprisingly, perhaps, our diverse stakeholders held divergent views. The chef claimed that the world's best restaurants represent the ultimate gastronomic experience, but that gastronomy can exist anywhere 'it doesn't need a restaurant, it only needs passion and commitment, love and skill'. The novice found gastronomic restaurants 'too constraining and formal'. When recalling a past experience of dining at a high-end restaurant, he said that rather than the food being prepared for him, he felt that '[he] was being prepared for the food'. This perspective suggests that the passion, commitment, love and skill the chef speaks of are perhaps directed towards the food rather than the diner, or only towards a diner who behaves in particular ways.

Most interviewees considered the social aspects of dining important. Some enjoyed socialization as an accessory to degustation. Others claimed it to be as important as the tasting of the food. Yet, there is little room for socialization in the chef-centric model of gastronomy. When asked about the role of socialization in a gastronomic experience, the chef said 'do you imagine going to the cinema and talking to the person next to you?'. He argued that anything unexpected that the diner does, for example stopping to smoke, talking over the phone, or paying little attention to one dish, can 'destroy the meal'.

In contrast, the novice described his understanding of gastronomy as 'an act of socialisation that is articulated through one of the biggest pleasures in life: food'. He felt that 'playfulness should be present at all times in the gastronomic experience' and described the lack of room in the chef-centric model for

emergent socialization as highly problematic. He explained his experience of the conflict as follows:

Sometimes you end up not focusing that much on food because you interpret that if you want to do something other than eating you have to do it in between dishes, and you eventually eat quickly to have more time to talk.

(the novice, interview)

Being less indoctrinated into gastronomy, the novice is perhaps best placed to provide critical, unfiltered views. Nonetheless, he was not alone in finding aspects of gastronomy limited. All of our guest-interviewees except the chef, expressed curiosity about more interactive, social and playful approaches to gastronomy. When presented with the PLEX framework, they found the majority of forms interesting. However, they did not recognize most types of play in their restaurant experiences.

The gastronomist noted that while ‘every person has her own way of seeing the gastronomic experience’, the dominant format of tasting menus is quite standardized. As the maître d’ explained ‘we give the same proposal to everybody, but everybody receives it differently’. He considered it a downfall that diners do not necessarily share the same experience, imagining success to be measurable in uniformity. Yet, as our interviewees themselves demonstrate, individual preferences can be diverse.

Notably, in line with our desk research, when comparing their experiences of playful gastronomy with the PLEX framework, our interviewees rarely moved beyond surprise and make-believe, and noted that playful gastronomy is mostly articulated through passive forms of play. Indeed, the maître d’ acknowledged that often he just ‘explains a story’ and does not let the diners ‘live the story themselves’. He explained that it is common that chefs ‘don’t want to leave anything to chance, they need to do everything themselves to make it perfect at all times’, and that it is by design that the unidirectional model preferred by gastronomic restaurants does not afford active engagement or social interaction.

Despite the notable absence of active, social and free playful eating experiences, such experiences were identified as desirable by all stakeholders except the chef, and their inclusion in a gastronomic experience was desired. The novice missed a more expansive space for discovery in gastronomy. When dining, he said, ‘you do not really understand things; you just eat, but do not discover’. The gastronomist talked about sharing as an important, yet missing, form of playful eating: ‘it is through sharing that the social aspect comes to life’. The food-enthusiasts talked about enhancing the pleasure of the gastronomic experience by embracing the ‘challenge’ it presents to a playful attitude. Indeed, their playful attitude reflects both characteristics identified in play theory to be conflicting with New Cookery:

- (1) a playful attitude is one that disrupts the state of affairs, and
- (2) to be playful is to appropriate a context that is not created or intended for play.

When reflecting on the forms of play represented in the PLEX framework, the maître d’ recognized that ‘you don’t always need to be explained a story, you

	<i>AGÓN</i> (Competition)	<i>ALEA</i> (Chance)	<i>MIMICRY</i> (Simulation)	<i>ILINX</i> (Vertigo)
PAIDIA ↑ Tumult Agitation Immoderate laughter  Kite-flying Solitaire Patience Crossword puzzles ↓ LUDUS	Racing Wrestling Etc. Athletics  Boxing, Billiards Fencing, Checkers Football, Chess  Contests, Sports in general	Counting-out rhymes Heads or tails  Betting Roulette  Simple, complex, and continuing lotteries	Children's initiations Games of illusion Tag, Arms Masks, Disguises  Theater Spectacles in general	Children "whirling" Horseback riding Swinging Waltzing  Volador Traveling carnivals Skiing Mountain climbing Tightrope walking

Figure 6: Caillois’ ([1961] 2001) classification of games.

could create yourself a different story every time’. He thus began to consider the opportunity that diverse forms of play might offer New Cookery.

Significantly, when considering the 22 forms of play in the PLEX framework, all guest-interviewees except the chef concluded that gastronomic restaurants are playful in a narrow way and that this is a missed opportunity. Further, they all said they would welcome more diverse forms of play, in particular possibilities for social play that could impact the way the meal unfolded. They also identified one kind of play and one experience not named in the PLEX framework, specifically: *free play* and *joy*. On analysis, we see that the PLEX framework includes carefree forms of play (f.x. sympathy, humour and fellowship), but open-ended, un-serious play is better represented by Caillois’ ([1961] 2001) notion of *paidia*. As demonstrated in Figure 6, Caillois categorizes play activities in relation to the underlying principles of competition, chance, simulation and vertigo, as well as how free-form or structured they are. Lucero et al. (2014) seem to have overlooked this distinction when developing PLEX. Moving forward, we add *free play* and *joy* to the discussion and further draw from Caillois directly when we use PLEX.

Significantly, in contrast to the other guest-interviewees, the chef was able to recognize all forms of play as being present, and he did not remark that either free play or joy were missing. Ferran Adrià is a highly skilled gastronomist with a wealth of experience and an extreme passion for food. His dining experience is thus very different from most diners. While he is aware that his passion and experience colour his perceptions, it was difficult for him to imagine that other diners might not experience what he sees as evident.

From our analysis of the interviews, we identified four untapped opportunities for playful design in the gastronomic experience:

- 1. empowering diners to participate in the creation of their food to increase the interactive qualities of the experience
- 2. challenge as an appealing source of fun for expert diners
- 3. including more diverse forms of play to shift the perception of gastronomy away from being perceived as ‘too serious’
- 4. enriching the social nature of the gastronomic experience to enhance its appeal.

These untapped opportunities open up the research. Phase 2 uses participatory RtD to investigate how these opportunities might be leveraged. Key challenges include: confronting the contradictions inherent in the chef-centric model and understandings of what constitutes and affords playful experiences, and rethinking the gastronomy design process to allow for more diverse forms of play, wherein the chef still feels in control, even if she may relinquish control of some aspects of the dining experience to the diner.

## Phase 2

In this phase, our key method is PRGD, using food-play (playing with food) as our key ingredient, as opposed to play-food (how play currently unfolds in New Cookery). The method was developed during the research by converging a participatory approach to research through design (RtD) with play theory and food design. We describe RtD, and what is afforded by making it participatory. We then discuss its application to our research context and Phase 2 of our study.

## Participatory RtD

RtD is a hybrid approach to research that employs methods and processes from art and design as legitimate modes of inquiry (Frayling 1993). RtD is commonly used in technology design research to understand the influence of a new technology on how people think, value, feel and relate (Zimmerman et al. 2010). It makes use of *designerly* activities as a way of approaching messy situations with unclear or conflicting agendas (Gaver 2012). This means using synthesis – trying out solutions – rather than studying a problem, in order to solve it (Cross 1982). As Cross explains:

design problems are ill-defined, ill-structured, or ‘wicked’ (Rittel and Webber 1973). They are not the same as the ‘puzzles’ that scientists, mathematicians and other scholars set themselves. They are not problems for which all the necessary information is, or ever can be, available to the problem-solver. They are therefore not susceptible to exhaustive analysis, and there can never be a guarantee that ‘correct’ solutions can be found for them. In this context, a solution-focused strategy [that makes use of synthesis] is clearly preferable to a problem-focused one: it will always be possible to go on analysing ‘the problem’, but the designer’s task is to produce ‘the solution’. It is only in terms of a conjectured [or intuitive] solution that the problem can be contained within manageable bounds (Hillier and Leaman 1974).

(Cross 1982)

RtD is thus a useful starting point from which to approach the conflicts and challenges uncovered in Phase 1.

*Participatory* RtD extends RtD by engaging *users* in creative play with research ideas and techniques. It affords stakeholder engagement in discussions around possible futures, and consideration of broad potentialities of what is proposed, developed or designed, as it unfolds. It thus enables a designer, design team (or chef) to investigate design possibilities that shift where control is situated. Significantly, in participatory RtD the designer does not embody the role of *the expert*. Rather, she acknowledges other stakeholders’ expertise, and capacity to contribute to a design solution that is rich and

democratic. The method thus draws on the democratic principles of co-design to afford collective creativity across the span of a design process: bringing together designers and people not trained in design to work together in the design development process, bringing differing perspectives to bear on creative decision-making (Sanders and Stappers 2008). Co-design enables researchers to navigate tensions of difference and articulate more precisely and realistically what might be meaningful for stakeholders with divergent values, and which benefits to aim for.

In *PRGD*, *designer-chefs* work *with* participants to prototype emergent (edible or other food-based) material artefacts and gastronomic experiences. The aim is to collectively reflect on research questions and emergent ideas. Constructivist in its unfolding, in *PRGD* participant feedback is drawn on in a hermeneutic cycle based on creativity and self-reflection – information and findings are used to move forward, but also revisit previous considerations (Mäkelä 2006). In this *applied action-reflection approach* to RtD (Jonas 2007), it is not the outcomes that are the focus. Rather, the making, testing and eating serve as a form of negotiation of emergent ideas. As a participatory research technique, the method assists people to bring into language things that they may not previously have reflected on or tried to articulate.

*PRGD* makes use of design research techniques such as *generative toolkits* (Sanders and Stappers 2008, 2012) and *thinking through making* (Wilde 2015) to surface new ideas. It also leverages estrangement (Shklovsky [1917] 1965) to open participants – whether potential diners, chefs or other stakeholders in the gastronomic experience – to exchange un-filtered views (c.f. Wilde 2015). It can include diverse activities, such as eating, using food to visualize data, co-developing dining experiences, or otherwise enjoying experimental – not yet formalized – emergent ideas. Whatever form the participatory experiences take in *PRGD*, their design draws from research into gastronomy and play to prompt expanded consideration of the subject of study – in our case, play within gastronomy.

## Playing with Food

In this section we unpack Phase 2 of the Playing with Food study, which led to the formulation of the *PRGD* method. We reflect on the key challenges identified in Phase 1:

- confronting the contradictions between the chef-centric model and what constitutes and affords playful experiences
- rethinking the gastronomy design process to allow for more diverse forms of play, wherein the chef still feels in control, even if she may relinquish control of some aspects of the dining experience to the diner

and draw on the four untapped opportunities:

1. empowering diners to participate in the creation of their food to increase the interactive qualities of the experience
2. challenge as an appealing source of fun for expert diners
3. including more diverse forms of play to shift the perception of gastronomy away from being perceived as ‘too serious’
4. enriching the social nature of the gastronomic experience to enhance its appeal.



Our approach is driven by our desire to understand in what way playful interactions might afford socially stimulating gastronomic proposals; and if shifting from a chef-centric to a more participatory approach might be helpful in adopting a richer understanding of playful gastronomy – more representative of diners' desires.

To reflect on these questions, we developed a series of participatory RtD explorations, shaping them with, through and around the gastronomic experience. In all, we designed four such PRGD explorations: (1) *the co-creative diner*, (2) *the challenge of degustation*, (3) *un-serious play* and (4) *social play* – one for each design opportunity identified, each shaped by the characteristics of the opportunity it is designed to address. Documentation was carefully curated throughout to support and fruitfully disrupt – rather than interfere with – the aesthetic experience (c.f. Wilde 2015). As described below, we gathered data through observation, audio, participant photography and petit-four 'multiple choice' questionnaires. This diversity of approaches encouraged study participants to reflect on the research questions both in action and on action (Schön 1983). Experiment #1 was captured as an audio file and through field notes. No photographs were taken. We restricted visual documentation to ensure a relaxed atmosphere, in which participants could freely engage with the materiality of the ingredients at hand and reflect and share insights in a casual manner, perhaps even forgetting momentarily that this was part of a research experiment. Experiments #2–4 used two complementary strategies for data collection:

1. We gave participants a camera and asked them to photograph anything they considered interesting throughout the experiment. The aim was to capture participants' experiences, rather than our interpretation of their experiences.
2. We designed a questionnaire in the form of a custom-printed plate of petit-fours that could be rearranged to answer a multiple-choice questionnaire (Figure 7). Participants were invited to reflect on their dining experience by rearranging and eating the sweet snacks and drinking coffee. The objective was to facilitate a smooth transition between *dining* and *reflecting on dining*, while gathering data. Questions included: which dishes were most fun, which ones were liked most, which ones were uncomfortable and which types of play they had experienced previously. Twelve forms of play were selected from the PLEX framework, adjusted for each experiment.

The petit-four questionnaire provided participants with tangible tools with which to articulate their thoughts, and clear questions with clear answer choices. It enabled us to keep the volume of data small and precise. While this level of precision may have been problematic in an experiment that aimed for open responses (such as in experiment #1: *the co-creative diner*), in *the challenge of degustation*, *un-serious play* and *social play* it helped participants to focus on what we – the researchers – were interested in: gaining insight into which forms of play worked best when paired with food.





Figure 7: *Petit-four-based questionnaire. Questions around the perimeter of the plate: What did you like? What was fun? What felt uncomfortable? In the centre, sixteen emotions drawn from Caillois and PLEX, customized for each experiment – in this case for the un-serious diner experiment.*

## The PRGD experiments

We report here the individual experiments. We first describe each experiment. Our reflections and findings follow.

### **Experiment #1: The co-creative diner**

This experiment was designed to investigate untapped opportunity #1: *empowering diners to participate in the creation of their food to increase the interactive qualities of the experience*. It involved the second author: the researcher, and two of the guest-interviewees from Phase 1: the novice and the maître d'. To facilitate the experiment, we asked the maître d' to host a cheese tasting, which we morphed into an ideation session in which the maître d' and novice imagine a playful dish. The structure of the tasting was left open to leave room for the maître d's expertise and the novice's responses and allow serendipity and chance to play a role.

The experiment unfolded as follows:

The maître d' began the tasting by presenting a range of products, including different varieties of cheese and side ingredients to be used as pairings. He encouraged his two guests to assist him in preparing the cheese platter, guiding their actions with concrete instructions. Once the platter was ready, the tasting session began with the maître d' suggesting different ingredient combinations. He did not tell his guests what they should expect to experience when eating the different combinations. Rather, he encouraged them to each come to their own conclusions and to engage in a reflective discussion to consider the range of responses. This reflective engagement with food, undertaken by people with radically different levels of expertise, led to explorative

conversations about how the social aspect of the experience of tasting food could be enhanced.

In the second part of this experiment, the researcher presented a series of cards representing different play ingredients drawn from Caillois and PLEX, and encouraged the novice and maître d' to include them in the conversation. The intention was to help participants find more nuanced ways of discussing their ideas around play. The outcome of the conversation, *cheese tasting roulette*, was a design idea for a dish articulated through two forms of play: *creative expression* and *chance*, and a reflective discussion about the implications of implementing such a design intervention in a dining experience.

*Cheese tasting roulette*: different types of cheese and different pairing ingredients are placed on a table that has a lazy Susan – a rotating circular structure – at the centre. Each diner is given a number of small plates on which they can prepare combinations of cheese and one or more pairing ingredients. They each prepare and place a combination on the lazy Susan. Once everyone has placed a morsel, just like a roulette wheel, the lazy Susan is spun to assign a novel tasting combination to each diner.

Concerned to what extent diners might feel comfortable with eating a preparation by a fellow diner, the maître d' proposed a mechanism to mitigate the risk. Each time a morsel was prepared, the diner could choose to (a) eat their own preparation or (b) include it in the roulette, and thereby make a wild card bet. The risk was in not knowing what piece of food they would end up eating – it could be their own, or one prepared by someone else; it could be something desirable, banal, weird or disturbing; prepared to be nice, to surprise, out of curiosity, to prank, or for some other motivation. Thus, with option (b), the diner takes a risk that could lead to more or less desirable outcomes.

According to the maître d' and the novice, *cheese tasting roulette* is interesting because it explicitly focuses diners on ingredients and the taste and has the potential to enhance the exchange of insights between diners. If diners take option (b), they may eat very unexpected pairings. Conversation about the combinations of ingredients and the reasons behind their combination would subsequently emerge.

## **Experiment #2: The challenge of degustation**

This experiment was designed to investigate untapped opportunity #2: *challenge as an appealing source of fun for expert diners*. It was prepared by the second author and involved two of the guest-interviewees from Phase 1: the food enthusiasts. During the Phase 1 interviews, the food enthusiasts reported that they enjoyed challenging each other to guess the ingredients of a dish; at the same time, when they go to a restaurant they simply want to eat – they do not want distractions. We designed the experiment with these two perspectives in mind: a meal made up of a series of dishes, each representing a different form of playful challenge. The guiding objective was to discover which forms of play were most appealing to the food enthusiasts.

To prepare, the researcher selected types of play he felt might support challenge, and interpreted them as dining experiences: *discovery* – tasting and identifying flavours that are initially disguised; *creative expression* – combining partially unknown ingredients to create edible compositions;



Figure 8: Experiment #2: discovery. Left: The centre plate containing sample ingredients. Right: A participant tasting an infused oil.

*collaboration* – joining efforts with the other diner to identify the ingredients of a dish; and *competition* – using tasting skills to get access to more food than fellow diners. We then designed experiments to surface these types of play and invited the food enthusiasts to a dinner. We detail here the two dishes perceived as most fun: *discovery* and *competition*.

*Discovery* (Figure 8) was a side dish in the form of an evolving bread and olive oil tasting. Each diner was served six small plates: five empty and one filled with oil infused with a mystery ingredient. The diners had to guess the ingredient that infused their oil before they would be served a new type of oil in a new plate. This game continued until all six oil plates had been filled. Each time a diner guessed their mystery ingredient, they could choose whether or not to share the winning answer with their fellow diner. In this way, the discovery process could be collaborative or competitive. To facilitate the process, a selection of ingredients – those used to infuse the oils, and others – were plated at the centre of the table. As *discovery* was a side dish, it could stay on the table for the entire meal, allowing the diners to dip in and out without the limitation of a specific time frame in which the dish should be finished. It could also be combined with other elements of the meal.

*Competition* was in the form of a dessert (Figure 9). Nine bowls with sweet condiments and a plate of *recuit* (a fresh cheese typical of Catalunya) were placed in the centre of the table. One food enthusiast was directed to close his eyes, while the other prepared a small portion of *recuit* with a condiment of choice. If the first could guess the condiment, he would continue being fed. If he was wrong, participants exchanged roles. The dessert was over when they finished the *recuit*. According to the food enthusiasts, *competition* was the most compelling moment of the evening. They had to be creative when feeding each other to ensure the ingredients would not be guessed. The combination of challenge, competition and physical engagement – both with the food and with each other – was often a source of laughter. Many different social dynamics emerged: teasing, hard competition and eventually, open demonstrations of affection.

After dessert, the diners were asked to reflect on the experience using individual petit-four questionnaires. The tangibility of the questionnaire helped



Figure 9: Experiment #2: competition. Left: the nine sauces. Right: one participant being fed by another.

them bring their thoughts into words. However, as the questionnaires were answered individually, they did not provoke a collective discussion. We therefore determined for the next experiment to make the *petit four* questionnaire collaborative.

### Experiment #3: Un-serious play

This experiment was designed to investigate untapped opportunity #3: *including more diverse forms of play to shift the perception of gastronomy away from being perceived as 'too serious'*. The second author prepared the meal: a lunch for two married couples in their fifties, none of whom had been involved in Phase 1. The second author was related to one of the couples and knew that they cherished informal and *un-serious* meals, hence inviting them to participate in the study. We had no further information on their relation to play and gastronomy. Similar to the previous experiment, *un-serious play* was designed as a meal featuring a range of dishes that each represented a different type of play. In this case, the forms of play included: *risk* – serving food that may or may not be spicy; *chance* – compensating bad luck with an unexpected food choice; *humour* – encouraging diners to tease one another; *bravery* – making exceptionally good and exceptionally weird food items look the same; and *uncertainty* – offering the chance to choose among unknown pieces of food, hidden inside mystery boxes. The dishes were not designed to elicit specific interactions. Rather, they afforded the conditions for the diners to find their own means for participation. The aim of the meal as a whole was to elicit *free play* and *joy* in diners who find restaurants too serious and formal. We detail the dish perceived as most fun: *humour*.

*Humour* (Figure 10) was the starter for the meal. Four different dishes – a salad, a pasta dish, *cous-cous*, and soup – were served at random to each of the diners, along with a series of small empty plates. The diners were instructed that if they wanted to taste another diner's food, they had to make them laugh, and if they made a person laugh they were entitled to a small portion of their food. This simple condition opened a gateway for the diners to behave in playful ways. They could decline to participate, of course, but amongst friends who





Figure 10: Experiment #3: humour. Top left: the four entrees; top right: some of the small plates participants shared; bottom left: two diners celebrating an exchange; bottom right: a diner laughing freely and openly.

enjoyed un-serious dining, this condition acted as a stimulant to find ways of being increasingly playful. The openness seemed to empower the diners to find their own way of being playful, calling on the familiar as well as new strategies to make their friends and partners laugh.

The meal ended with a collective petit-four questionnaire – one that was answered by the four diners together. Articulating the questionnaire as a group activity was beneficial. The discussion lasted longer and was more considered, as diners verbalized each decision they were making, and collectively negotiated the outcome.

### **Experiment #4: Social play**

This experiment was designed to investigate untapped opportunity #4: *enriching the social nature of the gastronomic experience to enhance its appeal*. It involved the second author and six of his friends, all in their late twenties. One of the participants was involved in Phase 1: the maître d'. The other participants had diverse relationships to gastronomy, ranging from one who considered himself a good cook to another who never felt attracted to fine dining. Despite their different understandings of gastronomy, they all enjoyed getting together around food and drinks as one of the most common activities they shared as friends.

For this experiment, participants were each asked to prepare a dish – they were each given an assignment, in the form of an invitation (Figure 11) including a course for which they were responsible and a type of play (e.g. ‘an

Dissabte 15 d'abril, 8.30pm	Casa del Ferran (Puig-reig)
<b>Invitació a un sopar on has de portar un _____</b> <b>que ens fagi divertir-nos _____.</b>	

Figure 11: Social play dinner invitation (in Catalan). Translation: 'Invitation to a dinner where you should bring a \_\_\_\_\_ {appetizer, starter, main course, dessert} that makes us play by \_\_\_\_\_ {being silly, exploring and discovering, being cruel, collaborating, competing}'.

appetizer that makes us play by *being silly*'). They were instructed to interpret their assignment however they wished. The aims were twofold: (1) to discover if different forms of socialization might be embraced; and (2) to reflect on which forms of social play – of those proposed and taken up – were considered most fun. All participants prepared their dish individually and served it to the other diners in a kind of 'pot luck' dinner. We describe the dishes that resulted:

Appetizer: *being silly* (Figure 12A). Diners were grouped in pairs. Each pair was given an XXL-sized t-shirt and a brightly coloured hat. One diner put on the t-shirt and hat, keeping their arms inside the body of the t-shirt; the other entered the t-shirt from behind, placing their arms around their partner's body, through the sleeves. The latter – blindly – had to feed the former. Diners would then exchange roles.

Appetizer: *exploring and discovering* (Figure 12B). A selection of croquettes filled with different ingredients, inspired by Harry Potter's 'Bertie Bott's Every Flavour Beans' (Warner Bros 2001). Diners were challenged to guess the filling. Some were filled with jalapeño, a spicy variety of pepper. No warning was given about this possibility.

Starter: *being cruel* (Figure 12C). A platter of tacos, some spicy. Diners were given three folded articles numbered: 0, 1 and 2 – one for each round of the dish. Taking turns, each diner unfolded a paper and ate the indicated number of tacos. They could not drink during the dish, and when they found a spicy taco, they could not let the other diners know. The penalty was ten extra minutes of no drinking. The game continued for three rounds.

Main: *collaborating* (Figure 12D). Pork fillet and sauce. Diners were served the fillet and an instruction paper. The sauces were in the centre of the table. The instructions detailed a limitation through which to approach the meal. They included: 'facing the opposite direction of the table', 'being blind', 'not using the right hand', 'not using the hands at all' and 'owning the sauces, but not owning any pork'. With these limitations, diners needed to collaborate to eat.

Dessert: *competing* (Figure 12E). Three chocolate truffles with melted white chocolate on a large cookie, balanced over a glass of tabasco, and a selection of chocolates in the centre of the table. The individual desserts had to be eaten using a plastic fork. Use of hands was forbidden. If the cookie broke, everything would fall into the glass of tabasco, challenging the diner to finish the



Figure 12: Experiment #4: dishes prepared by participants for social play. A: being silly (first appetizer); B: discovery (second appetizer); C: cruelty (starter); D: collaboration (main); E: competition (dessert).

dish. The chocolates in the centre of the table could only be eaten once the individual dessert was finished. This constraint created pressure on the diners to eat quickly – so as to get some chocolates, but carefully – to avoid having the individual dessert soaked in tabasco.

The meal ended with one collective and six individual petit-four questionnaires. The collective questionnaire afforded a rich discussion about types of play that were elicited throughout the meal. The individual questionnaires enabled diners to evaluate each other's dishes without discomfort.

### Reflections

In experiment #1: *the cheese tasting roulette*, the maître d' and novice combined creative expression (allowing diners to create their own compositions of texture and flavour) with randomness (afforded by the wild card roulette) to trigger free play. Diners could use this combination to elaborate a tasty morsel, demonstrate affect, prank, impressing, even 'teaching' through unexpected, innovative or insightful combinations. Instead of providing diners with a game that has a single goal and a defined strategy to pursue this goal, this design idea allows diners to find their own means to participate. It thus supports the emergent and free forms of play that our desk research, conversations and interviews-as-eating-experiences identified as desirable. This outcome illustrates how bringing together stakeholders with different understandings of, and relationships to, gastronomy might be helpful in designing richer forms of



playful gastronomy. It also demonstrates the use of tangibles, combined with eating, to help participants be more insightful – using the materials at hand to experiment with their ideas in an iterative and exploratory way.

In experiment #2: *the challenge of degustation*, the food enthusiasts reported that, in contrast to being disruptive, the playful framework we provided, which combined Discovery and Competition, made it easier and more compelling for them to behave as they normally did: competing with each other to guess ingredients. Crucially, the activities we designed had their origin in this previously reported preference. This outcome indicates that gaining prior information about diners can be extremely useful to customize compelling, playful gastronomic experiences. It underlines the potential in eating interactions between diners, as well as in the use of side dishes such as bread, oils, butter, etc. – dishes that can be present throughout a meal – to present unique opportunities for play through free discovery.

In experiment #3: *un-serious play*, according to the negotiations and completed petit-fours questionnaire, the diners enjoyed all of the dishes. It was hard for them to decide which was most fun, though the main course and the dessert were considered notable. The construct of having a series of mystery boxes and having to guess what they contained to get the best food was considered very pleasurable. Some participants even suggested increasing the risk factor by allowing diners to open only some of the boxes to increase the uncertainty in their choices. The diners selected many of the playful possibilities provided on the petit-fours plate to represent their experience: *fellowship, humour, power, sympathy and satisfaction*. In their discussion they highlighted: the surprise of dealing with mysterious packages, and the carefree fun of laughing in group. Carefree laughter, in particular, was singled out as a powerful source of fun. The diners engaged in carefree fun on a number of occasions: they made fun of the diner who was unlucky to get the spicy appetizer, and they made each other laugh to steal food. During the second appetizer, one of the diners was invited to exert vengeance. During the petit-fours reflection session, he reported feeling uncomfortable with having the power to make another person eat something unpleasant. In contrast, some of his fellow diners argued they would enjoy that feeling.

This experiment provided us with a number of insights, including forms of play that might appeal to casual diners – *cruelty, eroticism, fellowship, humour, power, satisfaction and sympathy* – and the kinds of social interactions that might unfold within those playful experiences. It highlights the value of designing experiences that allow diners to participate freely, without too tightly constraining the qualities of their interactions. It suggests that unpredictability and chance, as well as the different forms of social play that happen at the table (such as teasing each other) might be key to achieving non-seriousness play, carefree laughter or highly charged forms of sensual or erotic play that adults may enjoy. Our intention at the outset was to support free play and joy. Neither of these words were specifically mentioned by our diners. Yet, we find a parallel in non-serious play and carefree laughter. Finally, the conflict that arose for the diner who was gifted the power of vengeance raises the question whether it might be desirable to let diners choose whether or how they use a given power they are gifted with. It is unclear whether providing this choice might lessen the tension of the conflict to positive or negative effect, in terms of the overall experience.

In experiment #4: *social play*, diners were given a lot of freedom to design their own play experiences. The collective questionnaire indicated that they

recognized and enjoyed most of the playful experiences they were exposed to. Those disregarded, considered not present or not desirable include: *captivation*, *expression*, *relaxation* and *sensation*. The individual questionnaires indicated that the opportunities for free play were considered the most fun. With free play, diner responses were divergent – one diner behaved in a servile manner in response to one of the instructions, another diner took the same instruction as an opportunity to prank. This divergence is indicative of the open structure of free play, and supports the idea that free play can be more desirable than goal-oriented games when facilitating socially playful gastronomic experiences. Indeed, in the case of cruelty, it was the dish, not the individual that was designed to be cruel. The freedom to choose the nature of the cruelty, or who it is inflicted upon was absent. This absence took away the possibility to prank or dominate the experience. Instead, diners were faced with the fear of being inevitably punished. On reflection, we concluded that risk, cruelty and fear might only be pleasurable emotions if players have a chance to dominate them or use them as a strategy to exert friendly pranking. In this pot luck dinner, diner propositions challenged our understanding of social play in the dining setting. The diverse expressions of play provide a rich set of variations of socially playful gastronomic experiences. The experiment raises the potential of play as a source of social interaction in the dining setting. It demonstrates what happens when diners appropriate play as a driver for gastronomic creativity. According to Sicart (2014), appropriation is key to playfulness. The dinner was experienced by all as extremely playful.

### Phase 3

Building on our Phase 2 findings, we designed a workshop to bring together student chefs and game designers, to test whether our approach might be formalized into a methodology. The aims of the workshop were (1) to test how chefs perceive the idea of playful gastronomy, (2) to better understand how novice chefs might deal with a participatory approach to their food and (3) to understand what the participants might find useful in our four PRGD dining experiments, as well as what, from their perspective, might be lacking. The workshop lasted six hours, involved fifteen student chefs and nine student game designers. The cooking school staff were present as observers.

### Cooking games

We began the workshop with a short presentation in which we introduced the aims of research: to better understand the potential of – and how to support – more playful gastronomy. As we did not want to influence the behaviour of the workshop participants, rather than give a detailed account of our findings at that point, we gave four pieces of advice inspired by our experiments:

1. There are multiple forms of play: think beyond your own understandings and tastes.
2. Look for inspiration in real-life eating scenarios.
3. Design opportunities for *free-play* activities, in preference to highly structured games.
4. Be mindful to design *for* playful eating: play that contributes to, rather than distracts from the eating experience.

We also provided the students with a design document aimed at helping them make this advice actionable. The document includes a list of ‘play ingredients’ and room for the participants to add their own, space to add a scenario, a target group, the group’s likes and dislikes, and empty boxes to add: interactions that the diners might perform while eating, forms of play the diners might enjoy, and the resulting design idea.

Collectively, the advice and design document intend to investigate if, given relatively free reign, the workshop participants could identify forms of play they consider relevant to a particular group of stakeholders, combine these forms of play with other ‘play ingredients’ and prototype a dish that embodies the identified qualities. To our surprise, it was not the game designers who led the ideation process. Rather, the student chefs quickly and creatively combined the provided notions of play with their personal experience as both chefs and diners and their keen interest in observing people dine. They combined what might be considered classical approaches to New Cookery with well-known play principles and reported pushing their boundaries in this regard. Critically, the idea of working with play as a guiding principle for gastronomy design was something they had not considered before, certainly not beyond play-food that involves surprise and make-believe. The challenges we presented them riffed directly off the experiments undertaken in Phase 2. They included: the co-creative diner, un-serious play, the challenge of degustation and social play. The fifth team was given an open brief. We detail each of the dishes and provide an analysis using the PLEX framework.

### ***The co-creative diner***

Team 1 enriched the idea of preparing food for others by adding a mystery and a reward for solving a challenge (Figure 13a). Two diners were required to play. One diner could decide the ingredients of the other’s pizza, including a secret ingredient. If the receiver guessed the ingredient, she would be entitled to extra food choices for the rest of the meal. While this is a straightforward addition of play mechanics to sharing a pizza, using the PLEX framework as an evaluation lens, we see that this dish affords four forms of play: *expression* – allowing people to create their own flavour compositions; *challenge* – asking diners to solve a mystery; *control* – allowing diners to earn a reward that gives them special benefits over other diners; and *nurture* – getting diners to prepare food for others. In our analysis of interactively playful gastronomic dishes using the PLEX framework we did not identify controlling or nurturing forms of play. Their presence here seems to expand the repertoire.

### ***Un-serious play***

Team 2 split the diners in two groups and had them to compete for a final prize (Figure 13b). Each group received a meat-based dish and a selection of unlabelled sauces. The team that guessed their sauces first earn dessert as a prize. Some sauces had surprising and weird flavours, aimed at creating moments of laughter and carefree play. Using PLEX, we see that this dish affords six forms of play: *challenge*, *competition* and *completion* – the fastest group to solve the challenge wins; *humour*, *thrill* and *cruelty* – through unexpected tastes. In our analysis of interactively playful gastronomic dishes using the PLEX framework we did not identify competing or cruel forms of play. Their presence here seems to expand the repertoire.

### ***The challenge of degustation***

Team 3 used the popular game Mikado as inspiration. They made lollipop-shaped apple snacks infused with different flavours (Figure 13c). The first diner was instructed to taste a lollipop. If they could guess the flavour, they could continue eating. Otherwise, the next diner could eat, and so on. This dish affords three types of play: *challenge* – asking diners to identify the flavours; *exploration* – allowing diners to identify flavours that are initially unknown; and *control* – allowing diners to show their expertise by proving their tasting skills. As noted in *the co-creative diner*, control was a new form of play for this group.

### ***Social play***

Team 4 designed a game-like activity inspired by Parcheesi, harnessing the effect of chance through rolling a dice, to make the serving of appetizers and the choice of drinks and main course more dynamic (Figure 13d). As in Parcheesi, the outcome (the meal, in this case) was determined by a combination of chance and decision-making. Some food items on the menu were scarce, so that players had to compete for them. This dish affords nine types of play, including four that we have not previously identified in gastronomy: *challenge* and *control* – the play choices diners can make to build the meal allow space for creative thinking; *competition* – through the scarcity of some menu items; *fellowship* – some meal outcomes are determined through collective performance; *humour*, *cruelty* and *suffering* – such as a diner having to relinquish something she earned to another diner; *thrill* and *submission* – the outcome of the meal creation process is partially determined by chance. Following our PLEX analysis, the student chef's repertoire was extended through the inclusion of: control, cruelty, submission and suffering.

### ***Open brief***

Team 5 designed a degustation of ravioli (Figure 13e), with a reward for those who guessed the ingredients correctly: an exceptionally tasty ravioli filled with mousse of foie grass and caramelised onion; and a punishment for those who did not: a ravioli filled with a blend of different kinds of peppers, including some that were very spicy. The proportions of spicy and non-spicy peppers in the 'punishment' varied randomly, so that a diner could not know whether the punishment would be harsh or mild until they put the ravioli into their mouth. This dish affords five types of play, including three that we have not previously identified in gastronomy: *exploration* and *challenge* – requiring diners to guess an ingredient in order to progress; *cruelty*, *humour* and *suffering* – exerting fun punishments when diners fail to guess ingredients correctly. Our PLEX analysis demonstrates an extension of the student chef's repertoire through the inclusion of: cruelty and suffering.

### ***Reflections***

In all, the workshop participants made use of sixteen of the 22 forms of play they were proposed. They did not use: *eroticism fantasy*, *relaxation*, *simulation*, *subversion* or *sympathy*. Nor did they propose a form of play that was not on the original list. Importantly, they made use of both free play and structured play, demonstrating again that Caillois' ([1961] 2001) categorization of play activities in terms of how free-form or structured they are has currency. Their



Figure 13: Dishes designed at the workshop, including (a) the co-creative diner, (b) un-serious play, (c) the challenge of degustation, (d) social play and (e) the dish by the team with an open brief.

five dishes – though realized by student chefs and game designers on their first introduction to the PRGD method – expand the state of the art in playful gastronomy.

In a debriefing session, all participants agreed that taking into consideration diners' needs and desires was helpful to their creative process. Leveraging such knowledge as a starting point for the gastronomy design process enabled them to think beyond the state of the art. From this outcome, we might speculate that professional chefs could use our approach to connect with diners' needs and desires and think of playful ways of designing for them.

## Discussion

Our research brings to light a number of important findings, in terms of ways of researching play in gastronomy, and how to support its exploration. First,



frameworks for play, such as PLEX, can help make visible the limits of current approaches to play in gastronomy. At the same time, no framework is comprehensive: *Free Play* was identified as missing from gastronomic approaches to play *and* the PLEX framework. So, while this framework has been useful, it does not cover the scope of the potential of play in gastronomy or elsewhere. Second, one form of play not attended to in our study is adult play. PLEX does cover its possibility through almost every form of play in the framework. Yet, it did not come up in any of our interviews or experiments. We thus determined it to be out of scope. Further, and most definitively in terms of the focus of this study, there are untapped opportunities for playful design in the gastronomic experience. Four simple words of advice can prime chefs to attend to these opportunities (Figure 14). PRGD attends to these issues and provides a framework for action. The ten key dimensions for PRGD are shown in (Figure 15).

Through participation, PRGD supports chefs and gastronomy designers wishing to explore play in gastronomy to harness – and thereby give value to – participants’ extensive and diverse experience as diners. The forms of play that emerged in our study embrace a broader understanding of eating and gastronomy than is currently available in restaurants, and there is clearly further potential.

Our study demonstrates how PRGD encourages active participation through play (*the co-creative diner*); can be used to facilitate discussion and assessment of the impact of play on social dynamics (*un-serious play* and *social play*). Further, PRGD affords diverse and engaging responses to specific questions, which can then be used to inform concrete design choices. For example, in *the challenge of degustation* we were able to investigate whether competition or collaboration rendered a particular dining scenario more enjoyable, and in what ways. This material could then be used to develop other playful eating scenarios.

Our experiments demonstrate how PRGD affords the design of playful gastronomic experiences beyond a chef’s personal culinary language. It involves real diners in the design process, and facilitates the articulation, capture and understanding of the varied perspectives that diners bring to dining as a situated, social activity. With PRGD, diners are neither audience, nor object of observation. Rather, they are an active and essential part of the design process. This shift in the diners’ role seems key to overcome the limitations of the unidirectional, chef-centric approach. The active negotiation between chefs and diners inherent in PRGD affords valuable insights into both chefs’ and diners’ desires, in terms of the food itself and interaction with the eating experience. This negotiation takes the form of a hands-on, designed process in which gastronomy, play and participatory design research are intertwined. The resulting design actions enable chefs, design researchers and other stakeholders in gastronomy to break with limitations and pre-conceived notions around how a gastronomic experience might unfold. The experiments give rise to unexpected responses to complex problems, deepened understanding of the problems as a result, and propositions for new and surprising gastronomic experiences. Critically, they enable a re-evaluation of the relationship between creativity and control. We suggest this re-evaluation is critical if chefs and other experts in gastronomic restaurants are to feel comfortable to push boundaries and be confident of the quality of the experiences that result. We see it in the workshop participants’ responses to the possibilities afforded by PRGD. When confronted with the provocation that PRGD presents to the methods they are learning, the student chefs grasped

- There are multiple forms of play: think beyond your own understandings and tastes.
- Look for inspiration in real-life eating scenarios.
- Design opportunities for free-play activities, in preference to highly structured games.
- Be mindful to design for playful eating: play that contributes to, rather than distracts from the eating experience.

*Figure 14: Advice for chefs wanting to develop more playful gastronomy.*

1. Bringing together stakeholders with different understandings of and relationships to gastronomy can be helpful in designing richer forms of playful gastronomy.
2. Prior information about diners can be extremely useful to customise compelling, playful gastronomic experiences.
3. Combining tangibles with eating, assists participants to be insightful—it enables them to use the materials at hand to experiment with their ideas in an iterative and exploratory way, coherent with the dining experience in which they are engaged.
4. Eating interactions between diners provide an ideal opportunity for free play
5. Side dishes such as bread, oils, butter, etc. —dishes that can be present throughout a meal—present a unique opportunity for play through free discovery.
6. Certain forms of play are particularly appealing for casual diners. They include: Fellowship, Humour, Power, Sympathy, and Satisfaction.
7. Experiences that allow diners to participate freely, without too tightly constraining their interactions are valuable when trying to engender playful attitudes
8. Unpredictability, Chance and other social forms play form a good foundation for non-seriousness play, carefree laughter, free play and, eventually, joy.
9. Risk, Cruelty, and Fear might only be pleasurable emotions if players have a chance to dominate them or use them as a strategy to exert friendly pranking.
10. Play can serve as a foundation for social interaction in the dining setting.

*Figure 15: Ten key dimensions of PRGD.*



the opportunity with both hands, worked in radically new ways that leveraged their existing knowledge in the context of the very different power proposition that PRGD proposes.

PRGD thus supports the design of playful gastronomic experiences that appeal to a range of diners. It affords exploration of play's impact on social dynamics, can productively inform concrete design choices, and supports chefs to partially transfer control of how a meal unfolds, without diluting their sense of controlling the overall experience. It thus addresses a key impediment to extending play in New Cookery.

Gastronomy is an inherently social activity (Douglas 1972; Ochs and Shohet 2006), rich with material, as well as social interactions. By leveraging these interactions through emergent forms of play, PRGD enables the chef-designer-researcher to propose experiences that empower diners to be active, rather than passive recipients of the chef's creativity; that balance progression and emergence; allow diners to influence the construction and unfolding of the experience; and are reflective of, and therefore unique to, each group of diners. While these possibilities are unique to PRGD and are based on a very different power structure from the chef-centric approach, we nonetheless suggest that the two approaches can sit well together. The responses of the student-chefs support this notion. They drew from their chef's training, their experience as diners and their experience watching diners, to creatively and dynamically propose playful interactive dining experiences. While it may not be quite so easy for an established chef to shift the ground so radically, we suggest that PRGD helps remove much of the uncertainty and risk. Through play theory it provides frameworks that help nuance experiments with play; and through participatory R&D, it affords material interactions between diners, as well as through diners and the food.

From our work with the student chefs, and discussions with their teachers, we propose that hands-on exposure to our method is very effective in convincing chefs of the method's potential. Before beginning the workshop, the chefs and the game designers were sceptical. Their scepticism led to a constructive discussion on the potential of multi-stakeholder participation in gastronomy design. By the end of the workshop, after a morning spent on ideation and an afternoon spent on prototyping, most participants were positive they would use a PRGD approach in their future practice.

## Challenges and limitations

PRGD proposes hands-on, participatory, localized experiments as a way to formulate a richer understanding of diners' needs. There is a challenge in transforming such contextually dependent knowledge into generalizable insights. A further challenge emerges in the implementation of PRGD in an actual restaurant. We developed PRGD in the context of academic research. The explorations were conducted in people's homes and in teaching kitchens and labs. The applicability of PRGD outside of such settings might be challenging to achieve. However, the workshop we conducted with the student chefs suggests that our approach can indeed be embraced and implemented, perhaps as momentary experiences within a more traditional setting. In any case, we suggest restaurants that adopt an experimental approach will perhaps be better placed to adopt and adapt our method.

A number of gastronomic restaurants conduct R&D processes – some even have a dedicated space for that endeavour. But their explorations rarely consider

aspects beyond food. *La Masia I&R*, El Cellar de Can Roca's R&D lab (Cellar Can Roca n.d.; Jolonch 2012) is used by the chefs to experiment with taste, texture and form. Diners are never invited in. In contrast, at Attica, an award-winning restaurant in Melbourne, Australia, they hold 'Experimental Tuesdays' where they serve in-progress dishes to test them with real diners (Ulla 2012). Significantly, the diners are not considered *active* assets in Attica's gastronomy design process – they are testers, recipients, respondents; not agents of change. PRGD, in contrast, sees diners as powerful agents in the dining process.

To include diners as such requires their inclusion as active agents in the design process. Such a shift could be supported through spaces dedicated to an action-reflection approach to designing gastronomic experiences. In such a space, experiments like the ones described in this article could be performed with diverse stakeholders. Those spaces could be located *in-house*, within a restaurant's facilities, but also *in the wild* – in other settings in which eating takes place. As Ferran Adrià asserted in our interview-as-eating-encounter, gastronomy can exist anywhere – it does not need a restaurant, it only needs passion and commitment, love and skill. His viewpoint perhaps presages a broadening of the context for New Cookery, at least in terms of how and where experiments that actively include diners might take place.

## Future work

The aim of the Playing with Food research project was to investigate how, or indeed if, playful qualities of a gastronomic experience might be enhanced and enriched by challenging the chef-centric approach to dining – the dominant model in high gastronomy. In this study, we bypassed consideration of the relationship between diners and staff, knowledge acquisition by expert diners, and the experience of eating with strangers, considering them out of scope. Yet, these and many other aspects of the dining experience merit attention. In future research we will broaden the scope of our inquiry to include such foci and identify distinct mechanics of playful eating. We will also conduct ethnographic studies to nuance our understanding of gastronomy in practice – in and beyond the restaurant. We thus hope to bring focus to personal aspects of play and playfulness, and their impact on dining.

The current research was undertaken in part in elBulli Lab. We plan to continue such collaborations to build on this work. In particular, we are interested to discover how to balance user-driven processes with novelty, in ways that have been tested in experimental design research (c.f. Gaver 2002), within the context of gastronomy. Doing so was identified as important by many of our interviewees and is considered a defining trait of New Cookery.

## Conclusions

In this study, we identified a dominant *chef-centric* model in gastronomic restaurants and highlighted its limitations in terms of playful experience design. We found that the chef-centric model, although successful, does not represent many people's understandings of gastronomy. To address this complexity, we posit PRGD as an approach to support an increasingly playful gastronomy. PRGD builds on top of play theory and a participatory approach to RtD to design gastronomic experiences that are (1) richer in terms of play and (2) more representative of diners' desires and sensibilities. It equips chefs to play the role of gastronomic designer-facilitator and sets the conditions for diners to find their own means for playing. When that shift occurs, rather than

becoming a negative disruption to the act of eating, diverse forms of play are more likely to be perceived by diners as an asset. Through this comprehensive presentation of the method, we demonstrate that PRGD provides the tools for chefs, and others interested in gastronomy design, to extend their creative process beyond the chef-centric model towards eating experiences that afford socially enriched, playful interactions – we believe, to the benefit of all.

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