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FOREWORD

FABIO PARASECOLI
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The New School, the International Food Design Society, and Food Design North America are proud to present the Proceedings of the Second International Conference on Food Design, which took place in New York City on November 5–7, 2015. This collection includes some of the material presented at the conference but it cannot fully mirror the richness and intensity of the discussions and exchanges that took place during the numerous sessions.

Reflecting the growth in this emerging field, the New York conference at The New School followed the First International Conference on Designing Food and Designing For Food, which took place in London in 2012. The 2015 conference gathered researchers, scholars, and practitioners from all around the world who shared their work and experience for three days. Food design is transdisciplinary in nature, bridging fields that range from design studies to food studies, from product design to architecture, from semiotics to system strategies. It applies design methods and approaches to food-related objects, experiences, environments, services, and systems at various scales, from the individual to the communal, from the local to the international.

The New School, with its attention to the connections between design and the social sciences, and its very active food studies program, is uniquely placed to further the dialogue between design and food studies that focus on cultural, social, and political issues. By doing so, it offers opportunities to develop cutting-edge critical tools and methodologies to not only reconfigure things and places, but also envision new experiences and increase the sustainability and justice of food production, distribution, and consumption. A concrete step we have taken in this direction is offering a Food Design course for starters, in what we hope will develop into a Minor Program.

The burgeoning field of food design has acquired increasing relevance in the past decade, showing sustained progress and reflecting the growing interest in all things food, not only in post-industrial societies but also in developing countries. As a matter of fact, one of the most interesting elements of the new field of research and practice is its global manifestation, with designers and scholars from very different places and backgrounds interacting—even at a distance—and being familiar with each other’s work. Regional and international conferences such as the one in New York City contribute to these fertile exchanges and stimulate an ethos of collaboration. Of course, the themes and challenges food design embraces in different countries and regions worldwide reveal the priorities of each area, its sociocultural history, its productive structures, and its most urgent issues.

In this sense we have noticed certain tendencies, or clusters of activities, especially regarding Europe and Latin America, the two regions of the world where food design has seen greater activity. In the first case (Europe), there is a major emphasis on experiential and culinary aspects of food design, often in artistic and performance oriented directions. Europe hosts the majority of food design higher education offerings, informed and influenced by both its strong cultural heritage and avant-garde regarding gastronomy. Latin America is where the largest concentration of networking in food design has taken place in recent years, guided by the “red Latinoamericana de Food Design”, which host an annual Encounter, mixing academics, professional and cultural activities around food design. Attention there is mainly on social innovation and entrepreneurial activity, as the creative industries are blossoming there, prompting resourcefulness along side of the many challenges poised by its economies of scarcity.

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In this context, regional organizations have emerged to facilitate encounters among those involved in food design and take stock of their specific concerns and the directions they can take to address them. Food design in Latin America has necessarily developed methodologies and points of view that are different from its equivalent in Europe. Food Design North America, one of the partners in our conference, aims to respond to the North American context, while keeping its line of communication open with food designers elsewhere.

These dynamics constitute the main purpose for international conferences, which help all those involved in food design assess the state of the art in the field and establish transnational connections. In New York City we had the pleasure to meet with food design practitioners and researchers from Argentina, Australia, Canada, Colombia, Finland, France, Iceland, India, Italy, Korea, Mexico, New Zealand, Nigeria, South Africa, Spain, Taiwan and UK, amongst other countries that were represented by the participants.

How can food designers introduce new behaviors to consumers? How can they move from ideas and projects to actual production? What is the best way introduce daring, paradigm-shifting innovation into the food industry, which is often hesitant to take risks and ends up proposing more of the same, often just in larger quantities? And how can these innovations become part of larger cultural and social visions? These are some of the topics addressed in the conference. At the hinge of the biological, the emotional, and the social, food crosses boundaries of many sorts, as its production, preparation, and consumption are not just material practices but are always invested with and influenced by meaning. In particular, food shapes and is shaped by cultural hierarchies, economic flows, and power structures, providing insights into marginalization and disenfranchisement. Practices and narratives about cooking, eating, and even disposing of food waste constitute a highly contested arena in which cultural, social, economic and political tensions converge. As with other kinds of consumption, food choices play an increasingly relevant role in defining the cultural stance, the social status, and the political worldviews of global citizens.

Practitioners and researchers in food design tackle these issues head-on, whether they are designing tableware or restaurants, organizing a performance for a conference, planning an exhibition in a museum, streamlining the flows of people and goods in an event, rethinking packaging and distribution, examining food access issues, or reflecting on new modalities of food consumption and sharing. It is precisely this dazzling variety of approaches, methodologies, and practices that makes food design an exciting, and one with such promise!

FOOD, DESIGN, AND FOOD DESIGN

MIRANDA VANE, THE ROYAL COLLEGE OF ART

ABSTRACT

The January 2015 cover of *Wallpaper* proclaimed the magazine's content to be about 'Front runners in design, architecture, fashion, food, photography and more...'; confirmation, if it was needed, that the status of food as a creative culture is today considered on a par with fields that have for some time been mainstays of the highbrow.

Working specifically to contextualise design with food, this paper will take as its central concern the foremost creative figures of design and food - 'the designer' and 'the chef' - and explore the ways in which the professionalization of these respective roles has been fundamental to the enhanced reputation of each field and its current standing in the cultural zeitgeist. Although the professionalization of design occurred several decades earlier, both of these professions have undergone shifts in popular perception that have served to enhance their standing in terms of what Pierre Bourdieu would consider to be cultural, economic and social capital. Drawing upon literature from multifarious fields, this paper will identify mechanisms and ideologies that shape the professional identities and practices of food and design practitioners respectively, and by doing so will frame ways of thinking about why these two fields are distinct, as well as the ways in which they overlap. This understanding will enable the nascent field of Food Design to identify how it might draw upon the existing structures governing each respective profession, and where new ones might need to be created. The introduction of Food Design subjects in Eindhoven and Milan, and indeed the creation of the International Food Design Society, can be understood as the beginnings of this process.

Through this discussion of professionalism, this paper will further show how many of the central concerns of food and design are equivalent throughout both practice and theory. On the other hand, each field has its own specific working methods and professional discourse, within which a designer working with food cannot help but be implicated. Framing ways in which History of Design methods might be used to consider fields of food-making opens up new means of analysis for the study of Design with Food.

KEYWORDS

Food design, food design methodology

The front cover of the January 2015 edition of *Wallpaper* magazine proclaimed a feature, "Forward March!" about "front runners in design, architecture, fashion, food, photography and more..." Further proof, were it needed, that food can now be understood as a creative medium alongside cultural fields traditionally considered thus. Accordingly, the role of "the chef" is no longer understood as that of a lowly maker or a hired-hand. Instead, like "the designer" before him/her, "the chef" has made the transition from artisanal occupation to creative profession.

There are of course parallels to be drawn between these two professions; they are both dealing with what Design Studies Professor Nigel Cross describes as "ill-defined" problems, because "the solution is not simply lying there amongst the data."¹ A design process is not simply a matter of calculating the right answer to a problem but is a matter of synthesizing a suitable solution. Similarly, creating an original dish or food product is also a matter of finding an aesthetically and functionally satisfactory final result. The nature of working to solve an "ill-defined" problem means that designers must "redefine and change the problem-as-given in the light of the solution that emerges from their minds and hands."² Equally, creating new dishes requires a combination of thinking and making as the food maker responds to creative leaps as they occur throughout the process. Furthermore, neither profession is strictly regulated in the way that law, medicine

¹ Nigel Cross *Designerly Ways of Knowing* (Basel: Birkhauser, 2007) p.24

² Cross *Designerly Ways of Knowing* p. 24

and architecture are required to be, and so the matter of gate-keeping the profession and maintaining standards is therefore more subtle.

This paper will compare the roles of designer and chef as two creative professional disciplines, drawing parallels between the two fields' methods of professionalization and their public perception. In doing so this paper will propose the ways in which inter-disciplinary History of Design methods are a useful means of considering food, enriching a study of the subject beyond the sociological or anthropological on one hand or the gastronomic on the other.

This paper will particularly draw upon literature from the field of History of Design, as well as Food Studies in order to create a useful means of thinking through the professionalization process, presented in combination with relevant visual culture. This discussion will show how many of the practices of a professional, creative chef are comparable to those of a designer, and so any Design Historian, like myself, might construct a critical framework with which to assess the broader context of creative food production.

Francesca Zampollo, in her definition of Food Design, identifies seven different ways in which contemporary designers are working with food.³ This paper will specifically consider working with the material of food itself as it is a field that does not already have a Design Historical framework in the way that other relevant material cultures (e.g. traditional products or interiors) already do. Given that the professional most usually considered as the ultimate authority in matters of creative food-making is the chef, comparing the practices of designers to chefs will provide useful ways of understanding the interactions between the two fields.

The System of Professions by American sociologist Andrew Abbott has been a key text for those working in the field of Design History for studying not only the means by which various professions come about and maintain their boundaries, but also the ways in which different professions interact.⁴ In their essay "The Professionalisation of Product Design," Anna Valtone and Antti Ainamo draw upon Abbott's work to note that:

A move by one profession inevitably affects the others. Chain reactions in the system of professions start either with external forces such as when changes in technology or organization open or close areas for jurisdiction, or when other existing or new professions seek new ground. These changes lead to chains of disturbances that move through the system until they are absorbed either by the professionalization of a group or by internal restructuring of one or more existing professions.⁵

It is because of this knock-on effect of the expansion of design practice to encompass food that it is important to consider these two professions in relation to one another, to enable an understanding of the possibilities and interactions of each.

To consider the role of the chef in a study of contemporary food culture is particularly pertinent given what sociologist Priscilla Parkhurst Ferguson has described as the "culinary spectacle." In her analysis of contemporary French cuisine and food culture, Ferguson has found that "when the kitchen moves center stage, as it is doing more and more, the culinary spectacle deserts the dining table" and the chef, therefore, becomes central to an understanding of food.⁶

³ Francesca Zampollo *Meaningful Eating: A new method for Food Design* (Unpublished PhD thesis, November 2013 London Metropolitan University) p. 14

⁴ Andrew Abbott *The System of Professions: An essay on the division of expert labour* (Chicago: University of Chicago Press, 1988)

⁵ Anna Valtone and Antti Ainamo 'The Professionalization of Product Design: Reflections on the Finnish Case' Paper given at *International DMI Education Conference 'Design Thinking: New Challenges for Designers, Managers and Organizations'* 14-15 April, 2008, Paris La Defense, France p.8

⁶ Priscilla Parkhurst Ferguson *Accounting for Taste: The Triumph of French Cuisine* (Chicago: The University of Chicago Press, 2004) p.154

The importance of the figure of maker to such a study is emphasised if understood in terms of sociologist Michel Callon's "Economy of qualities."⁷ Callon draws upon Latourian Actor Network Theory in his conceptual framework that analyses the means by which a consumer chooses one particular product in a marketplace in which many similar products are available. Callon proposes that many different characteristics of a product contributes to a consumer's ability to make their choice, and that:

[these] may be characteristics that common sense would automatically describe as intrinsic, but may also be brands, packaging or special recipients, particular sales conditions such as [a ...] seller's reputation.⁸

Certainly the figure of the creator and the values that they are understood as representing would, according to Callon's understanding, be key characteristics of a food product in an economy of qualities.

In a competitive market, "'attaching' consumers by 'detaching' them from the networks built by rivals is the mainspring of competition."⁹ It is here that Callon identifies that design, "as an activity that crosses through the entire organisation, becomes central: the firm organizes itself to make the dynamic process of qualification and requalification of products possible and manageable." According to this perspective we find design operating on two levels: both in the work of the maker and in the design of the mediation of information about a product. Of particular focus here will be the portrayal of the persona of the maker. Even though the work of a food designer may not necessarily be promoted in a purely commercial scenario (it might, for example, be part of an exhibition), I would argue that the persona of the maker will continue to play a large part in an audience's understanding and assessment of a product, project or work.

The examples that this paper draws upon are not intended to focus upon one particular national food or design culture. Rather, the emphasis will be on the general development of these two fields in Western Europe and North America, places in which the cultures of design and creative cooking are both strong.¹¹ Certainly this is also the case elsewhere—most notably East Asia. However, this paper is not intended to function as a definitive history nor as an assessment of the particularities of distinct cuisines, but rather to propose methods for analyzing the various forces at play in any given food and design scenario.

Narratives about the emergence of the designer as a creative professional, rather than as an anonymous craftsman, describe the way in which the industrialization of manufacturing and the division of labour inherent to mass production led to the requirement for a distinct "designer" role. The beginnings of the Design Industry and the professionalization of the designer are charted in books such as *Industrial Design* by John Heskett (1980) and *Consultant Design: The History and Practice of the Designer in Industry* by Penny Sparke (1983).¹² These works saw the beginnings of an academic analysis of this process and the ways in which the role of designer subsequently became recognized as a creative practice in its own right. These texts saw the beginnings of Design History moving away from "great man" narratives to a deeper understanding of the professional apparatus surrounding designers' practice and the context in which it occurs.

More recently Design History has drawn upon sociological studies of professions, such as that by Abbott, to enable them to map the processes and strategies by which the design profession has emerged and continues to be defined. Design historian Jill Seddon has written that conventional

⁷ Michel Callon, Cécile Méadel and Vololona Rabeharisoa 'The economy of qualities' in *Economy and Society* Vol. 31 No. 2 (May 2002) pp. 194-217

⁸ Callon et al 'The economy of qualities' p. 200

⁹ Callon et al 'The economy of qualities' p. 205

¹⁰ Callon et al. 'The economy of qualities' p. 212

¹¹ Social researcher Isabelle de Solier writes in her study of 'foodie' culture in Melbourne, Australia, that although it 'necessarily has local dimensions, this setting nevertheless shares many similarities with urban food cultures in other postindustrial, multicultural Western societies, most notably the UK and US.' (Isabelle de Solier *Food and The Self: Consumption, Production and Material Culture* (London: Bloomsbury, 2013) p. 13) London food culture is similarly both locally specific and subject to global trends and it is likely that many of these observations are of equal relevance to a US scenario.

¹² John Heskett *Industrial Design* (London: Thames & Hudson, 1980); Penny Sparke *Consultant Design: The history and practice of the designer in industry* (London: Pebridge Press, 1983)

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means to design professionalism include “recognised training; registration and regulation; the founding of professional associations; participation in official and government bodies; and a means of indicating public recognition [...and] the production of a recognisable body of work, identifiable with a single individual.”¹³

The history of the beginnings of modern industrial design are certainly told in these terms. Professional organizations such as the Deutscher Werkbund in Germany and the Society of Industrial Designers in Britain were early bodies that set professional standards and enabled interactions between practitioners; Worlds Fairs and International Expositions disseminated the ideals of “good” design to consumers; and pedagogical strategies at schools like the Bauhaus and the Royal College of Art ensured that such principles were instilled in future practitioners. In the US early industrial designers such as Norman Bel Geddes and Raymond Loewy become particularly adept at promoting their work, mythologizing themselves using techniques borrowed from the burgeoning advertising industry to emphasise the importance of the role of the designer (in particular themselves) to the minds of the consuming public.

Through these means designers made themselves indispensable to industry and made their work desirable to the consuming public. This desirability is articulated by Guy Julier in his study of the design profession - *The Culture of Design*, in which he proposes that the History of Design “may be read as the history of individuals and groups who have [...] attempted to identify themselves and their practice as something which bestows things, pictures, words and places with ‘added value.’”¹⁴

Of course, the contemporary design industry encompasses considerably more than the creation of products. Service design, system design and social design are all fields that are currently within the remit of the contemporary designer and these developments are reflected in design school courses, design exhibitions, professional design associations as well as the critical literature of the field. What remains key to a designer’s practice, particularly as regards the consuming public’s perception of their work, is their ability to add value to their products through a creative design intervention.

The history of professional cooking has not thus far received such analytical attention. The tale of twentieth century professional food creation is dominated by the figures of a few famous chefs and cooks (often in the form of autobiographical accounts), and, latterly, a few culinary movements. Indeed, the twentieth century history of eating, certainly from within Design History, is more often told through the technological developments and processes that have made eating cheaper and more convenient. This is not an aspect of food culture that has much bearing on the work of creative chefs. This paper does not purport to provide answers or reasons for the emergence of the creative chef into the cultural consciousness, but rather to note ways in which it has happened, explore the existing work on the subject and to suggest ways in which design literature may be applicable to the case of the chef.

The emergence of “the chef” from the behind the literal and metaphorical green baize door to be considered as a creative professional has occurred more recently than the equivalent process for the designer. Parkhurst Ferguson notes that “like other artisans who aspired to the status of artist, chefs eventually emerged from the nether regions of their craft. Legitimation for chefs came more slowly, more slowly than for other artisans dealing with more ‘noble’ materials.”¹⁵ It is true that

¹³ Jill Seddon (2000) quoted Grace Lees Maffei ‘Introduction: Professionalization as a Focus in Interior Design History’ in *Journal of Design History* 2008 21 (1)

¹⁴ Guy Julier *The Culture of Design* (Sage Publications: London, 2000) p.37

¹⁵ Parkhurst Ferguson *Accounting for Taste* p.155 -156

Western tradition has, as described by Philosophers Lisa Heldke and Deane Curtin, “tended to privilege questions about the rational, the unchanging and the eternal, and the abstract and the mental; and to denigrate questions about embodied, concrete, practical experience.”¹⁶ Perhaps the association with bodily functions, emotions and physical experience has meant that food is not worthy of intellectual analysis, nor its makers worth granting any position of cultural authority.

Academics studying food have posited various reasons beyond the sensual and emotional for why the material of food has been until relatively recently, held in such low regard. Anthropologist Sidney Mintz believes that “despite its importance both nutritively and symbolically, there is a strong propensity to routinize food, both in the eating and as a prosaic and intrinsically boring subject of discussion, at least for intellectuals.”¹⁷ I suspect those attending the Second International Food Design Conference may refute that food is a boring subject of discussion, but it is undeniably an everyday necessity. There was however a turn in academia in the late 1970s and 1980s in which both the sensory and the everyday were held in new regard. David Howes indicated major trends in this field in a 2013 essay entitled “The Expanding Field of Sensory Studies” in which he suggests that “the sensory turn in history and anthropology dates from the 1980s, though there were various overtures to the senses in the anthropological and historical literature of previous decades.”¹⁸ Another scholarly turn, of which the beginnings of the discipline of the History of Design was a part, saw greater importance granted to the everyday. Works such as *The Practise of Everyday Life* by Michel de Certeau brought the consideration of the quotidian to the fore and argued for the importance of the ordinary. While the practice of a creative chef can certainly not be described as ordinary, this thinking re-frames the material of food as a subject worthy of critical and creative attention.

The rise of television and the internet are most often noted as key drivers in both the rise in cultural interest in food and in the increased prominence of the chef. Parkhurst Ferguson considers that “one of the most notable developments in modern times has to be the chef’s rise to cultural visibility, an ascension that the past quarter century or so has rendered positively vertiginous.”¹⁹ Much of the literature that charts the rise of the chef centers around television and the increasing proliferation of food programmes. In her book *Watching What We Eat*, Kathleen Collins writes that “interest in food has been a relative constant for two centuries. Television transformed it into a phenomenon.”²⁰

Krishnendu Ray in his essay on “Domesticating Cuisine” credits the inherent qualities of the television format as the reason for this, not only because it provides such a prevalent platform. Rays suggests that:

television is the medium of the non literate, and thus, is perfectly suited to cooking, both in terms of production codes and social codes. Cooking is mostly about the body doing stuff that is unarticulated [...] All the literate, sequential, lineal cookbooks and aural recipes on radio could not compete with instantaneously embodied images on our TVs. Television has allowed cooking to be born as a public image, different from a book or radio show.²¹

It is certainly true that the English language is deficient in its ability to describe both food experiences and the nuances of skilled making.²² Ray’s proposition, however, omits to take into account how the nature of the food and cooking programmes shown on television has changed. An analysis of the BBC television schedules since the 1960s reveals not only the increasing

¹⁶ Lisa Heldke and Dean Curtin, quoted by Warren Belasco in *Food: The Key Concepts* (London: Berg, 2008) p.2

¹⁷ Mintz in ‘Food and Eating: Some Persisting Questions’ in *Food Nations: Selling Taste in Consumer Societies* Belasco and Scranton (eds) (London: Routledge, 2001) p.28

¹⁸ David Howes ‘The Expanding Field of Sensory Studies’ <http://www.sensorystudies.org/sensorial-investigations/the-expanding-field-of-sensory-studies/> accessed 31/10/14

¹⁹ Parkhurst Ferguson *Accounting for Taste* p.154

²⁰ Kathleen Collins *Watching What We Eat: The Evolution of Television Cooking Shows* (London: Continuum, 2009) p.6

²¹ Krishnendu Ray ‘Domesticating Cuisine: Food and Aesthetics on American Television’ *Gastronomica: The Journal of Food and Culture* Vol. 7 No. 1 (Winter 2007) pp. 50-63 p.58

²² Richard Sennet expands on this point in his discussion of knowledge sharing and embodied skill. (Richard Sennet *The Craftsman* (London: Yale University Press, 2008) p.179)

number of opportunities to watch television series about food, but the changing nature of the sort of cooking that is shown. It is only in the twenty first century that television programmes began showing professional cooking techniques, as opposed to demonstrations and advice on home cooking in the style of Fanny Craddock, Martha Stewart, Delia Smith or Jamie Oliver. *The Great British Menu* which first aired in 2006 is a televised competition in which extremely highly-regarded (most often Michelin-starred) professional chefs compete against each other and are judged on both their cookery skill, and the creativity of the dishes that they create.²³ Culinary expertise of this ilk had not previously been seen outside of the restaurant kitchen itself. Viewers of the televised cookery competition *MasterChef* may have noticed that the amateur contestants have become markedly more professional over the last ten years, demonstrating that food enthusiasts have increasing awareness and knowledge of the techniques and skills inherent to that sort of professional practice.²⁴

Apart from bringing the figure of the chef into the limelight, such programming also serves to reiterate the perception of the chef as not only creative, but also as a skilled maker and craftsman. Chefs, you will notice, are almost always depicted at work, or at least wearing chef's whites and alongside the tools of their trade, which further serves to emphasise skilled making as central to the understanding of what makes a chef.

It would seem that the mass media is increasingly depicting chefs' work as creative, but it is also useful to consider how creativity is promoted from within the profession itself. The field of cuisine that is currently the most creative, in the sense of originality of visual presentation, culinary techniques and flavour combinations, is that which is often referred to as molecular gastronomy. It is in relation to this sort of practice that the promotion of creativity is most prevalent. Research into developing techniques for this sort of cooking has expanded beyond the development kitchen and become formalized in publically-funded institutions such as The Nordic Food Lab, the work of Hervé This at Institut National de la Recherche Agronomique at AgroParisTech in Paris.²⁵ Similarly, the eBulli Foundation has been categorized as a "public interest project" by the Catalan government. Research is needed to better understand the effects of the institutionalization of culinary research in this form, the agenda of the sponsoring governments, and the influence on the local food culture resulting from the nurturing of this form of research. In particular, the relationship of creative cooking to national cuisines and geographical location would contribute to such a study and would help understand the mutual influences and sociability within local creative food cultures.

Contemporary cooking is of course also subject to global trends and conferences, such as the International Gastronomy Congress, founded in 2003, which have allowed forums for leading creative chefs to meet and interact, forming global professional identity.²⁶ Such events serve to define the characteristics and interests of chefs cooking in such a way, as well as to go some way to forming a canon of leading practitioners. Further to this the culture of chefs travelling the world to spend a stage learning in other kitchens further creates networks of knowledge and sociability that serve to define particular culinary cultures.

Studies from the field of hospitality research, such as that undertaken by Ottenbacher and Harrington, and Stierand et al, have assessed the working practices and creative processes of innovative chefs, but do not note how such working practices might differ from more traditional kitchen means of ideation.²⁷ It can be noted that changes in educational strategies are allowing

²³ *Great British Menu* (2006–present) BBC1

²⁴ *MasterChef* (2015) BBC1 Series 11

²⁵ Nordic Food Lab founded by chef Rene Redzepi in Denmark <http://nordicfoodlab.org/>; <http://www.inra.fr/en/Scientists-Students>

²⁶ <http://www.madridfusionmanila.com/international-gastronomy-congress>

²⁷ For example Marc Stierand and Paul Lynch 'The art of creating culinary innovations' in *Tourism and Hospitality Research* vol. 8, No. 4 (Oct 2008); Michael C. Ottenbacher and Robert J. Harrington 'Institutional, cultural and contextual factors: Potential drivers of the culinary innovation process' in *Tourism and Hospitality Research* vol. 9, No. 3 (July 2009) pp.235-249

for chefs to acquire the skills that are required for creative research, beyond the traditional curriculums of skill acquisition. Chef training most usually occurs in vocational colleges or on the job. Vocational training, by nature, imparts skills and techniques rather than the research and development skills required for creative cooking. The beginnings of the discipline of “culinology,” a term coined by the Research Chefs Association, is an example of a move to teach a combination of scientific research methods alongside culinary principles. As a discipline culinology has its roots in food science and industry, but culinary schools accustomed to the traditional training of chefs are also beginning to combine scientific research methods as part of their curriculum.

Westminster Kingsway College in London is an example of a leading educational establishment that has made such a move. Their three-year chefs diploma now includes classes in the science of cooking, taught by Dr Rachel Edwards Stuart. Edwards Stuart is first and foremost a scientist, an expert in the science of flavour having undertaken a science PhD at Nottingham University sponsored by Heston Blumenthal, but she is also a trained chef. For this course Edwards Stuart has designed a curriculum intended to inform trainee chefs about culinary science but that also equips them with the scientific working methods that are required to creatively engage with advanced culinary technologies and techniques. Edwards Stuart aims to give her pupils a fundamental grounding in the science of both basic and advanced processes, as well as “the skills and some experience of what it’s like if they want to go and work in a development kitchen.”²⁸

The use of a development kitchen is a further example of a relatively new practice that has been adopted by the most creative of contemporary chefs. Dedicating space and time to the research, development and iteration of ideas is not a practice that a head chef has traditionally been able to afford in the cut and thrust of a professional kitchen. Silviya Svejenova, Carmelo Mazza and Marcel Planellas address the function of the development kitchen in their article “Cooking up Change in Haute Cuisine: Ferran Adrià as an Institutional Entrepreneur,” noting how Adrià has enhanced his creative potential by “spatially and temporally” separating his operations so that creative development is entirely separate from the work of the restaurant.²⁹ What is not examined here is the difference in working methods for a chef working creatively (i.e. using a process of research and development) to one working re-creatively.

Of course, a development kitchen allows for greater time and space for creativity to occur, but Edwards Stuart also identifies a key difference in working methods from those required in a traditional kitchen. Work in a development kitchen often requires the scientific generation of data to inform and explore creative possibilities. Edwards Stuart spent time working with the *Fat Duck* development team and recalls that to work as they do:

you’ve got to be much more methodical than most chefs are. Chefs don’t often write stuff down. Sometimes I will ask a chef how much of an ingredient they have added, and they’re not exactly sure. [...] Also, they often change several variables in a recipe all at the same time, they rarely change things one by one in a methodical fashion.³⁰

To engage with very precise technologies requires greater rigour and more methodical working practices than those ordinarily demanded in cooking.

Edwards Stuart elaborates that her classes at culinary college are designed to enable her students’ creativity through scientific understanding as well as research methods. She comments that “we don’t have a defined goal in that we’re not developing a specific goal—it is more about

²⁸ Rachel Edwards Stuart, personal interview, 26 January 2015

²⁹ Silviya Svejenova, Carmelo Mazza and Marcel Planellas ‘Cooking up Change in Haute Cuisine: Ferran Adrià as an Institutional Entrepreneur’ *Journal of Organizational Behavior* vol. 28, no. 5 (Jul., 2007), pp. 539-561 p.547

³⁰ Rachel Edwards Stuart, personal interview, 26 January 2015

the learning and the application.”³¹ This is in contrast to traditional cooking school learning that revolves around recipes, cooking and tasting. It is this research for the purpose of knowledge, rather than in the creation of a complete, delicious dish (even if the data is intended to be applied to this end at a later date) that seems to be particularly counterintuitive to the working methods of many chefs.

There are other ways in which a development kitchen might function as a studio-type space, which can enhance creativity in the use of that space not only for cooking, but brainstorming, discussion and other means of making the process visible. Just as Diane Murray noticed in her ethnographic study of Graphic Designers, the openness and shared activities of a design studio play a considerable part in the creative process. Murray writes that:

work in progress is left on drawing boards, [...] Design is not hidden, it is constructed in public so other people can read it, and accepting commentary on it from somebody else is part of a tradition they embody.³²

Making work in progress visible enables ideas to become communal so that cross-pollination might occur more easily, which is a tradition that is common in a traditional design studio but not in a restaurant kitchen.

There are certainly parallels between the professionalization of the chef and that of the designer and it would seem that chefs are adopting working methods and means of professional formation that are akin to those of designers. The figure of the “creative” looms large in the contemporary imaginary and the cultural tropes frame the figures of “the designer” and “the chef” in similar terms; both are considered as individual creative genius, celebrity-worthy and in the most famous cases they create brands under their own names, placing the individual personality as central to their work.

It is possible to note that chefs are increasingly adopting strategies of professional designers to promote themselves. Julier notes in *Culture of Design* that “the system of design curatorship, publication and thus stardom draws predominantly on a fine art tradition of representation,” a behaviour which Julier attributes to design education most usually occurring within an art school environment.³³ This, Julier continues, allows a designer the ability “to be recognized as taste-maker,” further identifying this notion with that which sociologist Pierre Bourdieu defined as “cultural capital.”³⁴ To enhance their cultural capital, Julier describes the designer’s tendency to “to curate themselves through the production of catalogues, books and exhibitions about their own work.”³⁵ This can also be seen to be the case for chefs.

This tendency might be noted in the careers of many chefs who do not just cook, but produce books, television programmes and write newspaper columns about their work. Heston Blumenthal has authored several books about his own recipes and restaurants and has starred in a number of television series. *The Fat Duck Cookbook* includes a long autobiographical account of Blumenthal’s rise to fame, mythologizing his development as a chef.³⁶

Chef Ferran Adrià and his work were the subject of a photography exhibition *eBulli: Ferran Adrià and the Art of Food* at Somerset House, London in 2013, which also included displays of tools and other objects from the famous restaurant’s kitchen.³⁷ Similarly the American Chef Nathan Myrhvold has an exhibition, *The Photography of Modernist Cuisine: The Exhibition* showing at the

³¹ Rachel Edwards Stuart, personal interview, 26 January 2015

³² Diane Murray quoted by Nigel Cross in *Design Thinking* p.20

³³ Julier, *The Culture of Design* p.37

³⁴ Julier, *The Culture of Design* p.37

³⁵ Julier, *The Culture of Design* p.37

³⁶ Heston Blumenthal *The Fat Duck* cookbook (London: Bloomsbury, 2009)

³⁷ *Ferran Adrià and The Art of Food*, exhibition at Somerset House, London, 5 July–29 September 2013

Museum of Science in Boston, USA.³⁸ By using conventions of display directly associated with the art world, an exhibition frames the chef as an artist and cooking as art, traditionally considered the highest form of culture in the hierarchy of creativity. Furthermore, both of these exhibitions focus upon the culinary process as much the final dishes themselves, emphasizing the skill of the chef and defining culinary ability as central to the understanding of the profession.

I would now like to take an example that demonstrates the way in which a professional chef can be seen to present himself as creative, using design processes, as well as emphasizing expert skills that are traditionally central to the understanding of a professional chef.

Chef Heston Blumenthal's recipe for "the perfect burger" was presented in a book and as part of the BBC television series, *In Search of Perfection*, in which he is portrayed interrogating a series of classic dishes, before using scientific knowledge to design a "perfect" version of each, regardless of the time, resources and skill required.³⁹ It must not, of course, be forgotten that this is primarily intended as entertainment but even though most people do not cook like Blumenthal everyday, this example demonstrates, albeit in an exaggerated fashion, the ideals of contemporary "foodie" culture, in which the figure of the celebrity chef is the ultimate authority.

Perhaps it is because of the current cultural capital accorded to the idea of "design" that Blumenthal presents his process as being just that. The narrative of the creation of the "perfect burger" is depicted as one of research and development. During research Blumenthal consults the public as to what characteristics they value in a burger (there are shades of human-centered design here) as well as trying out other famous hamburgers and assessing their pros and cons. Development is shown to be scientific in terms of both his methodical analysis and the laboratory aesthetic of the space and tools that he uses. Various iterations of prototype models are created and tested and Blumenthal responds to the successes of each.

However, his final recipe is one that relies not upon technology or any Eureka! innovation, but on the skill of the chef and the sourcing of the finest quality materials (in this case artisanally reared and butchered beef). It is implied that science and research may be employed to understand and enhance the technique, after all this is what Blumenthal's reputation relies upon, but ultimately quality food production is a matter of craftsmanship. Perhaps defining craftsmanship and skill as key to the chef's profession acts as a gatekeeper which prevents designers working with food from encroaching on their turf.

Of course the motives behind the work of a creative chef and a designer working with food are not necessarily the same. Food Designer Martí Guixé famously works under the maxim of his collaborator, the photographer Inge Knölke that "a food designer is somebody working with food, with no idea of cooking."⁴⁰ I would at this point argue that if food is intended to be eaten (perhaps the question ought to be whether a substance might be considered food if it is not) then it is impossible not to engage with taste, smell and flavour as central aesthetics to the experience of the work. To consider only the visual and formal qualities of food renders designers guilty of ignoring the embodied and practical experience that Heldke and Curtin describe as being denigrated by an overtly rational Western tradition. A designer must, like a chef, consider these aspects regardless of whether they know how to cook or not. A food designer may not have the delicious as a central goal, but chefs are also increasingly creating dishes that intended to challenge, rather than delight the tastebuds—Blumenthal's liquorish salmon is an example of this.

I would argue that the professions of designer and creative chef in our contemporary world employ increasingly similar professional practices, although each remains shaped by the ideals, methods and techniques of their respective professional fields. The burgeoning field of Food Design is certainly symptomatic of the increasing intertwining of these practices, and in the

³⁸ *The Photography of Modernist Cuisine*, exhibition at Museum of Science, Boston USA, October 11 2014–mid-June 2015

³⁹ Heston Blumenthal: *In Search of Perfection*, (2007) Season 2 Episode 2 'Hamburger' BBC2, 23 October 2007

⁴⁰ Inge Knölke quoted on <http://www.food-designing.com/> (accessed 1/5/2015)

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advent of dedicated Food Design courses, such as those in Eindhoven and Milan, it may be useful to consider these issues of professionalization in contemporary practice.

There remain, however, certain specific skills, spatial requirements and material qualities of designing with food that might make it inevitable that the practice will remain distinct in a design studio. For example, The Institute of Making, the Makers Space at University College London, is unable to provide food-making technologies because of hygiene concerns. This means that food-making has been omitted from a creative space specifically intended to foster interdisciplinary interactions. Similarly, a recent visit to IDEO design agency's studio in San Francisco revealed how the studio space had been constructed to enable interaction between projects and designers through the openness and visibility of information. The Food Studio, however, was obliged to work in a separate space because of the specific nature of working with material of food. They also recruit trained chefs to supplement the skills that the conventionally trained designers do not possess.

The Design Industry is both attracted to subjects that are popular (profit is, after all, the name of the game) as well as fields in which there is a requirement for improvement. Food is both of these things; fashionable as well as threatening to be one of the great crises of our age if more sustainable systems are not implemented. Both chefs and designers have specific skills that can make food better in both of these senses and an awareness of the respective professional practices can enable more effective results.

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RECIPES FOR CO-CREATION IN THE FOOD SECTOR

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ABSTRACT

This study examines the role of co-creation within a specific collaborative design context, with a focus on knowledge exchange across the food sector. As open innovation and collaborative working practices receive increased attention across both academia and industry, research into the use of multidisciplinary teams and new methodologies for innovation has a critical role to play. Knowledge exchange is recognized as having the potential to enable competitive advantage, encourage innovation and facilitate the creation of new knowledge across disciplines. Can co-creation, as a way of enabling knowledge exchange, therefore offer the food sector a recipe for success?

This study explores the key interactions of participants engaged in a two and a half day collaborative design event called a chiasma. Twenty-two multidisciplinary participants from across academia, design and the food industry were engaged in the event held in rural Scotland. Participants ideated around key sector issues, working in teams to develop new business ideas with seed funding available to bring ideas to market.

Following on from the event, participants were asked to reflect on the chiasma and their experiences of working collaboratively through the use of journey mapping methodology and interviews. The journey maps highlight the key reflections of collaboration within the multidisciplinary setting and are supported by examples shared in the interviews. This exploration of co-creation contributes an important part in informing future collaborative design events by offering a suggested recipe for engagement.

KEYWORDS

Food Design, collaboration, co-creation, innovation, multi-disciplinary

INTRODUCTION

Collaborative ways of working in cross-disciplinary contexts are not new concepts, however there is increasing usage across the literature of associated terms such as co-creation, co-design and co-production. This can be traced back to early references to co-operative design in the 1970's (Roser *et al.*, 2013; Sanders and Stappers, 2008; Ehn, 1998; Schuler and Namioka, 1993; Greenbaum and Kyng, 1991) and is visible across disciplines including management and business, social science and design.

More recently, co-creation and co-design have become the mainstream keywords for engagement in collective design activity (Sanders and Westerlund, 2011). Ind (2013) defines co-creation as a participative process where people and organisations together generate and develop meaning while Roser *et al.*, (2013) refers to co-creation as collaborative innovation. Leavy's (2014) interview with Venkat Ramaswamy states that "the co-creation paradigm is also a dynamic perspective that sees the interaction of customers, employees, and other stakeholders as forums for reflexive learning and ever-expanding capability building", supporting the potential exploration of interaction within co-creation.

These concepts align with Chesbrough's (2003) seminal work on open innovation where he identified the need for organisations to engage in collaborative relationships in order to facilitate innovation and encourage success. This defining of open innovation created a more acceptable market environment for collaborative enquiry and recognised the potential value for organisations in the access to new knowledge which in turn could facilitate the evolution of new strategies, plans and processes for responding to economic challenges and towards future sustainability (Chesbrough *et al.*, 2006).

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When combined with a business paradigm where companies and in particular small to medium enterprises (SME's) are facing increasing economic challenges (Brown and Morrad, 2013; Revell and Blackburn, 2007), an intervention such as co-creation may be able to facilitate opportunities for knowledge exchange in order to stimulate innovation. In this context, Piller and Walcher (2006) recognise knowledge as a source of competitive advantage while Brown and Morrad (2013) support the view that SME networking activities are critical to the acquiring of this new knowledge. This highlights the potential for the development of both individual and collective knowledge through engagement with a co-creation based intervention.

SME's offer a unique opportunity for exploring the cause and effect of process at an accessible level by making operational and strategic procedures more visible (Anderson and Korsgaard, 2010). SME's are thought to be more agile and able to be increasingly reactive to market demands (Millward *et al.*, 2006) and this creates an exciting opportunity to explore co-creation within this context. Additionally, Wyncarczyk *et al.*, (2013) note that there is a scarcity of theoretically driven and empirically based research on open innovation within SME's creating an interesting research opportunity.

The significance of design within a much wider context has created opportunities for academics, industry professionals, policy-makers and the business sector to use design more strategically, and while attempts are being made to facilitate access, it is recognized that design remains outside the working remit of most business contexts (Niinimaki *et al.*). Furthermore, SME's are often also seen as being better placed to develop their business through engagement with design (Dong-Sung, 2004).

The business significance of design has led academics, industry professionals, and policy-makers to urge companies to use design more strategically (Cox, 2005; Thompson and Koskinen, 2012) and this has been recognized across the literature, highlighting a much wider scope for design than previously imagined. However despite this increasing interest, the current body of research is limited, creating opportunities for closer examination of the contexts in which design is used and the potential impact it may have (Bucolo and Matthews, 2011). This research attempts to address these gaps.

The challenges of driving economic growth and supporting sustainability are further amplified when considered in the context of a rural area. Scotland is geographically rural and while there are recognized advantages to rural life, these are matched by issues of reduced infrastructure and poorer communication links in comparison to urban settings (Velaga *et al.*, 2012).

Food and drink play a strong role in the cultural identity of Scotland and similarly the sector itself is a major contributor to the Scottish economy, with a turnover of over £11.9 billion (Scottish Government, 2011). In the EU, food and drink accounts for the largest manufacturing sector with a significant impact across economic output and employment (Baregheh *et al.*, 2013; Avermaete, 2002) making it well placed for closer consideration of innovative practices.

Within the food sector, innovation is recognised as a critical factor in ensuring businesses can match major competitors and can meet the challenges of local, national and increasingly international market demands (Capitanio *et al.*, 2009; Grunert *et al.*, 1997).

Whilst there is a well-established body of research into innovation in the food and drink sector, much of it is sector specific and a large body of work is focused on technological change, market orientation and the supply chain (Grunert, *et al.*, 1997). In addition, whilst SME's are seen as important to the development of the economy and have a special role to play in rural economies,

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there has been little research into the experience of design-led innovation practices in this context.

Design in Action (DiA) is a Scotland-wide knowledge exchange hub, funded by the Arts and Humanities Research Council, investigating the potential of design as a strategy for economic growth. Based around five key industry sectors (Rural Economies, ICT, Food, Sport, and Well-Being), DiA developed and facilitated cross-disciplinary collaborative design events (Chiamsa) which focused on providing those sectors with the support and development potential to drive economic growth (Follett & Marra, 2012).

This study examines the role of co-creation as a process of innovation within the food sector. Considering innovation and knowledge exchange as key constituents of co-creation in this context, this research has a specific focus on a collaborative design setting—a chiasma. Using the gathered experiences of participants, this study explores the potential for co-creation within the food sector and considers what form a recipe for co-creation might take.

CONSIDERING THE CONTEXT: THE CUPBOARD STAPLES OF CO-CREATION

While the terminology and practical application of terms such as co-design, co-creation and collaboration vary considerably across disciplines, and even within disciplines, for the purpose of this study co-creation is defined as a combination of both co-design (collaboration during the design development process) and co-production (equal and reciprocal collaboration that shifts and shares the balance of power, resources and responsibilities).

INNOVATION

Based on the work of Schumpeter (1934), research into innovation has considered the internal and external factors that may contribute to the potential of a business to develop, to grow and to remain sustainable. Co-creation and innovation are often used together in the context of increasing the innovation capabilities of an organisation. The understanding and application of innovation, whether as a practice or as a process, is difficult to define. Definitions of innovation are often specific to roles, to disciplines, to sectors and contexts, and can vary considerably. Prandelli *et al.*, (2006) talk about co-creation as a combination of design and innovation at the front end of the product or service development process.

However this interpretation of co-creation is focused on a tangible output, a product or service rather than on the experience of the co-creative activity itself.

KNOWLEDGE EXCHANGE

Considerable literature on knowledge exists across the disciplines of management, business, engineering and education, but fewer related articles are based in the specific domain of design. The organisational benefits of knowledge transfer and knowledge exchange have been identified (Jones, 2011) and include improvements across organisational performance (Haas and Hansen, 2007; Lesser and Storck, 2001); the enhancement of organisational learning (Argote, 1999); and increased innovation (Powel *et al.*, 1996).

Du Plessis (2008) refers to the capture of knowledge on collaborative platforms, arguing that the success of knowledge capture in this context can be attributed to the fact that knowledge transfer is a social activity. This concept of a social element sits well within the notion of co-creation as a participatory process. Further to this, Bucciarelli (1994) states that the product design process is a creative social process involving teamwork in which each individual contributes a shared experience to the common goal of designing a product. This use of a creative social process in teamwork creates potential for further study of its use in a knowledge exchange context and the shared experience of participants.

THE CHIASMA—A METHOD OF MIXING

DiA developed a series of interactive innovation events, known as chiasma, with the aim of bringing together partners from across industry, academia and design to build new thinking around complex problems. Central to this is the potential of the chiasma to provide opportunities for engaging in innovative design working methodologies, the sharing of knowledge and the potential for economic growth within the sector.

The structure of the chiasma is designed to enable participants to create solutions that offer transformative approaches to supporting the sector, ideating and co-creating in teams around particular issues or themes of interest. Teams then develop their ideas into business proposals, pitched to a panel of experts at the end of the chiasma. The panel provides feedback and teams can then apply for potential seed funding of £20,000 to bring their idea to market.

The chiasma model is a two and a half day residential intervention, based at a central location away from an industry or university context. Participants are required to attend for the full period and stay overnight in the accommodation provided.

The chiasma themes were identified during an earlier scoping exercise, engaging both industry and academic researchers. The scoping worked to highlight critical cross-disciplinary issues that could be explored further but was not without challenge. The Scottish rural food sector is disparate, spread over a wider geographic area and while networks of connectivity currently exist, it proved difficult to reach and engage with as wide a scope as possible. The scoping was undertaken using desk based research in the first instance, to identify those SME's operating within the food sector in Scotland. Following on from this, researchers made contact by telephone to explain DiA and invite input. Additionally, some SME's were engaged face to face via presentations at localised meetings and on location visits. The desk research also facilitated a better understanding of the key sectoral challenges and the wider scoping looked to confirm that these were valid themes for consideration. Similarly, it was important to identify how best Design in Action could add value to the sector, to complement existing initiatives and be of benefit to companies.

Securing buy-in was critical as the businesses were required to commit to the two and half day residential chiasma. A significant number of food SME's were one or two-employee enterprises and the commitment of time proved to be challenging. For the smaller businesses, investment of time has a consequential impact on the potential income generated over that period and demonstrating the potential value in engaging was critical to ensuring participation.

Similarly, engaging academics proved to be challenging. While the opportunity was advertised to academics from all disciplines in an open call, all the academics applying had a specific research interest in the food sector. Additionally, the potential return on investment of time was not as clear for the academic participants. While businesses had the potential for economic return through seed funding, the academics were more cautious about the potential value and the impact on their research activity.

Engaging designers was less problematic. The criteria for design participants included that they must be full-time practicing designers and as such a large number were also freelance and therefore able to commit their time more easily. The applications from this group far exceeded the others.

A total of 36 applications were received from which 22 participants were selected to create a balance of 8 businesses, 5 academics and 9 designers attending the event that was held in 2014 in Dundee, Scotland.

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Entitled 'The Canny Consumer', the focus of the chiasma was the changing environment of food production, retail and consumption, exploring how best to reconcile consumer needs with a viable business option. Based upon research gathered during the scoping, the call for participation stated:

Consumers are increasingly aware of the impact their food choices are having on their health, social life and budget. Recent rises in the cost of food is leading to behavior change; families want their income to stretch further while also providing a diet rich in choice, quality and taste. Given the breadth of these changes, the chiasma will unpack a range of issues, exploring areas of opportunity including:

- *The continuing culture of austerity—people are re-learning lost skills in food preparation and seeking new recipes.*
- *The drive to understand where and how food is produced—is coupled with an increasing interest in cutting food waste and ensuring sustainability in food production.*
- *Polarization of the food market—the market is increasingly segmented, with different groups demanding specific offerings.*

The chiasma format emerged from an iterative process, informed by previous chiasma and with a focus on creating opportunities for networking, ideation, inspiration and idea development.

The first day aimed to introduce participants to each other, facilitate the early forming of relationships and introduce the context of the chiasma. This involved an ice-breaker activity followed by a group dinner and the evening was concluded by a keynote speaker from the food sector who posed some provocative questions and generated early discussion.

The second day of the chiasma was focused on ideation around the food sector themes identified. Participants rotated around tables and were asked to consider and discuss the themes on each table and their personal experiences of any associated issues. Participants were asked to self-record the emerging discussion on post-it notes and these were added to by other group members during each rotation. Participants were encouraged to rotate again around the tables, this time generating quick ideas to address the issues highlighted on post-its and these were then shared with the wider group.

The second design activity involved the development of characters, or personas. These characters were the simulated user and created opportunities for considering the wider context and impact of the themes emerging.

Participants were then asked to cluster around themes and early group formation emerged through shared interest in a particular issue or idea. These groups, or teams were encouraged to begin to discuss and share their thoughts with each other and begin to develop their idea.

The final day of the chiasma involved participants developing their idea into a business proposal, utilizing the cross-disciplinary skills of the team and then presenting to a panel of industry experts who provided feedback on the idea.

RESEARCH METHODOLOGY & DATA COLLECTION

The research methodology adopted a design ethnography approach (Blomberg et al, 1993), combining methods such as direct observation and semi-structured interviews (Bate and Robert, 2007) with visualisation and interaction mapping (Pink, 2001). Direct observation focused on the conversations between participants, noting their interactions during the chiasma process and specifically how participants responded to the design-led activities. Post-chiasma, journey

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mapping methodology was used as a way of visualising and mapping the interaction and experience of the chiasma. This was then followed by in-depth interviews with participants.

A journey map is a visualization of the actions, emotions, and decisions made within a particular context. It describes how people interact over a set period of time and how designed activities support or hinder intellectual and emotional progress. It also allows for the identification of areas of opportunity, success and challenges, informing future iterations of an event or process. The maps were created using a template that identified all chiasma activities on one axis and a sliding scale of good to bad experience on the other axis. All participants were issued the template and encouraged to complete the map using stickers that identified how useful, enjoyable and valuable activities were. They were also asked to identify the points (touch-points) at which they felt they contributed most and where they felt knowledge was co-created (if at all). Participants were also encouraged to write on the maps with any other reflections of their experience. The completed maps enabled the identification of common touch-points, or key themes across the participant cohort, gathered by layering the maps. Each map was marked onto tracing paper and layered by hand to identify any touch-points that were visible across the set of participants. This exercise was then done using computer modeling software to validate the data. Common touch-points that occurred over seventeen times were noted as being key interactions.

All twenty-two participants were then interviewed using a set of semi-structured headings based on the chiasma timeline and the completed journey maps. The subsequent in-depth interviews allowed for a deeper consideration and conversation about the touch-points and explored the reflections of participants further. Each interview lasted approximately 45 minutes.

LIMITATIONS

It is recognized that the impact of design interventions such as the chiasma are constrained by particular context and the experiences and expectations of the participants engaged. For this reason, this research does not propose generalizability but rather attempts to raise questions about the phenomena of co-creation by looking at the single case.

RESULTS: TOWARDS A RECIPE FOR CO-CREATION

The findings suggest a number of emerging themes around co-creation reflecting the common touch-points identified by business, designer and academic participants within a cross-disciplinary collaborative context.

Of these findings the key core ingredients are of translation, disciplinary perspectives and shared skills and ownership, which are introduced below. When mixed using a particular methodology, in this case a chiasma, these ingredients work to highlight the issues inherent in multidisciplinary collaboration.

A MEASURE OF COMMON LANGUAGE

Communication is reported as an essential aspect of collaboration and in the initial stages, interaction within the group works towards cohesion, the early formulation and defining of the problem faced.

Considering communication and constructing understanding were key themes identified for all three participant groups who stated that the level of shared understanding within the group contributed significantly to how well it progressed.

The design participants explained that as part of a design process where fast ideation and prototyping means that ideas are quickly generated and just as quickly dismissed, they felt at ease in the early stages of collaboration. However, other participants did not feel as comfortable

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sharing their under-developed ideas and did not respond well to the criticism of a concept, often taking it as a personal attack:

*'I'm happy for someone to tell me my idea is rubbish and why, that's how we generate new ideas, better ones. But I felt that some of the other participants thought I was stealing their ideas or that I was being negative about their suggestions. I wasn't, it's just how design works'.
[Designer]*

Having to explain the method of critique, commonplace within the design discipline, highlighted the potential for confusion and misunderstanding relating to group communication. In this case clear description of the individual practices used, the methodologies and methods, as well as explanation of their purpose, was important and necessary to avoid individual and team misperception.

The analysed touch-points identified that the business and academic participants felt less comfortable in the initial design activities. Less than half identified these activities as being valuable or enjoyable during these activities while every designer identified them as being a good experience and valuable.

Across the collaboration, respondents noted that key to a shared understanding was the development of a common language, a vocabulary that was agreed within the collaboration and one that crossed traditional discipline boundaries. This vocabulary included agreeing on definitions, on aims and outcomes and on the projected output. The challenge faced was in making these individual languages explicit, so that they were readily accessible to participants across disciplines, in order to improve learning experiences and develop improved practices.

This change of individual definitions to shared terms worked to create a sense of unity among the participants and the development of a common vision began to emerge. At this stage, participants appeared to become more engaged and began to ideate, offering suggestions and potential solutions, and this demonstrated a fluid evolution towards generating a design brief with actions. As the mapped timeline progressed in line with these activities, the academic and business participants noted that their experience improved and was more valuable.

Further into the workshops, other participants began to share their own vocabulary, often in response to questions posed by other participants but also as a way of summarising and re-purposing the information shared in a way that was accepted and understood by all. The academics often referred to "worked as an interpreter", repeating stories, evaluating and analysing before translating them for other participants.

This was also identified in the case of the designers with many reporting a need to "visualise other people's ideas" and to "draw the picture of the discussion the team were having".

A DASH OF DISCIPLINARY PERSPECTIVES

The disciplinary perspectives brought to the collaboration by participants were explored by the group together, with participants encouraging each other to share their thoughts in an open and accepting way. This relaxed process was enabled by the design-led activities and facilitated easy questioning and clarification of points without the conflict that frequently occurs in collaboration. This broadened the scope of the conversation and appeared to generate a level of shared understanding of each participant's knowledge and experience, their skills and their role within the collaboration. The mapping activity illustrated the opportunities for participants to share their own skills. Participants were asked to map the points at which they felt they contributed their own knowledge and this was most commonly seen during the idea development stages on

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days two and three. All participants felt they contributed specialist skills during this phase and 19 of the 22 respondents felt that this was a valuable experience. This exposure to multi-disciplinary knowledge and perspectives can facilitate experiential learning opportunities, contributing towards a more equal and valued participation and this was apparent within the workshops.

For the academic participants, the communication of disciplinary knowledge and experience in a way that other disciplines can understand was important. Respondents noted that:

“they were constantly trying to consider the narratives used by other participants to better understand them, understand their viewpoint.” [Academic]

This was also combined with a need to present their own specialist discipline in an attractive way:

“I don’t have a business start-up, or that kind of acumen but I really felt I had to sell myself, my skills and experience at the start to make me a valid part of the team.” [Academic]

As a potential environment for pushing the boundaries, for exploration of an issue or a problem, collaboration is referred to in the literature frequently. The chiasma was considered a space for experimentation by participants and interestingly for both collective and individual exploration and discovery in this way. Academic participants stated that the context allowed them to leave the restraints of their narrow disciplinary specialism while the business participants remarked on the ‘freedom’ provided, so the opportunity to consider ideas without the direct business context where the implications of experimenting can have a direct economic impact.

Also apparent was the potential for and challenge of applying discipline-specific skills in a new context. Different disciplines often have different approaches as well as different ways of thinking to solve problems. Design respondents reflected on the application of their design skills within a new context, often referring to their skillset as a “box of tools” or a “bag of tricks” and suggested that a level of mystery and magic was projected by other participants. Gaining a working understanding of the fundamental knowledge of a foreign discipline, as well as its practice, is necessary for a successful outcome (Feast, 2012) and some designers identified the challenge of reducing this mysticism and focusing on how their skills could be applied.

Respondents also noted the benefits of widening their understanding of the current research landscape and that the practices used through exposure to a new set of skills and working practices, as a result of the collaboration and access to new knowledge, was easier without the traditional discipline barriers and without the use of traditional labelling.

A SPOONFUL OF SHARED SKILLS, OWNERSHIP AND CONFLICT

Participant input within a collaboration can be influenced by their position in the group hierarchy and this was recognised in the reflections discussed. Participants were concerned with identity, both their individual identity and that of their discipline-specific role within the collaborative setting. They described the need to define their presence and questioned whether they were there to play the role of facilitator, of demonstrator, or of expert. This caused some degree of anxiety in the initial stages, through group formation and into the process of ideation but a number of participants noted that the constant negotiation of power through the life of the collaboration ensured an on-going process of critical evaluation and worked to make the outcome stronger.

The sharing of skills also included an unpacking of assumptions of knowledge, and specifically their own knowledge. One designer noted that the collaboration allowed him “to question, to investigate and to re-define” who he was:

“I was seen as a designer and started the chiasma behaving as one, fulfilling that role, but as

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the collaboration progressed, I adapted to being an equal participant with a contribution much larger than simply my drawing skills.” [Designer]

Emergent groups often struggled to see how different research practices, needs and expectations could be amalgamated, or what knowledge and research approaches were core to the collaborative idea. Within the chiasma, design-led activities and methods were used to attempt to relieve this and worked to actively seek better understanding of the needs of peripheral participants. And while this was successful in creating more awareness of skills and encouraged wider sharing, the use of such a methodology was also reflected on as being at times “over-designed” or “too prescribed,” potentially having a negative or distractive impact on the practice of collaboration taking place. The balance of intervention is therefore critical but also individual to the context.

Ownership presented as a critical factor within the chiasma context. It was considered prior to the chiasma in the application stages through the use of an IP agreement and non-disclosure agreement. However, within the environment and once engaged within the chiasma, tensions around ownership quickly became apparent.

Ownership was manifested across areas such as ownership of ideas, of practices and processes, negotiated trust and also of knowledge. Disciplines are constituted by systems of social relationships and practices, developed over time and they are critical in shaping the behaviours, values and views of their members. Bringing together multi-disciplinary participants made these characteristics and their distinctive differences particularly visible and often amplified them. A formal underpinning of trust was necessary, recognising and adequately rewarding contributions, negotiating the final outputs of the collaborative project, and intervening should negotiations fail. This sometimes resulted the disengagement of dissatisfied participants and in the break-up of teams followed by re-assembly of smaller groups of participants, splinter groups who seemed more genuinely committed to the collaborative process.

Similarly, rather than integrating across knowledge in order to form a collective understanding, there is often a tendency to demean or reject other forms of knowledge and this was evident in the chiasma. Participants acknowledged the role of the academic but stated that their contribution was less tangible, referred to as the “tacit component.” While there was a wider acceptance among participants to draw on the range of intellectual resources available, it was also observed that many of the self-selecting teams had academic members based on personal interest or social connection rather than on specialist skills.

Many of the academic participants themselves felt challenged by the setting aside of their “expert” role within a collaborative setting which had little or no relevance to their professional status. While there was recognition of the skills, attributes and experience academic partners could bring, this did not translate as well during the early stages of the collaborative process and needed further work.

But while issues around ownership raised these challenges, it’s important to consider whether the potential of conflict within a co-creative context. Conflict can often be a driver towards exploring the underlying assumptions and perceived understandings of individuals. Conflict, and the process of negotiation may therefore work towards generating common understanding and an engagement that is more co-creative.

CONCLUSIONS: WRITING A RECIPE FOR THE FUTURE

This research considered the experiences of co-creation as a process of innovation within the food sector using the chiasma as an example of a design-led collaborative context. Introducing co-

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creative practices of innovation and knowledge exchange as critical components “the cupboard staples” the study then introduced the chiasma and the rationale for its use.

Participants from across industry, academia and design were engaged in the two and a half day chiasma and subsequently completed a journey map to identify critical interactions. By analyzing and comparing these between participants, it was possible to identify commonalities in the shared experiences and these common touch-points were explored further through semi-structured interviews.

The increased attention on collaborative practices and the identified need for SME’s to meet market challenges within the food sector highlights opportunities for a better understanding of the future role of co-creation in this context. Using the experiences gathered during this study it is possible to inform the development of future activities of co-creation within the food sector.

The ingredients identified were:

- A measure of common language—the development, agreement and adoption of a shared language and vocabulary that placed all team members on an equal platform for co-creating together. Improvements to future chiasma iterations and suggestions for co-creation in a similar context include providing informal activities and time for participants to share experience and build familiarity. By cultivating these relationships, participants are able to develop the shared understanding and common language required to facilitate better collaboration.
- A dash of disciplinary perspectives—the recognition of the various discipline skills and knowledge created individual value for participants providing them with an understanding and working practice of new disciplines. Additionally, the experience also created opportunities for exploration out of the traditional boundaries of their discipline. The importance of making disciplinary perspectives explicit and recognizing the specialist skills of each participant is a critical component of future co-creation activity. This is especially significant when engaging in multi-disciplinary collaboration and the use of design-led methods such as knowledge-bank or skill-share whereby participants externalize their skill set and can work to create a non-hierarchical platform to develop collaboration.
- A spoonful of shared skills, ownership and conflict—the examination of assumptions of knowledge and a questioning of how skills and knowledge could be shared and then generated in a process of co-creativity. Further to this, an understanding of the roles of ownership and trust in creating an environment that was reciprocal and facilitated co-creation. A shared recognition of how knowledge is generated and shared is critical in enabling participants to engage without the barriers that traditionally exist between disciplines and similarly, the understanding of ownership and trust has a direct impact on the potential of the team to work collaboratively. An awareness of this as well as facilitated elements that work to navigate these issues is key to ensuring co-creation within the event meets its full potential.

Considering the experiences of participants in this way contributes to the wider exploration of co-creation, the role of knowledge exchange and innovation within a multi-disciplinary design context and attempts to address gaps in relation to co-creation in the food sector.

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GASTRONOMY AND DESIGN PRAXIS: DECODING PROCESSES

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ABSTRACT

In collaboration with the Bulli foundation, ELISAVA presents the Decoding of Design project, a research assignment based on understanding the design process in terms of methodology and Sapiens' research structure, developed by elBulliLab in the field of gastronomy.

The ELISAVA research team has studied the work carried out by elBulliLab in great detail, where since 2011 Ferran Adrià's team has set the objective of decoding and classifying gastronomic knowledge. It is an assignment that analyzes, in both an orderly and systematic way: history, taxonomy, processes and interaction with other disciplines, in order to understand the aim of gastronomy to re-create and innovate.

The world of design has a broad theoretical corpus which, over the last two centuries has consolidated, expanded and diversified. In order to narrow the field of study, a decision was made to begin researching product design, with the aim to subsequently apply this same method of analysis to other areas (i.e. graphics, space, fashion).

Historically, product design has been associated with the world of gastronomy in the design and supply of useful and essential tools and utensils in culinary processes. However, the Decoding project seeks to demonstrate that there are common elements in the creative processes of both disciplines.

The will to understand and classify a design process at the initial stage has seen the development of a toolkit for the creative process. A collaborative tool that seeks to involve professionals of the sector who, through their experience, contribute to the Decoding of Design project. The objective is for it to become a research tool and, at the same time, one of reflection that contributes to the development of a solid methodology of design.

KEY WORDS

Decoding gastronomic knowledge, product design, gastronomy

INTRODUCTION

The focus of this paper is the relationship between gastronomy and design as disciplines, from both theoretical and practical approaches, and its purpose is to decipher the processes that they have in common, with a special emphasis placed on the creative process.

More specifically, this paper explains part of the Design Decoding project, a research project developed by ELISAVA in collaboration with the elBulliFoundation which is based on an understanding of the design process that uses the SAPIENS methodology, developed by Ferran Adrià and elBulliLab in the field of gastronomy.

Cooking tools and utensils, spaces used for conviviality, dining spaces—bars and restaurants, the production of industrial food, artifacts or architectures dedicated to food rituals, these all make up a great map of realities and experiences which, under the art-architecture-design trinomial, establish a direct relationship with the world of gastronomy—food.

Who are the protagonists of these experiences? Chefs, artists, writers, filmmakers, musicians, photographers, architects and designers, who, since Impressionism to Divisionism, and, since the historical avant-gardes to Pop Art, have created a “collective imagination” and a “material culture” (Manzini 1990) around “culinary culture”, defining a clear line of continuity between the past, present and future (Celant 2015).

Ferran Adrià is the chef responsible for having radically transformed gastronomy during the last half-century. Owing to innovation, an objective of the work of his creative team during the years of his elBulli restaurant has always been to focus on a “return to creating” (Adrià 2015). Observation, experimentation, research, hypothesis and the formulation of models and techniques have all been “basic” ingredients when reviewing and questioning the discipline of gastronomy itself, so that they can constantly drive change and improvement.

The elBulliFoundation today is the logical evolution of all of the research carried out at the elBulli restaurant which is organized into two large spaces: elBulliLab and elBulli 1846. The whole process of topic research and development is basically in the hands of the elBulliLab, located in Barcelona, whilst elBulli 1846, located in the same building which was home to the original elBulli in Cala Montjoi, will be the place where, in the future, a gastronomy research lab and an exhibition space will be installed.

In Spain design programs have only been recognized as Bachelor’s degrees for the past five years. ELISAVA was the first Spanish design school, founded in 1961, and one of the first schools to adapt its educational system to the European Higher Education Area.

Since 1997, the school has been a mixture of different yet complementary programs and professions, including design programs with specializations in graphic design, industrial design and interior design, and design engineering programs. They both benefit by sharing the same faculty, classrooms and students. ELISAVA has an international faculty with divergent backgrounds, including designers, architects, engineers, artists, anthropologists, sociologists, art critics, economists and entrepreneurs.

The coexistence of the Bachelor’s Degree in Design and Bachelor’s Degree in Engineering in Industrial Design at ELISAVA encourages the exchange of knowledge and experiences in studies, where the creative process is combined with the technical development of the projects, applying practice to the theoretical base. This enables the students to be trained as professionals who are capable of creating new products and services that result from the real needs of users and from an overall view of the design project.

Creativity in the last few decades has been the focus of important cognitive psychology studies and this is evident in the world of design, innovation and the new information and communication technologies.

According to the literature (Newell and Simon 1959, Marr 1982, Varela et al. 1991, Simon 1996, Pinker 1997), the central aim of cognitive psychology -as a member of the cognitive sciences- is to understand cognition which is formally characterized as the capacity of the human mind for solving problems. This turns it into the perfect candidate for analyzing creativity. This basic model in turn enables the development of more specific models from which creativity can be understood as creative intelligence (Marina 2004), the creative idea (Finke et al. 1992), the creative mind (Gardner 2006) and the creative life (Landau 1987).

The “creative processes” have been implemented as subject contents and as work methodologies—as, for example, in the case of co-creation (Sanders 2008).

GASTRONOMY AND DESIGN PRAXIS: DECODING PROCESSES

It was decided that for the Decoding Project the creative process would be explored as an important part of the design process. To develop this matter the definitions of the general creative process have been investigated, and in turn have been applied to the design discipline. Below we present some of the notable results that have arisen from this.

The world of design has a very extensive *theoretical corpus* that has been consolidated, extended and differentiated throughout the last two centuries. In order to narrow the field of study, it has been decided to focus the research on product design.

In this first year of work the Design Decoding Research Project has centered on studying the methodology developed by elBulliLab, on studying possible parallels and establishing lines of research that will be of relevance to ELISAVA which can feed back to the educational content and drive innovation. In this first exploratory phase, valid objectives, methodologies and hypotheses have been defined for placing the research in an international context.

A useful methodological tool for obtaining the first results of a part of the Decoding Project has also arisen in its alpha version.

GASTRONOMY AND DESIGN

Currently the connections between food, gastronomy and design, irrespective of the subject definitions, include different implicated factors that are involved in aspects of marketing and the “aesthetic dramatization of dishes and foods” (Cattarmole 2015), in addition to other decisive factors for people’s health, respect for biodiversity and the environment, as well as the cultural richness and identity of the territories and their inhabitants.

In the last 15 years the relationship between food and design has become so intense that it affects everything from the preparation and presentation, to the production and distribution of what we eat. From the point of view of research and innovation we can distinguish three types of relationships between gastronomy and design:

1. GASTRONOMY AND DESIGN IN RESPECT OF THE SCIENCES

Gastronomy and science have a strong link. Cooking is based on the transformation of a series of products by means of physical changes and specific chemical reactions (Castells and Perelló 2010, McGee 1984 or Myhrvold 2011). However, historically they have been two worlds which have mutually ignored each other.

The first attempts at making a “science of cooking” took place in the nineteenth century with researchers such as Appert describing methods for preserving food (Appert 1810), or Accum, a chemist interested in poisons and forensic science, author of the first treatise on chemistry in the kitchen. But, in particular, Savarin with his work *The Physiology of Taste* (Brillat-Savarin 1828), became the first discourse on scientific gastronomy, in which he attempts to establish the physiological basis for our senses of smell and taste and the chemistry behind the processes of food transformation.

In the twentieth century the first author to make a passionate defense of the relationship between science and gastronomy was the Hungarian physicist Nicholas Kurti who inaugurated “molecular gastronomy” with his famous conference in 1969, “The Physicist in the Kitchen” in which, among other subjects, he demonstrated the culinary possibilities of a vacuum machine, of the microwave by cooking a Frozen Florida.

At the same time the first edition of the book by Herbert Simon, *The Sciences of the Artificial*, published in 1969, signified the recognition of scientific status for design. Built on previous

investigations (R. Buckminster Fuller [1963], S. A. Gregory [1966]) Simon's theories motivated the development of systematic methodologies which were relevant for many disciplines that were strictly linked to design, such as architecture, engineering, urban planning, medicine, computing and management.

Investigation into design, *design research* (Cross 2007)—emerged in England in the nineteen seventies as a recognizable field of study and has continued to expand until now (Bayazit 2004). During the 1970s, the social, political and industrial context, as well as economic growth, facilitated the interest of researching design, bringing it closer to the “science” category, especially as it was directed towards the field of industrial design. The interest rapidly spread to design engineering in the eighties, with Germany, Japan, and the United States being the greatest participants.

It could be said that “design research” reached its age of majority in the eighties and, from then on, a period of expansion was generated in the nineties up until the last two decades (Burgos 2010). In recent years, the phenomenon of research into design has increased, covering fields related to cognitive psychology (design thinking) (Kimbell 2011), health or pedagogy science. In the eighties the encyclopedia *On Food and Cooking* by Harold McGee (McGee 1984) fueled the dialogue between the sciences and cooking, constructing a paradigm from which it was possible to cook using the scientific method. From this arose a new way of considering cooking as a theoretical system based on solid scientific knowledge—molecular gastronomy—a term conceived by Hervé, together with the aforementioned Kurti—in books such as *Cacerolas y probetas* [‘Pots and test tubes’] (This 2002). Another key text is *A Scientific and Gastronomic Guide* (Alicia Foundation and elBulli Taller 2006) which tries to carry out the first scientific classification of the dietary products used in gastronomy.

Nathan Myhrvold, who, attempting to find a balance between artistic scientification and creativity of this new method of cooking, decided to name this new trend “modernist cuisine” and dedicated six volumes to a systematic, scientific investigation of the effects of different techniques and technologies in foods (Myhrvold 2011). In Spain, Pau Arenós in 1999 searched for a similar balance and coined the term “techno-emotional” cuisine (Arenós 1999) to capture the mixture of artistic inspiration and scientific method.

In design, the article by Huppertz (2015) proves that today some researchers continue to defend Simon's approach, particularly with regards to his definition of design as “scientific problem solving” (Dorsdt 2006). However, aesthetics (Nelson y Stoltenberg 2012), intuition, experience and social interaction in “design logic” have unquestionable and profound implications for design research and practice (Miller 1990, Norman 2005).

When seeking the theoretical foundations of the Decoding Project it is important to highlight this parallel story between gastronomy and design, considered from the perspective of “science” and its subsequent approaches to a more emotional and sensory dimension.

In fact the sensory sciences is another discipline which brought gastronomy and design closer together. The psychology of perception or human physiology can be clearly relevant to gastronomy and they are now for design (Torra 2013). The concept of ‘food pairing’ is a research which combines statistical analysis and cognitive science in order to define a methodology that is based on the principle that the ingredients which are apparently disparate go well together if they share the same flavour components (Lahousse 2007).

In 2007, Bernard Lahousse began the interactive website Foodparing¹, a food-tech company at the cutting edge of gastronomy, computational science and digital advertising. It operates as one

¹ Foodparing (online). Retrieved from www.foodpairing.com (last visit 11/06/2015)

of the world's largest ingredient and flavor databases with a series of unique algorithms capable of calculating combinations and fully novel recipes. In addition to offering pre-determined experimental concoctions, the site engages the visitor with easy-to-follow graphics, known as 'trees', with branches of foods that share basic aroma and odor profiles on a molecular level. The purpose is to inspire both chefs and anyone interested in cuisine to experiment with new combinations and ideas.

2. FOOD/GASTRONOMY AND DESIGN AS "SYSTEMS"

Victor Margolin describes the parallels and intersections between research into design and food, considering both elements as part of interconnected systems:

"Therefore it may be helpful to think of the two as elements of systems that cover their respective life spans from production to consumption and disposal. In systematizing the study of both, we can begin to see their respective complexities and identify points of intersection where studying the two together may be fruitful" (Margolin 2013).

The study of design and food can contribute, as is noted by Margolin (ibid.), important considerations when it comes to understanding the present and enables conjectures to be made regarding the future. Regarding the common factors, Margolin notes that both exist as products in the market, although they can be produced outside the market. Product design and food are a part of systems that start with the production phase, which is a relevant factor in respect of questions concerning politics, work, and sustainability, etc. This is followed by the distribution to different markets, in relation to health and quality standards, as well as the circulation which includes factors such as communication systems employed to promote them. The third phase is consumption, the purchase and sale of these foods and products. And finally, the elimination phase is where both generate large amounts of residue.

3. THE FOOD-DESIGN RELATIONSHIP AS A DISCIPLINE

Design for Food or Food Design? What are the future relational sectors between both disciplines? Nowadays it is difficult to be able to define and to clearly distinguish the scope and limits of both approaches. However, it is true that in the future the possible related sectors between gastronomy and design will be education and innovation, industry such as the redefinition of production tools and food production (through, for example, 3D technology), sensory sciences, the Food System as a cyclic approach (Hesterman 2015), or the cultural and social value of tradition in food, regarding "identity".

The appearing of specific courses and departments in design schools clearly denotes an interest for consolidating the multidisciplinary dimension of design, particularly through implementing food as a subject, as a system, or as a requirement.

The Eindhoven Design Academy² in 2014 inaugurated the new Food non Food department with a full program that covers six main areas: food and culture, food and biology, food and psychology, food and science, food industry and technology, and food and society.

THE SAPIENS METHODOLOGY

The SAPIENS methodology which is defined by Ferran Adrià as "a methodology to understand things" (Adrià and Pinto 2015) derives from the "information overload" problem (Maes 1994). It is essential to establish the minimum information that a person needs so that they can understand a discipline, deciphering information hidden online amidst millions of superficial pages and texts that contradict each other, etc. This problem is especially relevant to gastronomy where very little systematic information can be found. SAPIENS thus arises to establish some clear procedures for selecting necessary information, offering what is essential in a way that is both rigorous and easy to understand (Adrià and Pinto 2015).

² Eindhoven Design Academy (online). Retrieved from www.designacademy.nl (last visit 11/06/2015)

The structure for carrying out this understanding is based on 3 principles:

- Decoding: this describes the fundamental components and processes which make up part of the discipline to be studied and analyses how they interact with each other.
- Evolutionary analysis: this describes how the discipline has developed and changed throughout history.
- Taxonomy: this seeks to organize principles, information, objects and products, to enable both creativity and the transmission of knowledge.

The SAPIENS methodology is formally based on four models, each one being implemented on a map of the following processes:

- The creative process (from which the product/service/process is devised)
- The reproductive process (how, once created, the product or process in question is reproduced)
- The marketing process (how the result is sold and disseminated)
- The experiential process (how the user receives and perceives the final result)

The creative processes map is the backbone and driver for everything else. The reproductive process brings into practice the ideas produced in the creative process.

Molecular gastronomy has turned the reproduction process into a highly precise discipline that has an extremely stringent methodology (Myhrvold 2011), thus detaching it from the creative process which is organized from parameters associated with the visual arts and through which questioning them is no longer sought as much as surprising the dinner guests (Vilar and Jaques 2010).

Through the commercial marketing process, the result of the creative and reproductive processes are communicated and sold, while through the experiential process we see how the user/customer receives the product.

Also, for the SAPIENS methodology it is also important to establish the connection between the processes of different disciplines. Thus in the creative process of gastronomy the creative processes of other disciplines intervene, from fishing to interior design; the same occurs with other processes.

THE DECODING OF DESIGN

Firstly it is important to define the decoding concept and its meaning.

The word 'decoding' comes from the verb **to decode** which, according to the Oxford Dictionary, means:

1. *“Convert (a coded message) into intelligible language”*
2. *“Analyze and interpret (a communication or image)”*
3. *“Convert (audio or video signals) into a different or usable form, for example to analogue from digital in sound reproduction”*

All of these definitions agree on the idea that to decode means to transform, analyze and interpret a message or words, whether visual or semiotic.

Having clarified the meaning of the word, the “Design Decoding” project refers to the **systematic analysis of the discipline of design**, focusing particularly on the interrelation between its different fields of discipline (traditionally separated into graphic design/visual communication, fashion, interior and product design) and in the analysis of its processes, following the ideas of the SAPIENS methodology, in order to better understand its structure and contents.

In other words, it deals with the formal reconstruction of a discipline following the lines of *Carnap's Aufbau* (Carnap 1919), or of the set-theory reconstructions of structuralism (Stegmüller y Moulines 1979), although the intention is not so much to seek the systematicity of the process as it is to seek the applicability of the results for the professional world.

Design decoding is particularly relevant for:

- Education:
 - Teachers and persons responsible for design schools and other places where the project is the tool that they use to organize knowledge on design in the most systematic and rational possible way.
 - Researchers of “design studies”, “design thinking” or “design ability” who have a structured platform for organizing their research of design.
- Design professionals who want to better understand their own discipline so that they can more easily move on from having creative blocks, apply their knowledge, etc.
- Businesses that are interested in carrying out an audit which would focus on the design process of their products.

The “propaedeutic” function is the main focus of this project.

Once we dispose of the discipline’s blocks and rules of combination, we can generate all kinds of products and results, such as: maps of the various processes (design and creative processes) as well as systems to automate some phases of the processes, creative techniques to facilitate the combination of building blocks, and thus propose new methodologies.

THE CREATIVE PROCESS IN DESIGN

In design, the definition and analysis of the process models has become a central theme in the academic research since the beginning of the Design Methods Movement in 1962 (Jones 1970). For more than fifty years, the definition and analysis of the design process models has been a theme frequently dealt with by various authors from a historic perspective (Hubka and Eder 1996, Jones 1984, Lawson 2004 and 2006, Margolin and Buchanan 1995, Martí and Font 1999).

However, there is no consensus, neither in terms of terminology nor on the models when it comes to explaining the creativity and processes for design. Terms such as method, phase, stage, process, creative, disruptive, etc. are used with different definitions and applications. In the face of this variety of models, the Decoding Project establishes among its theories that the design process is organized into the following phases:

- The **analysis phase** and definition (how the product/service is conceived and formalized).
- The **productive phase** of fabrication and development (centered on industrial, artisanal or semi-industrial production, and product development).
- The **management phase** which comprises the management and marketing of the product throughout the whole life-cycle of the product, from its conception until it enters the market, its recycling or its disposal.
- The **experiential phase** drawing from the “reception” of the product by the user.

The **creative process** is present in all the design stages in a transversal manner.

Obvious parallels exist between the processes for gastronomy and design (formulated according to the SAPIENS methodology and Design Decoding), however, the most important differences basically consist of differences with lexicon.

On the other hand, the creative process is common to both professional practices. Furthermore, as Ferran Adrià himself has stated: “*To cook is to design food*” (in Capella 2013, p.10), in this

sense we can say that a chef and a designer share creative processes, however the materials that they usually employ are of different natures.

For this reason, the Design Decoding Project takes the creative process as a central element when comparing both disciplines.

THE CREATIVE PROCESS MODEL FOR DECODING

The creative process map formulated by the elBulliLab, is the result of many years of experimentation, research and analysis in the creation of dishes for the elBulli restaurant, so from practice a theoretical map has been visualized in order to represent this process, starting from the premise that although the indicators and factors are the same, there are as many creative processes as there are created dishes.

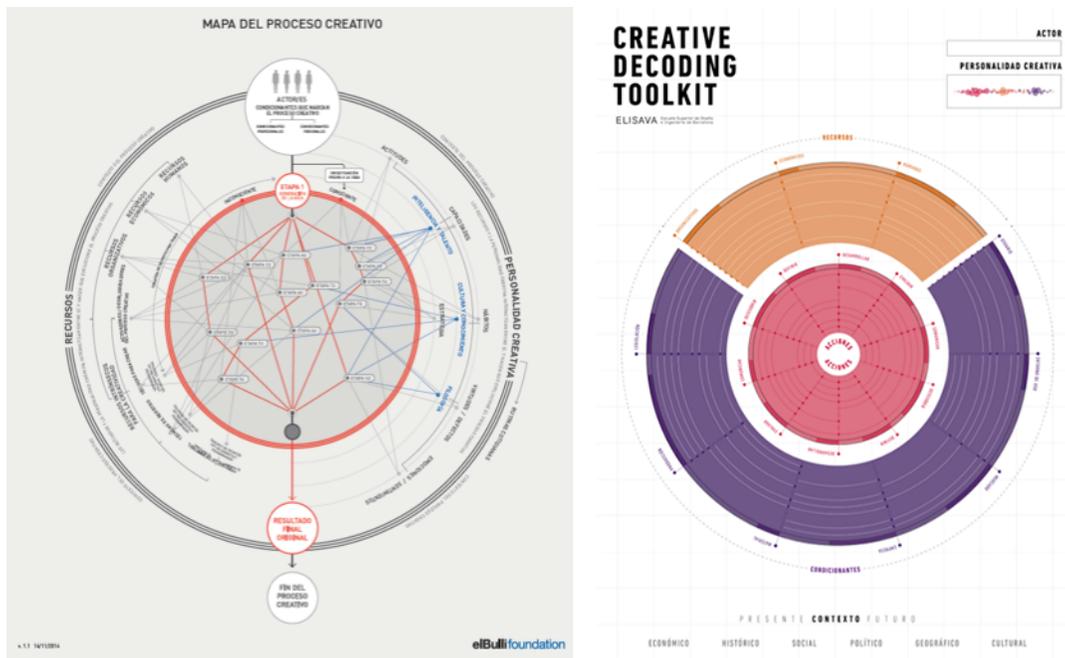
In the Decoding Project we are developing a map that is based on the theoretical research carried out on design and which will be validated based on practice.

For its elaboration some of the most important models from the design process have been studied. The book *How do you design?* by Hugh Dubberly (2005) is without doubt the most exhaustive compendium that currently exists on this subject because it collates 100 examples of definitions and graphic models relating to the process/es of design which have been formulated over the last five decades and classified by subjects, definitions, chronological order and authorship.

We can summarize the different theories and approaches in three types of basic models:

- **Linear Model**, among which in 1963 Bruce Archer defined a mixed linear model, with a clear configuration divided by phases and stages, with a top-down structure, but which was at the same time bottom-up by means of back arrows.
- **Feedback structured model** which places in a **staggered sequence** the various stages of the design process and, at the same time, links them in a cyclical manner (Kober and Bagnall, Dubberly 2005).
- **Circular or cyclic model** that describes how one can pass through the stages of the process various times, thus validating with more security the conclusions of each stage (Stanford University 2014).

In the linear and feedback models there is a need for creating cyclic sequences that show the constant loops which the stages of the design process experience. For this reason, it seems appropriate to visualize them in a circular shape.



Map of the creative process elBulliLab, December 2014 (left) and map of the Creative Decoding Toolkit, May 2015 (right).

The map of the creative process that has been developed by Decoding visualizes all the elements that intervene in the creative process; their placing on the map demonstrates their interrelationship with the other elements.

With regards to the structure, this map preserves the circular form used by the elBulli Lab's creative process map, however substantial changes were made to its content so that it can be adapted to the creative processes for the context of design. The most significant changes introduced to the Decoding map with regards to that of gastronomy are the following:

- The determinants become more important and are placed in the central circle.
- The Creative Personality moves from the central circle and is placed with the actor, due to the impossibility of setting up its content in the same way as the determinants or resources.

In the upper part the details of the author or authors of the product in question are entered (Actor), in other words, the designer. Beside this we position the graphic which visualizes the parameters of the Creative Personality, in relation to attitude, values, skills and personal motivations.

The central circle contains two levels of information, in the exterior part we have placed all the elements that condition the creative process, divided as Resources (organizational, economic, and human) and Determinants (from the user, usage environment, market, company, material, production and legislation).

In the inner part of the circle we have grouped together 5 Actions that are usually part of the creative process and which correspond to the stages of discovery, defining, development, evaluation and communication. Their placing in the inner part of the circle allows us to establish their relationship to the elements in the outer circle, describing when each one of the

determinants and resources conditioned the creative process. The cards that make reference to the actions include the methods and tools used during the creative process.

The context is found on the bottom part of the map, it being understood that the designer keeps in mind both the context (economic, historical, social, political, geographical and cultural) of the current time and of the future, when the product will be used.

THE TOOLKIT AS AN EXPERIMENTAL TOOL

For the purposes of validating the creative process model through practice and collecting information that enables the analysis of the creative processes in design, the “Creative Decoding Toolkit” has been developed, a tool used to collect information from the creative processes of different product design professionals.

Two stages are posed for the diffusion of the Creative Decoding Toolkit, the first consists of an analogue version that is distributed to 40 design professionals who work from Barcelona and its Metropolitan Area, among them are included both studios and agencies as well as small producers.

With the information collected in this first phase, we will validate the parameters and contents needed from the creative process map, in order to develop, at a second stage, an online platform that will become a research tool and, at the same time, a tool for reflection. This virtual space will allow us to reach a global audience and to enrich the Decoding process with worldwide creativity.

The content of the first analogue version was distributed to 40 design studios during the month of May, 2015. This version of the toolkit was distributed in a clear envelope that contains the following items:

- **The Map** which visualizes the relationship between the actions of the creative process with the determinants and resources, as previously described.
- **15 Cards** that pose questions relative to each one of the factors that influenced the creative process, separated into categories of Resources, Determinants and Actions.
- A **Booklet** on the Creative Personality that poses 24 questions to try to understand to what degree the values, skills and personal motivations influenced the creative process.
- A **blank page** for designers to draw out their own creative process.

At present, and up until the month of June 2015, the Decoding team will analyze the information obtained by means of the toolkit, with the objective of being able to validate the creative process model and preparing the development of its format online. In the future online version the user will have access to all the results of the project and will also be able, by answering a simple online survey, to obtain the creative process map automatically so that they can learn what type of creative personality they have.

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The collection of items that make up the toolkit.



The future online version of the Creative Decoding Toolkit

CONCLUSIONS

Studying elBulliLab's work and methodology in the field of gastronomy provides a fresh approach to the investigation of the creative process in design. This allows for the subsequent development of new methodologies which foster creativity in other fields.

Gastronomy and design should be looked upon in a broader sense, taking into account not only their existence as “Sciences”, but also their emotional and sensory dimensions. With this in mind, the Design Decoding Project studies the creative design process by implementing creative personality indicators to purposefully include this emotional aspect.

The research of gastronomy and design as interconnected ‘systems’ allows us to establish common areas in both fields and, at the same time, to define new methodological approaches that can strengthen both disciplines. Just like the relationship between Slow Food and Slow Design, new perspectives can develop with regard to the connections of both systems. This is evident when one considers aspects such as: production, distribution, consumption and the disposal of their products and services.

Decoding the field of product design, organizing it into a taxonomy and displaying the most relevant results on maps, can be helpful both to educate - through the creation of instructional materials and methodologies designed ad hoc for the design process - and to innovate in the field of education.

The project also aims to implement this methodology within the business sector. Here, the Design Decoding Project can be applied with the intention of encouraging innovation, to overcome creative mental blocks and to facilitate communication between less familiar disciplines, via the creation of a common language.

The development of the Creative Decoding Toolkit, distributed in an initial digital phase in May 2015, can provide much assistance when understanding the factors that influence the creative process, the methodologies employed by designers, and to identify the most common types of creative personalities in this profession.

Once the collated data has been analyzed, this tool will allow us to create a virtual platform where professionals, students and businesses will be able to share their experiences with the aim of fostering creativity and innovation in relation to their projects.

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DESIGN IN THE DEVELOPMENT OF FOOD INDUSTRIES: A STRATEGY FOR FOSTERING THE COLOMBIAN GASTRONOMIC PATRIMONY

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ABSTRACT

Each of the six Colombian regions possesses its own and quite distinct gastronomic heritage, determined by the resources of the territory and the creativity of its people transforming them. These regions have been delineated according to the characteristics of their contexts, evidencing profound differences in terms of vegetation and fauna that are determinant factors in the gastronomic uniqueness of each territory, and in the diversity present in the whole gastronomic patrimony of the country.

However this meaningful platform of gastronomic richness has been underestimated, thus isolating a patrimony able to further develop in the regions and communities that have inherited these cultural expressions. This situation has left many dishes in oblivion and separated from their contemporary consumers, either heritors or people from different countries interested in new food experiences.

At the Faculty of Design, Image and Communication (FaDIC) of El Bosque University, there is a research pathway that intends to confront these problems through design, creating spaces where communities endowed with such resources work with designers to recognize the potential of their gastronomic heritage and its possibilities for evolving in food industries, which as any creative-cultural industry, preserves and projects culture. The most significant projects developed with the students are shown in this paper, in an attempt to highlight how this research pathway has been growing and acquiring some maturity, which also points out new challenges.

KEYWORDS

Colombian gastronomic patrimony, design thinking, co-design, food design, emotional design, new technologies, creative and cultural industries, development

1. THE GASTRONOMIC PATRIMONY OF COLOMBIA: A CULTURAL WEALTH DIMINISHED

The biodiversity present in the Colombian territory is determined, among others factors, by its proximity to the equator, its location between two seas (Pacific and Caribbean), and the Andes Mountains that cross the country. These features have delineated six different regions in the country with profound differences in their topography as well as in their flora and fauna resources, making this a country “with the highest rate of species by area unit worldwide” (Mirza, 2014).

The flora and fauna present in this territory have had an important role in defining the culinary traditions of each region; in fact, the gastronomic patrimony of Colombia can be divided in six main groups directly related to the six regions of the nation. Thus, in the same country the food heritage is shaped by a wide range of products which reflect the Colombian biodiversity.

This scenery becomes richer and more complex when these natural resources are transformed by various groups of people who according to their needs and expectations, place their creativity and resourcefulness in the preparation of food (Perdomo, 2014), making each plate a product that not only satisfies them physically but also represents a piece of art.

Additionally, this human intervention that shaped the Colombian gastronomic patrimony is characterized by a constant syncretism of cultures where there is a prominent food synergy (Bedoya, 2010). Historically, Colombia had a significant amount of cultural influences from the

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Incas and other Pre-Hispanic civilizations that after, with the arrival of the Spanish conquerors and the African slaves, created a wealthy gastronomic foundation that latter was furtherly enriched with the arrival of migrations from Middle East and Europe, in the XIX century, and Americans in the late twentieth century (Tirado, 1976). Thus, it is possible to affirm that each plate is a historic document able to reflect this social complexity and cultural diversity.

Initially, the indigenous communities settled in these territories had their own culinary practices, closely associated with their religions and a special symbolism that connected each plate with sacred aspects; the main products used by the natives were corn, potatoes, fruits and small animals found in Pre-Columbian times in these lands.

Later, with the arrival of the Spanish conquerors new food sources and products (such as goats, wheat, sugar cane and vineyards [Colón, 1985]), as well as culinary practices (like spicing different meats for giving the food a wide range of flavors and aromas [Domingo, 1982]) were introduced on the new continent. Afterwards, the Africans brought as slaves added more products to the Colombian gastronomy such as cloves, cinnamon, ginger, nutmeg, pepper and mustard, and practices such as frying in abundant oil, boiling food wrapped in leaves, and the use of the plantain and the coconut in different sweet and savory recipes (Morales, 2010). Finally, another significant migration on the Colombian territory started in 1880 when people from Lebanon, Syria, Palestine and Jordan arrived and settled on the Caribbean coast of the country (Wabgou, Vargas and Carabalí, 2012), bringing their Arabic gastronomic traditions that inevitably fused with the culinary heritage already present in Colombia. One example is the worldwide known Lebanese kibbeh, which in some areas of the Colombian Caribbean coast has peas (as a testimony of its integration with the Colombian territory), besides the usual ingredients (wheat, onions and meat, all finely ground).

This cultural diversity (built along centuries in this nation) and amazing capacity of cultural integration can be considered significant features of the Colombian gastronomy, reinforcing the idea of food heritage as a mirror that reflects the history of the different human groups that have settled on the Colombian territory.

However despite the enrichment that these migrations brought to the Colombian gastronomy, the Spanish domination blinded by an ethnocentric spirit, tried to impose European traditions and practices, underestimating the gastronomic richness of the Amerindians and Africans (Perdomo, 2014). Unfortunately, this attitude is still quite present nowadays and most of Colombians still diminish their own culinary heritage; in fact, native habits were undermined and sometimes prohibited during colonialism, with irreparable consequences such as the disappearance of many gastronomic recipes and culinary practices, ancestrally inherited.

Most of the Colombian food heritage is confronting this phenomenon, opening the doors to foreign culinary influences which, despite being quite appealing and tasty, have displaced and isolated the Colombian gastronomy.

1.1 THE INFLUENCE OF GLOBALIZATION IN THE TRADITIONAL GASTRONOMY OF COLOMBIA

Globalization has been a strong influence in the way people transform their food and eat it, since it bridges the gaps between cultures, fostering exchanges that build a large display of food (Nützenadel and Trentmann 2008) where it is possible to find traditional and modern options separated or mixed. Unfortunately, in countries like Colombia this globalized scenario leaves traditional and artisanal food at a huge disadvantage compared with the international and industrialized food (Wilhelmina, Joost, George and Guido, 2010 & Murdoch and Miele, 1999) since

the population still underestimates its own gastronomic heritage and easily accepts the free entrance of cultural influences from developed countries.

1.2 THE LEGAL FRAME OF CULTURE: GOVERNMENTAL INITIATIVES FOR THE PROTECTION OF THE TRADITIONAL GASTRONOMY

Traditional Gastronomy, or Food Heritage, was included in the category of Intangible Patrimony (Colombian Ministry of Culture, 2012) because, despite being an expression that can be perceived throughout its tangibility, it can be materialized throughout the practice and the use of an Inherited Knowledge, (also called by UNESCO Intangible Heritage¹), which gathers the know-how of traditional gastronomy or ancestral wisdom of a community for transforming ingredients in food.

The legal framework around these specific cultural resources is recent. The Colombian Ministry of Culture adopted the policy for the Safeguarding of the Intangible Cultural Patrimony in 2009, as a response of the recognition made to the Intangible Cultural Patrimony in the UNESCO's Convention of 2003.

Despite this lack of experience regarding Intangible Heritage, the Colombian legal framework has clearly projected a working path that the Faculty of Design, Image and Communication (FaDIC) of El Bosque University has seen as an adequate scenario for developing its projects in the field of traditional kitchens. The Ministry of Culture has proposed the following five strategies that have become the guidelines that lead FaDIC's work in this area of safeguarding and promotion of food heritage:

- The education around the know-how of traditional gastronomy for building an emotional connection between Colombians (especially new generations) and this part of their patrimony.
- The safeguarding of the food heritage in risk of disappearance.
- The strengthening of the management capacity of cultural inheritors in synchrony with entrepreneurship and safeguarding initiatives.
- The promotion of Colombian's biodiversity for the reinforcement of culinary patrimony.
- The consolidation of synchronized work among private and public institutions for accomplishing these policies.

1.3 HERITORS OF THE COLOMBIAN FOOD HERITAGE WAITING FOR OPPORTUNITIES TO IMPROVE THEIR QUALITY OF LIFE

The people from the Colombian rural areas perceive urban centers as cores where rapid changes are synonymous of progress and development, building mythic ideas of wellbeing that encourage migrations. However, their living conditions in cities are usually characterized by poverty and marginalization, even though they have inherited a significant cultural knowledge that can promote their own development and wellbeing wherever they go.

This overvalued idea of cities also has a close relation with the limited appreciation of the cultural resources present in rural areas, making cultural heritors feel ashamed of the ancestral legacies that have built their identity and also have ensured them a livelihood. That is the case of the traditional cooks who are invisible and marginalized inside their own localities and territories, instead of being considered agents of cultural and social development because as "living human treasures²" (as the UNESCO called them), they have the knowledge and skills for keeping alive cultural expressions which are resources able to further sustainable development (UNCTAD, 2013).

Thus, the attractiveness of the cities causes not just the abandonment of rural areas but also the oblivion of all the cultural legacies inherited generation after generation. But if this food heritage

¹ These concepts can be found in the UNESCO's booklet *What is Intangible Cultural Heritage?*

² According to the UNESCO living human treasures "possess a high degree of knowledge and skills required for performing or re-creating specific elements of the intangible cultural heritage"

is taken seriously it can support a powerful economic sector in rural areas, able to transcend the cultural sphere and the local boundaries by playing an active role in national and international markets. This scenario could help in the eradication of poverty through cultural richness, and in the construction of stronger bonds between communities and their culinary traditions.

2. DESIGN THINKING IN THE INNOVATION OF GASTRONOMIC TRADITIONS: BUILDING NEW WAYS OF SUSTAINABLE DEVELOPMENT

The creative and cultural richness of each region set up a platform for the construction of a wide range of creative and cultural industries which have been recognized as the main axes in the construction of creative economies, as the UNCTAD has affirmed in the Creative Economy Report of 2008 and 2013. The nature of these industries gives them a special role connecting the economic growth with non-monetary benefits, such as social inclusion and cohesion, promotion of the cultural expressions, cultural safeguarding, etc., which differentiate them from the rest of the industrial sectors.

Food heritage is one of those creative/cultural resources with great potential in the construction of these special industries; the uniqueness of each plate stamped by its creators constitutes a differentiable and creative value that can be maximized through design thinking to establish products that can extend their creative and cultural roots in different markets (Throsby, 2001). Thus, it is possible to promote cultural safeguarding in synchrony with new sustainable paths (Hawkes, 2001) that overcome the traditional vision where the suitability's major goal was economic growth (Rodwell, 2007), and help to strengthen the bonds between communities and their gastronomic traditions.

From this conceptual frame, different professors of the Faculty of Design, Image and Communication (FaDIC) of El Bosque University, have developed a proposal that explores design as a tool that allows communities, policy makers, food industries and designers to construct an ecosystem around gastronomic patrimony. Articulating co-design, food design and emotional design, it is possible to build a strategy that reveals an innovative path for strengthening the gastronomic patrimony of Colombia and for synchronizing cultural, social and economic development.

This initiative has been structured with the intervention of different faculty professors that, from their experience, have strengthened this work through the following initiatives:

- Co-design in the encouragement of communities as re-creators of their own gastronomic heritage and entrepreneurs of food/cultural industries
- Food design in the re-creation of these special food products, synchronizing the expectations of the consumption markets and the preservation of the cultural values that make this food unique.
- Emotional design in activating emotive experiences able to take consumers to different territories/communities where these cultural resources have been created and transformed over centuries.
- New technologies for fostering the evolution of food heritage in terms of production and consumption experiences.

2.1 CO-DESIGN IN THE ENCOURAGEMENT OF COMMUNITIES AS RE-CREATORS OF THEIR OWN GASTRONOMIC HERITAGE AND ENTREPRENEURS OF FOOD/CULTURAL INDUSTRIES

The methodology of co-design has been the principal tool used by FaDIC in working with communities in the design and development of gastronomic projects, where the re-creation of traditional food products and the construction of business models are the main goals. This initiative has revealed innovative strategies for the safeguard and valorization of traditional food, and for the promotion of entrepreneurship within the popular and traditional gastronomic sector.

Through co-design, communities reinforce the bonds of their people as a means for increasing the innovative spirit of a partnership (Chesbrough and Schwartz, 2007) and their cohesion around their food heritage, to bring cultural, social and economic benefits.

In the cultural sphere, participative strategies aim to give cultural heritors an active role in the recovery and re-creation (also called safeguarding and valorization) of traditional practices and products that are part of their own food heritage. This does not deny that these goals need to be synchronized with economic purposes for which the participation of the cultural heritors³ is also relevant (UNESCO, 2007). Therefore, co-design becomes “a way to design a solution for a community with that community”⁴ to reinforce, in the case of these projects, the role of the community as cultural heritor and agent of development.

These goals are within reach in the creative and cultural industries, which not only have a crucial role in “promoting and maintaining cultural diversity” (UNESCO) but also are spaces where the economic growth gets boosted by the cultural and creative sector (Howkins, 2001). This integration of culture and economy represents a meaningful step in which communities can play a significant role since they are the main creators of the cultural and creative resources and should be empowered to transform this wealth as promoters of development, thereby maximizing in a harmonic way the potential of their economy and culture.

Different Colombian communities have been active actors of this research journey, remarkably enriching the Faculty experience in this topic and receiving the benefits of these initiatives. Some of them are of indigenous origin and others are located in rural areas (like the towns of Sopó and Villa de Leyva) and belong to ethnic minorities (like the Afro-descendants).

Thus, co-design builds partnerships that rescue and enhance the Colombian food heritage to establish creative and cultural industries and further a sustainable development that integrates the social, cultural and economic realms.

2.1.1 WEAVING ACADEMIC SCENARIOS WITH COMMUNITIES

The experience of FaDIC in this area has supported the consolidation of its relations with two Colombian towns: Sopó and Villa de Leyva.

Sopó is a town located in the province of Cundinamarca, characterized for its success in eradicating poverty and its persistent efforts to increase the quality of life of its inhabitants through educational, recreational and cultural programs. It is also known for its milk production, agricultural products, the flora and fauna diversity, its religious and cultural heritage, and handicrafts.

Since 2013 FaDIC became a consultant for this town through an inter-institutional agreement. It started working in the development of different projects focused on the achievement of the goals underlined in its Municipal Development Plan 2012–2016. Although the working scenarios are quite diverse, the projects about traditional gastronomy have a powerful presence for their potential to increase the employment rate and strengthen the cultural environment for the inhabitants and tourists.

³ “Some noted their own national experiences where safeguarding efforts developed with communities succeeded, while those developed without community involvement or consent failed. Finally, some Members suggested that the criteria should focus on the substantive involvement of communities rather than the formalities of demonstrating their consent; if they were truly involved at all stages that was the best evidence of their consent.” The Intangible heritage messenger, no. 5, (UNESCO, 2007)

⁴ This is one of the short definitions proposed by the Design Council. More information can be found in www.designcouncil.org.uk.

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On the other hand, Villa de Leyva is a town located in the province of Boyacá, where testimonies of the past and present coexist in a complex and unbalanced reality. In fact the residents of this place come from different nationalities, building a unique environment where diverse cultures are present. However, local traditions have been underestimated and marginalized at the periphery of the town, evidencing that for developing countries (like Colombia) these globalization processes are the imposition of foreign ways of life, instead of representing enriching intercultural dialogues (Hannerz, 1997).

In the realm of gastronomy the local traditions have been marginalized to the fringes of the town, where is possible to find the peasant market and ramshackle food stalls with the traditional kitchens and cooks. In the historic center of the town, where most of the tourists stay for its outstanding colonial architecture, the restaurants are characterized by a foreigner culinary offer that constitutes an aggressive and unequal competition for the traditional cooks.

The following cases implemented by FaDIC in Villa de Leyva and Sopó describe strategies of co-design where communities are encouraged to become entrepreneurs of food/cultural industries, which are significant initiatives for the safeguarding and valorization of the gastronomic patrimony and for the socio-economic development of the families that have inherited these culinary wisdom as livelihood.

2.1.1.1 RECOVERING THE BRIDE KISSES OF VILLA DE LEYVA: A STRATEGY FOR THE SAFEGUARDING AND VALORIZATION OF TRADITIONAL CONFECTIONARY

(project developed by Jualiana Amézquita, Angela Salcedo, Cristián Jiménez and Fabián Scarpetta under the supervision of Jorge Rubio).

The *Bride kisses* (figure 1, 2 and 3) are traditional sponge cakes that are part of Villa de Leyva's food heritage and have enriched the culinary offer of the Boyacá's region for many years. It is hard to give an accurate description of its origin and evolution in the town but its strong presence in the cultural imaginaries of the residents and national visitors is an evidence of its significance within the gastronomic patrimony of this town and region.



Figure 1, 2 and 3: The Bride kisses are packaged in colorful papers. Product exhibition in a bakery of Villa de Leyva.

However, new generations see this kind of heritage just as a memory of grandmothers, ignoring its potential in the construction of unique food industries that can project scenarios of wellbeing as any other contemporary job. For this reasons the process of transmitting this knowledge (intangible heritage) is unstable at the moment, putting these culinary resources at risk of disappearing.

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During the last few years the gastronomic scenario in Villa de Leyva has mirrored the disadvantage of this special confectionary. In fact, there are just four bakeries in the entire town selling *Bride kisses*. The bakeries operate in a difficult market, competing with a large number of fancy restaurants that offer international food, thus evidencing the need for a business model to integrate the *Bride kisses* with contemporary markets of food, and therefore, with the expectations of the new generations of consumers. This idea intrinsically furthers the safeguarding and valorization of the *Bride kisses* since there is an intention of preserving the cultural essence that characterizes these cakes, without denying an evolution process that integrates new product values capable of putting *Bride kisses* on contemporary markets of food.

In addition, this project also integrates *Bride kisses* with the expectations of the new generations of heritors, with the goal of empowering their entrepreneurial spirit and sense of cohesion around this food heritage. In this way, heritors can realize their meaningful role preserving their own culinary patrimony and transforming it into an agent of development.

During fieldwork students had enriching interactions with manufacturers. One of the most significant findings was that within the realm of the *Bride kisses'* tradition, women have a meaningful role inheriting, practicing and teaching new generations these skills, as in most culinary traditions of Colombia (Colombian Cultural Ministry, 2012). For this reason this project has been conceptually ruled by the idea of femininity that inevitably gets entangled with the implicit romance behind the idea of *Bride kisses*.

Thus the design intervention was focused on different tracks: food product, image, packaging, and interior design of stores.

For the food product intervention the students worked with the manufacturers of *Bride kisses* and developed new presentations and names that reflect the femininity and romance of this tradition. As a result there is a new line of products with names like: *First Kiss*, *Kiss under the Moon*, *Kiss of Wind*, *Kiss from the Countryside* and *Grandma's Kiss* (see figures 4 and 5). This proposal integrates unusual ingredients, mixtures, and presentations with the traditional sponge cakes, which inevitably change the modalities of consumption of *Bride kisses* without jeopardizing the culinary tradition.

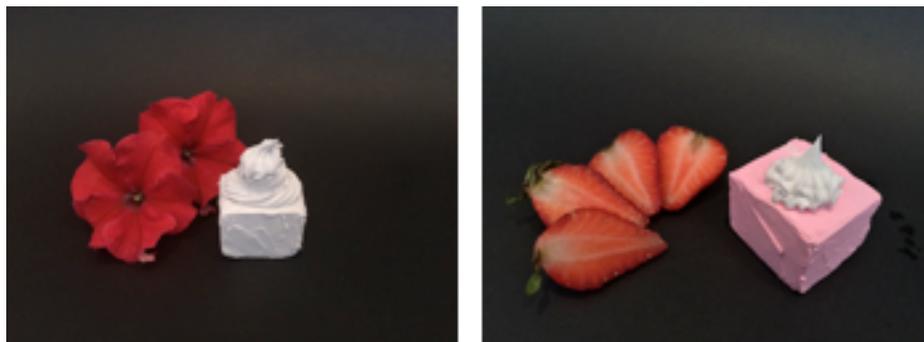


Figure 4 and 5: New presentations of *Bride kisses*—*Kiss from the countryside* (left) and *Grandma's kiss* (right).

For the image intervention, packaging, and interior design of the store, the proposal intends to reflect how Villa de Leyva is a place where *special kisses* can be found everywhere. For that reason, the students created the brand *Villa del Beso—Valley of the Kiss*, which is accompanied by a graphic design that fuses the femininity and romance mentioned before (figure 6 and 7).

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This communication strategy is linked with the proposal of making moving stalls of *Bride kisses*, which can be distributed in the town for reinforcing the presence of this traditional product in Villa de Leyva.



Figure 6 and 7: Image and packaging.

Finally, this initiative also intends to gather the few producers of *Bride kisses* for making a stronger industry around this patrimony. Therefore, instead of satellites working apart and competing between themselves, there is a social cohesion for preserving this patrimony and making it an active resource for the present and future of their heritors.

2.1.1.2 FROM THE ROOT TO YOUR MOUTH

(project developed by Diana Chivatá under the supervision of Iván Franco).

From the Root to your Mouth is a project developed in the rural areas of Sopó called *Bellavista* and *Carolina Alta*, where there is a large amount of farms with a rich agricultural production that embellishes the landscape of the touristic route to the natural reserve of *Pionono*. However, these areas have long been seen as merely a mobility corridor to this natural park.

Monthly, the farmers from these rural areas harvest significant quantities of organic products such as cereals, fruits and vegetables, among others, which are consumed by their own families and timidly commercialized in the weekly market of the town. The knowledge of the farmers and their families is not limited to the agricultural production, in fact there is always a rich culinary wisdom knotted to farming. The designers perceived these resources as aspects capable of structuring a gastronomic offer for enriching the touristic route to the natural reserve of *Pionono*, giving the inhabitants the opportunity of having an active role for making this corridor not just a mobility area.

This situation inspired a proposal aimed at the creation of a food industry where the farmers of these areas joined their efforts for consolidating a gastronomic offer that not only could maximize the potential of the resources available in this touristic route, but also could be capable of building memorable experiences for the visitors while they are traveling to *Pionono's Park*.

In this way, the ideas of local and organic food emerged as a conceptual axis which determined the characteristics of this gastronomic industry and therefore all the requirements for designing its image, brand, food products and packaging, among others. This framework was also defined by the results obtained in the surveys applied to the tourists that visit the natural reserve of *Pionono*, who, according to the statistics, are inclined to these kinds of experiences in which there is respectful contact with nature.

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These concepts established a path for the design of this industry's image that was focused on the creation of an emotional connection with the tourists, able to link their expectations with the gastronomic offer of *Bellavista* and *Carolina Alta*. In this process the designers shaped the brand *From the Root to your Mouth* which determined the aesthetic characteristics of the image and its graphic applications in the interior design of the store, its working clothes (like aprons and uniforms), cutlery and crockery (figure 8), and also the qualities of the food products offered by this gastronomic industry.



Figure 8: Image application on the crockery.

Additionally it was necessary to categorize the agricultural products present in the area (in cereals, fruits, vegetables and tubers) for understanding their potential for gastronomic tourism. In fact, from this analysis it was possible to develop a line of fruit jams (figure 9) and vegetable soups which give tourists the opportunity of experiencing the flavors of the territory and having a closer contact with the culinary knowledge of farmers.



Figure 9: Fruit jams.

Finally, it is important to underline that one of the most significant achievements of this project was the community participation, which awoke in the farmers a sense of belonging to this initiative. This bonding has kept the project alive, even after the designers finished their intervention.

2.2 FOOD DESIGN AND EMOTIONAL DESIGN IN THE RE-CREATION OF THESE TRADITIONAL FOOD PRODUCTS

In this work track, there is a direct intervention of design in food heritage aimed at improving the quality of the food at different levels, for making traditional food a competitive product able to

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meet consumers' expectations without risking the values that make it unique/authentic and a resource of cultural identity. The re-creation of these products, through design, is a process that not only improves their sanitary and nutritional characteristics but also establishes innovative possibilities at experiential levels that give each food product the capability of provoking

sensorial stimuli. In this way, it is possible to give emotional qualities to food in order to create significant bonds with consumers.

These kinds of interventions are an example of Design With Food and Food Product Design⁵, according to The International Food Design Society.

In addition, there is also a design intervention that intends to increase the communicative capability of the packaging, a process that according to The International Food Design Society can be classified as Design For Food⁶. This work track has revealed the importance of designing food products with the necessary tools for becoming storytellers, because as this society affirms: "the packaging is not only a container, but equally important, it is one of the means of the communication for the product, that will make it recognized and remembered." Accordingly, traditional food products can communicate not just nutritional facts but also all the dedication in their manufacture and their historic values, revealing how communities have imprinted their creativity in the fabrication of these products and have preserved and transformed this cultural heritage for centuries (knowledge about a recipe).

The following case evidences an outstanding experience in the three mentioned categories of Food Design: Design With Food, Food Product Design and Design For Food.

2.2.1 DESIGNING NEW PRODUCTS THAT EXPLOIT THE CULTURAL IMAGINARY AROUND APHRODISIAC FRUITS OF THE COLOMBIAN TERRITORY

(project developed by Juanita Aristizabal and Karen Murillo under the supervision of Tania Delgado).

In the Colombian Pacific Coast there are fruits with aphrodisiac imaginaries quite underestimated (like Borojó and Chontaduro). Their natural production is massive but it is wasted on the fields because the farmers of this region have not realized their potential.

These fruits are linked to a cultural imaginary around sex that comes from ancient African and Indigenous communities settled on this part of the Colombian territory, where these fruits were used in rituals and festivities, among others, for healing and generating energetic and aphrodisiac sensations related to magical and superior powers. This imaginary is still alive making these fruit pulps the main ingredient of energetic drinks (with allusive names related to sex) and other products like artisanal wines and jams.

In spite of having a significant role in the cultural imaginary of some communities (and thus constituting a meaningful part of their Intangible Cultural Heritage), these fruits are considered something popular without any value able to transcend the cultural sphere, missing opportunities for the development of competitive products that can be part of the Adult Entertainment Industry, one of the largest and most demanded industries nowadays.

The aphrodisiac imaginary of these fruits and the farmers were the foundations of a design process, which through strategies of food design, transformed the traditional jam recipe for making gums. Additionally, through co-design it was possible to structure a business model with the farmers for encouraging their entrepreneur spirit, empowering them to take a respectful advantage of the natural production and cultural values of these resources, which are competitive

⁵ Information available in the website of the International Food Design Society: http://ifooddesign.org/food_design/subcategories.php

⁶ *ibid*

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assets at national and international levels.

In 2013 Juanita Aristizabal designed the first approach to this product. The result was a kit of gums (made with these aphrodisiac fruits and a slight transformation of the traditional jam recipe) that stimulates the interaction between couples during foreplay for improving their sexual performance, with the goal of exploiting and reinforcing the aphrodisiac imaginary around these fruits. The gums have been designed according to the morphology of the erogenous zones, thus they can be stuck to different parts of the body stimulating an erotic interaction (figure 10).

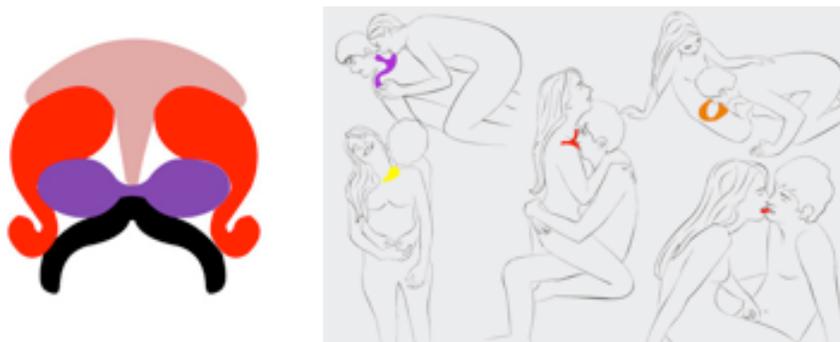


Figure 10. Images of the erotic gums and their use.

Currently student Karen Murillo is working on the same concept but adding new product values. In particular she is concentrated on developing a product that can be produced easily and on making a packaging design that is able to tell consumers the cultural imaginary of these fruits.

For the gums, the proposal has evolved for the production of half spheres with a textured surface and a diameter of 2cm, which can be stuck to the erogenous areas (as in the previous proposal). The size and the shape allow users to have the freedom of creating different patterns on the bodies of their couples, and intend to give them different possibilities every time that the product is used (figure 11).



Figure 11. Latest proposal of the erotic gums

The concept of the packaging is still under development and is merging two aspects that are significant for this project: allusive images of sex designed from the kamasutra, and some rhymes about the “magical power” of these fruits, which are part of the Colombian’s Oral Patrimony (figure 12 and 13). Through sticky word plays, these language resources help consumers to remember the aphrodisiac properties of these fruits and revalue their cultural imaginary. This

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communication strategy turns the package into a storyteller where not only nutritional facts can be told to consumers but also other cultural aspects.



Figure 12 and 13: Packaging.

2.3 NEW TECHNOLOGIES FOSTERING THE EVOLUTION OF FOOD HERITAGE: REMAKING FOOD TO RE-CREATE CULTURE

This design experience has been developed as an initiative that can be applied on any traditional cuisine of the Colombian territory. In fact the cases described below are not focused on the origin of the gastronomic resource but on the possibilities of innovation that can be achieved when gastronomic patrimony bridges the gap with new technologies.

Experimenting and prototyping with food has been an enriching pathway for comprehending the meaning of food in the cultural realm and its wide range of aesthetic possibilities. This is the beginning of a practiced-based process aimed at exploring the evolution of food heritage from a design perspective. It is an approach that uses different tools for understanding food ingredients as industrial raw materials that can be processed and altered in non-traditional ways.

This process has been undertaken with different food products of traditional Colombian gastronomy and the first step was to understand food as a sum of ingredients/materials capable to be projected in new forms of consumption, with the help of different technologies that have a crucial role in rearranging these food products.

In this transformation of food heritage there is also a transformation of traditions and habits, furthering the idea of: “remaking traditions to produce culture” (Micelli, 2012). This concept is intrinsically connected with the idea of cultural evolution which has been described during the first session of the Intangible Heritage Committee of the UNESCO (2003), as a natural process where cultural resources acquire new characteristics and values thanks to the inputs made by different generations of heritors, who through time transform their patrimony according to their evolving expectations and environments.

In the following example, students remade a typical Colombian food called “almojabana.” First, they obtained information about the historic, cultural and physical issues of this particular food product in order to understand the different possibilities that can be achieved with it, building a platform for a design process where both traditional values can be retaken and new values can be incorporated.

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Figure 14 and 15. Laser engraving over the “almojabana” (left) and Almojabana with a dressing (right).

As shown in the figure 14 (left), by engraving the surface with a graphic instruction and presenting a wooden stick, the “almojabana” is inviting to be consumed in a non-traditional way. Almojabanas are usually eaten alone or with a hot beverage like chocolate, however in this case, with a small design intervention the consumer is invited to eat it with a dressing changing the original ritual of consumption (figure 15, right). This kind of disruptions where new ways of interacting with food alter traditions, trigger in designers and consumers discussions about the food’s meaning, its evolution, and the validity of modern values in the construction of new cultural practices and products.

Consequently, design becomes a mediation tool in this process, a fundamental step that allows the production of new culture (Brown, 2009) and patrimony for the future generations.

2.3.1 DIGITAL FABRICATION: A TOOL FOR GASTRONOMIC DISOBEDIENCE.

Each traditional food product carries through generations a way of interaction that defines its rituals and cooking practices, which despite representing a significant part of intangible cultural patrimony, usually limit transformations as they are considered initiatives that alter the authenticity of the food heritage. Usually it is not accepted to change the characteristics of the typical food because is an aggressive act against history and tradition that affects the quality of the product. However, as Oroza (2009) proposes, breaking the authority embodied within a product (in this case food) is a moral liberation that opens possibilities for innovation. For this reason, food design becomes a tool to react against the standards that imprison cultural expressions and provoke their stagnation despite being surrounded by an unstoppable evolving context.

This final example presents a design exercise in which students intervene in traditional food with digital manufacturing technologies. The goal was to transform food using those non conventional tools which offer interesting options in the food re-creation, like can be seen in the figure 16 and 17 that illustrate the laser engraving on “panela” (product obtain from the sugar cane) and cacao/chocolate.



Figure 16 and 17: Laser engraving over chocolate and panela.

The process of bringing food within a CNC (Computer Numerical Control) workshop is a disobedience act which wouldn't have happened under normal conditions, since the materials used in these spaces are usually metals and plastics. However, in these projects the CNC workspace became a kitchen-lab for implementing experiments on food that have offered innovative possibilities in the re-creation of the Colombian gastronomic patrimony. The knowledge obtained through this process has generated novel and significant paths for the food product development that cannot be underestimated, in fact these design projects are complex activities that empower students and give them tools for understanding and creating food products in different ways.

3. CONCLUSIONS: FUTURE CHALLENGES FOR STRENGTHENING METHODOLOGIES AND THE IMPLEMENTATION OF PROJECTS

The continuous work on these projects reveals new challenges each semester, while failures and successes structure new directions that can be followed by other communities around the world, which are faced with similar gastronomic heritage issues.

Some of the most evident limitations of these projects are related to the isolation of the professors working in this area. Even though there is a common interest, there is not a formal scenario where all academics can join their efforts to structure a more complete methodology that maximizes the results of each food project.

In the categories “Design With Food” and “Food Product Design”, the consumption experience played a significant role in the projects; the purpose was to foster bonds among consumers and Colombian gastronomic patrimony, which in the case of Colombian consumers means an opportunity to get closer to their own food heritage and revalue it, creating emotional scenarios where past traditions finally get a place in the present. Nevertheless, these results still need to be integrated with the experience of other professors experienced in implementing academic scenarios at the community level, supporting cultural entrepreneurship initiatives, and devising realistic approaches for the construction of creative and cultural industries.

In the area of Design For Food, approaching the packaging as a storyteller that reflects a territory, its culture and its people, is an aspect under development. The results are interesting from a communication standpoint, but more attention is needed to design packaging able to bring to the surface cultural aspects that usually remain invisible. This would provide a complete product that not only fuels sensorial experiences around flavors and the interaction with food, but also communicates cultural values about the territory and the people that have inherited a gastronomic patrimony.

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These efforts also build scenarios for the development of policies and public institutions focused on fostering initiatives for the safeguarding and valorization of food heritage, linking FaDIC's work with the Ministry of Culture and the Ministry of Industry. However, the work described in this paper still needs to structure methodologies for accomplishing these ambitious objectives that could allow researchers to have a significant impact on the heritors of the Colombian gastronomic patrimony, who usually live in conditions of extreme poverty.

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TOWARDS A GEO-ALIMENTARY PRE-CONTEXT FOR LATIN AMERICA

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ABSTRACT

Latin-America is perceived as the world's future pantry. Along with this perception come the several dynamics that act around food and agriculture in our region. The possible consequences of the exploitation of our land are extremely wide. We Latin-Americans, guard an extremely rich soil, vast bio-cultural diversity and an irreplaceable spectrum of ancestral knowledge, so there is an open path for design to take part in our realities. The various trends of design that spin towards food and feeding have a pressing need to develop and strengthen the local food scenarios in order to answer to globalization. Food is not only essential for living, but is also the key for understanding societies and overcoming differences. For four days, Bogota hosted the second Latin-American Food Design Encounter, Disfruta Diseño 2015, welcoming experts in innovation and design as well as the food/feeding field who stand out in the local and international scene. The main question that guided the discussion was how Latin-American design could improve the relationship men and women have with food, considering our regional context and bearing in mind social, economic, cultural and political dynamics. In other words: what should be the role of design and food at competitive, sustainable and political areas in Colombia and the Latin-American region? This paper shows the lines that guided the discussion at the event as well as the results and the uncertainties that were left over the table for the next encounter. Our intention is not only to show the work that has been done but to unveil the importance of design in working towards improving our social and cultural realities, through a primary aspect of every human life as it is food.

"My stomach does not care for immortality"

Heinrich Heine

FIRST COURSE: AS AN APPETIZER

Today's outlook of the world compromises head on, the future of a territory like Latin America. The different developing models of our countries set out the ideal scenery in order for design to participate and compromise actively with our economic, social, political and cultural realities.

The ideal, for most of us humans on earth, is to allow ourselves at least one meal a day every day; this is, at rock-bottom, our desired reality. This vital desire is the starting point for our Food Design Encounter, which questioned design from a design point of view about what we are doing to improve our relationship with food and therefore learn and contribute with regard to overcome the existing inequalities which have led to universal dehumanization.

Several politic and economic sceneries have made clear that Latin America is perceived as the propitious setting for the future: in about ten years it might become the world's pantry and farm: ¿is this a problem or an opportunity? It's natural to believe that by becoming the world's pantry, we must be ready and willing to tolerate and accept the dramatic consequences that make us antagonize as nations; that we must witness how ancestral knowledge and wisdom is either eradicated, exploded or replaced by oligopolies which will jeopardize the soil and crops with centralized exploitation, risking extreme poverty and loss of resources for the local people who live off the land and feed the rest of us; that we must allow the progressive loss of our rights over water, energetic resources, rainforest and even the means to practice fishing; to watch the

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disappearance of wild live, soil fertility and as many forms of live which are representative of the ethno and bio diversity of Latin America.

Different developing models place our countries against each other since we have different ways to face the challenges, difficulties and opportunities that globalization imposes upon our nations, since it is not considered as a way to run the land respectfully but as a path of homogenization which is still far away from ensuring the universality of human rights. These situations are an open path for Design to play a role and take part in our realities. There is still a lot to study, to give and to take responsibility for. We as latinos are called to see, listen and participate in what are becoming challenges and goals to take place over the coming decade.

The exponential escalate of climatic change induced by an ego- anthropocentric developing model are affecting regions all over the world as well as the everyday living of our people: the capital gain and legal expropriations of large stretches of land and the increasing price of energy are just a few of the conditions to be reconsidered with the insight of social innovation that Design can provide.

Traditional cultures are being destroyed along with vernacular forms of interchange, languages, views of the world and values that are on their way to extinction or extremely vulnerable due to the imposition of economic and industrial models; these inevitable losses are contrary to the dominant culture that promotes consumption as the path to achieve happiness. Today's global powers manage their own poverty, feeding the huge speculative bubble that is nowadays forcing forms of economy and exchange of goods and services prone to economic growth at any cost, as well as corporate greed.

These are a few of the considerations that encourage and obligate Design, since the opportunity is given, to consolidate its stance towards the despite for planet boundaries, and to re-think and assume new roles, considering that Design has more to do with people than with objects, as Max Neef very well proposes in his master class "The world in its way to colliding."

Concerned for this reality and the imminent task of putting an end to it, a group of professionals in design, gastronomy, culinary and restaurant owners or entrepreneurs joined efforts and consolidated the Latin-American Food Design Network, whose function is to bring together people with common interests in order to grow as a intellectually-guided community and establish solidary that could link the progress and debate from the relationship between Design and food, as a way to improve the relationship we, modern men and women, have with food.

The new trends or aspects of Design centered in food come from the pressing need to develop and strengthen, in the local scene, the involvement of the discipline with the actors that intervene and work in the *feeding world*, to take an trans-disciplinary approach to the actions and interactions that spin around the act of eating or feeding. Academic and practical spaces are displaced in order to share developments and knowledge born from experience, these are also sceneries that allow the construction of concepts from the local and regional identity, and which boost the contribution of Latin-American Design to the world scenario of Food Design. The first Encounter took place in October of 2013 in Montevideo, Uruguay, thanks to the initiative of Pedro Reissig, Francesca Zampollo and Daniel Bergara.

The second Latin-American Food Design Encounter was called *DIS-FRUTA¹ DISEÑO 2014*, and this was the opportunity that allowed us to change the way we relate to food and look for new and different interactions through Design. This encounter gathered, for a week, in Bogotá, Colombia, the best of the local and international scene related with feeding/food and innovation

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and Design in the food industry. It was supported by several private, academic and institutional organizations, which made it attractive for all parts involved in the field.

The Latin-American Food Design Network was responsible for the event, which was organized by the Arts Faculty of the National University of Colombia and the Design and Architecture Faculty of the Andes University. Allied organizers were the Academic Design Network (RAD, Spanish acronym), the National Agency to overcome Extreme Poverty (ANSPE, Spanish acronym), Industrial Taylor, Corporación Colombiana Interacional, Papilas Tropicales, and Food Design in Spanish. It was supported by the restaurants Wok, Bogotá Beer Company and Minimal and the location was Industrial Taylor (Transversal 93 No. 51-98 - Avenida el Dorado, costado norte), Edificio 3, Parque Empresarial Puerta del Sol, Bogotá, Colombia.

Local designers with long careers in the food field such as Lucho Correa and Alejandro Otálora were also involved, and among the nine international guests were Edouard Malbois (France) as a top consultant in food innovation; Francesca Zampollo (Italy/New Zealand) Design and Food theorist and Pedro Reissig (Argentina/USA) who has developed an important and innovative work on food morphology from a functional, structural and esthetic point of view.

People who wonder how to improve their business through their product, experience, service, brand identity; who are concerned because their competition product looks more appealing and sells more in the restaurant, supermarket or grocery store; who ask themselves about the success of companies as Crepes & Waffles, BBC, Alpina or Minimal (local successful brands), were most likely to find some answers in DIS-FRUTA DISEÑO 2014. The encounter was composed by two moments, the first one was a Seminar focused on Food Design Pedagogy which was a closed door event for a discussion between academics, enterprises, and food experts; a second moment which was the II Latin-American Food Design Encounter that offered a variety of speeches, conferences and workshops related to the food industry, design and innovation in the field.

The impact of the food industry in Colombia is undeniable, new restaurants and international food chains open almost weekly, culinary schools are not left behind and new products and food related services are introduced regularly in our country, contributing to the GDP and the national economy. This reveals the great potential of the field: if cooks, business men and women, entrepreneurs, academies, and the state manage to create a dialogue guided towards creativity and innovation through Design, dynamic connections will increase the appeal of the field in aspects as education, economic development and the productive chain in the country.

SECOND COURSE: FOOD AND DESIGN IN THE LATIN-AMERICAN SCENE

Food is implicit in our lives, latent but undercover, it hides dichotomies that ignite the debate around food: healthy and unhealthy, excess and abstinence, opulence and poverty, pleasure and disgust, every day and festive. All these perceptions, experiences, and epithets built around food and feeding have in our everyday lives multiple representations that portrait our relationship with it, as well as its representations in cultural, political and economic spheres.

In order to achieve our goals we put forth the following proposals: the need to organize networks and establish work strategies in order to encourage creativity in recognized food companies, stimulate the creation of schools and education in gastronomy, build sustainable business models, allow designers to work with and around food, search for strategic dialogues, and work with the communities. It is fundamental to value cultures and collective experiences in order to reach for social empowerment and rescue products with high historical value, to be aware, not only, about the existence of peasants and farmers but to be conscious of their reality, their traditions and ancestral knowledge. Trans disciplinary work is a must; socializing, sharing and building work units composed of different fields of knowledge will motivate the discussion

¹ There is a pun regarding the words *disfruta*—which means enjoy—and *fruta*—which means fruit.

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around Food Design. To accomplish responsibility in the food industry, food safety and security are necessary, including healthy food, support for the local economies and care and awareness of food diversity. The way a product is presented can be constantly improved and creativity is a key word in this aspect, there is a need to experience with perceptions, colors and flavors, friendly packaging, mix, match and change.

Taking the previous proposals into account, the event, which took place in Bogotá from October 20th to the 24th, Dis-fruta Diseño 2014 enlightened the community to fulfill the design-gastronomy potential in various local and international sceneries related with the food field, innovation and design. The cultural and conceptual frame offered by the encounter put on the table a series of questions and thoughts that required debate, not just for the development of the field but for humanity's wellbeing and future. The main question which we've mentioned previously was, what are we doing, from the Latin-American Design, to improve the relationship between men and women and food?

Looking for an answer to this question, five main topics were proposed as an axis of discussion and analysis for Food Design:

1. Knowledge and territory: Value and promote culture, practices, traditional knowledge and skills characteristic of regions, societies, communities, families or even individuals, which express intrinsic values present in the way we relate with and through food, becoming territories on their own.
2. From the kitchen table to the experience: Acknowledgement of perceptions and expressions which are tasted, smelled, imagined and felt, turning the texture, form, color and sound of food into an infinite universe of possibilities in order to create new experiences around food and feeding.
3. Eating, other senses: Go beyond the senses, explore other forms to call on the food experience and the food culture, open up the sense with which we relate and express who we are according to what we eat, re-create ourselves accordingly.
4. From the academy to the table: Consolidate action and integration from Design to improve sustainable, competitive and political fields in Colombia and the continent, promote dialogue of flavors and skills in the search of new knowledge. Document and value morphologies, technologies, techniques and means present in everyday interaction with food and culture. Relate to each other.
5. Innovation for enterprises: Design can strengthen every aspect of human living aiming to improve relationships, experiences, insights and the way we produce and consume wellbeing or welfare.

These topics allowed us to explore relationships between people, and food and design, clarifying processes of iteration and interaction among them with a regard to transform ideas in concrete results. These ideas, framed in the doing or action resulting from the questioning, consider Colombia's development in our recent past as a referent to build a Latin-American outlook.

As a methodological strategy to approach the subject, the question led us to question ourselves about background and results for the following areas:

- Academy, manifested in multi-disciplinary sceneries guided towards didactic, research, innovation and education.
- Society and communities, where social innovation values the improvement of life quality and standards of societies.
- Industries, companies focused on creating products, services and systems focused on the consumer.
- Public politics, inclusive and inchoative in public management.
- Public sector, with improving results for the needs of the population.

THIRD COURSE: SEARCHING FOR BACKGROUND

The background regarding this reflection was classified according to the following areas: academy, societies/communities, industry, business and the results from public politics (Fig.1).

The process, common to all areas, consists of creative techniques meant to connect participants, and to transform ideas in concrete results, while taking into account social, economic and environmental considerations.

Results are characteristic to each area.

<p>INDUSTRY Creation of products, services and systems focused on the consumer.</p>	<p>PUBLIC SECTOR Answer the best possible way to the needs of the people.</p>	<p>ACADEMY Multi-disciplinary sceneries guided towards didactics, research, innovation and education.</p>
<p>COMMUNITIES Social innovation which adds value to societies.</p>	<p>POLITICS Inclusive and inchoative politics for public management.</p>	<p>BUSINESS Guided towards competitiveness, strategy and productivity.</p>

The Network searched for precedents and background for each one of the Latin-American countries to build a complete and general picture of what is being done in each area.

Dis-fruta Diseño 2014 left us with the thoughts and input of our guests regarding the relationship between people and food and putting on the table one of the most significant questions of the event: How does design interact with food towards a social, cultural and patrimonial projection?

This document registers and analyses, from different perspectives, relations, concepts and experiences exposed by our guests, the discussions which was divided into the following topics by the research university group Design and Food (Disfruta Diseño).

Tradition recovery: It involves topics related to the culinary tradition and its past in Colombia, life stories in which their actors interact next to the stove. The rescue and practice of traditional and family recipes is vital; recognize and give value to the regional wisdom; preserve and maintain the popular, collective recipes and formulas; make visible, keep safe and promote the savors, skills and knowledge of Latin America by an imminent exchange of information; recover lost savors; explore with exotic fruits and products of the region and spread the word about the wanders of traditional cooking.

The exercise of the profession: A reflection framed in the multi-disciplinary research of university professors, and designer in the search, implicit and explicit, for the role of design as a distinguishing factor that integrates and transform through its methods, tools and communicational component. It is oriented towards the strengthening, preservation and protection of food ecosystems with an important patrimonial approach. In order to apply the methodology practice a deep ability to listen, observe, research and participate is needed, this to use the characteristic tools of design and create spaces of debate and experimentation.

Re-discovering territories: Territories understood as cultural and social contents that surround production and feeding habits in the Colombian regions, and the relationship design/food/culture that entails preservation and innovation for social, environmental and economic sustainability. The creation of community networks to boost the economy surrounding food, the social, human and productive fabric composed by farmers and peasants which is clearly related to

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the government and private sector. Grow sustainable crops, link those involved, increase rural development and human rights respect, create compromises, and seek fair trade.

Entrepreneurship and innovation: Design as a disciplined oriented towards productivity, counts with the tools and research scenarios for collaboration and innovations in contexts that allow business opportunities. Trades and traditions articulated around food and the activity of cooking, but mainly around people and the need to preserve their knowledge configure identity pillars to be oriented to become productive and competitive for their territories. It is important and necessary to support small businesses and individual and collective initiatives in service and product design, looking for innovation and diversification of products, and encouraging the consumer to know and acknowledge the work behind the food they eat.

Cohesion an exchange: The purpose is to project and highlight the cultural identity of our countries through food and its relationship with communities and regions. Activating popular and regional economies would lead to the promotion and construction of the social fabric, appropriation, recovery and added value to the cultural patrimony and traditions.

On the same note, from an environmental and social innovation design perspective, strategic design projects born from the very same nature of food and culinary traditions of vulnerable communities are needed to eradicate hunger and malnutrition. Aim for empowerment and programs that promote food safety and patrimonial preservation.

FOURTH COURSE: OTHER UNCERTANTIES

What can design do to food to create a social, cultural or patrimonial difference?

The Design discipline has different views regarding interaction.

A. The four forces of design²

- Design as differentiator: Design as a source of competitive advantage.
- Design as integrator: Design as a resource that improves quality, and articulates processes.
- Design as transformer: Design as a resource for improving life quality in communities and organizations.
- Design as good business: Design as a source of increased sales and better margins through appropriation and value awareness.

B. Ladder

Strategy > Styling > Experience

C. Other relationships and views.

MATRICES THAT ALLOW MULTIPLE INPUTS

Another important and significant subject of reflection was the role of design in competitiveness, sustainability and politics in Colombia and its regions. Five possible areas were proposed.

- To achieve conscious feeding: Acknowledge the origin and routes of food; improve the relations between industry and consumer; educate the consumer; promote the intake of national products as a habit; diversify crops; encourage food safety; exercise the appropriate use of resources practices; assume social compromises; adopt a critical attitude towards agriculture; create public and private opportunities for the political involvement of the gastronomy field; go on generating productive development for farming.
- For management and innovation: create added value for the industry; grant design access to food; integrate knowledge; create strategic allies; propose solutions that go beyond products; innovate; create; be dynamic in organization management; produce solid gastronomy products and experiences; innovate in packaging; ease the interaction among the food industry; create new organizations.

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- For politics and ethic: Remember basic concepts as respect, transperence, value and responsibility.
- For wellbeing and experience: Good food for a good life; dignity and food sovereignty; provide food for everyone and develop production practices of our own.
- To build knowledge, gather experiences and guidelines.

A MAP OF OPPORTUNITIES AND WORK LINES WAS DRAWN TO VISUALIZE THE ADVANCES DONE FOR RESPONSIBLE AND CONSCIOUS CONSUMPTION

1. Joint effort in management and innovation to integrate design knowledge and grant food access to all.
2. Shared work in promoting ethics and politics focused on respect, and that values local products.
3. Promotion of experiences that prove that wellbeing is possible for everyone. Impulse actions that orient public politics to the regional realities and respond to globalization dynamics.

Contributions are oriented to promote the creation of a theoretical and conceptual model as the result of the inter-disciplinary work of the research group Disfruta-Diseño, which have worked for almost two years around all disciplines and fields related to the act of feeding and food itself.



WHAT IS LEFT ON THE PLATE: AS A SYNTHESIS

DATA FROM DIS-FRUTA DISEÑO 2014

The planning and organization of the event Dis-fruta Diseño 2014 lasted eight months and was carried out by fifteen designers, academics and professional who were interested in the subject of food design and who were either specialist on the topic or had knowledge on tradition, communication, styling, interaction and gastronomy. Sixteen design students collaborated as well.

SPONSORS AND CONTRIBUTORS

The event was organized by the Latin-American Food Design Network, the National University of Colombia and the Andes University. There were five key associates (Industrial Taylor, RAD, Food Design, CCO and Papilas Tropicales), six sponsors (BBC, Fumando Molley, Wok, Mini-Mal, Selva Nevada and Abasto) and five different media did coverage of the event.

The approximate investment was US \$51,000 provided as follows: 30% by the National University of Colombia, 28% by Industrial Taylor, 10% by the Andes University, 29% by other partners and sponsors.

SPEAKERS AND GUESTS

The event had eight international experts on the field from Argentina, Brazil, Peru, Colombia, Uruguay, USA, Italy, France and New Zealand, besides the 38 national guests.

The event was open to the public for three days and 307 people assisted in the 46 talks. It was also video transmitted in real time (streaming) for students, academics, entrepreneurs, and the industry in general.

The academic seminar took place the first two days and gathered seventeen participants who were members of the Network. The following workshops got 45 people together to work around topics like innovation in products and services, food studies and gastronomy. Aside from the main event, Disfruta 10/10 invited to a small restaurant ten innovative proposals to present their projects in ten images for ten minutes each, and this event called on over 60 people.

LINKS

Latin-American Food Design Network

<http://disfrutadiseno2014.uniandes.edu.co>

<https://www.facebook.com/pages/Red-Latinoamericana-de-Food-Design/1391175717799922?fref=ts>

UniMedios

<https://www.youtube.com/watch?v=5LG5lhJoNFs>

DeMentes Magazine

<http://revistadmentes.com/blog/2014/10/el-food-design-se-tomara-bogota-en-octubre>

Aneia

<http://agronegocios.uniandes.edu.co/index.php/eventos/211-2do-encuentro-latinoamerica-de-food-design-dis-fruta-diseno>

Huffington Post

http://www.huffingtonpost.com/fabio-parasecoli/the-cultures-of-fresco-fo_b_6077266.html

Food Design in Spanish

<https://www.facebook.com/Fooddesignlatam?fref=ts>

DESSERT: HOW WAS THE EVENT SCHEDULED?

There were three dialogue spaces:

1. The academic seminar about didactics in Food Design pedagogy in Latin America
2. Dis-fruta Diseño 2014
3. Disfruta 10/10

AN EXTRA COURSE: WHERE WILL THE NEXT EVENT TAKE PLACE?

The venue for the III Latin-American Food Design Encounter will be Portoalegre, Brazil, where one of the Network members currently lives and the Nodo Brazil group is constituted. The foreseen date is from October 19th to the 23rd 2015.

The values taken in by the Latin-American Food Design Network are summarized as follows:

- Furnish solutions on the subject of food and feeding in all their dimensions and embodiments.
- Increase food access to the highest number of people taking into account their needs and economic and cultural background; blend their local flavors and cultural values regarding food, as well as providing transparent information about content.
- Seek for benefits in health and general wellbeing for individuals as well as communities in their relation with food. This implies improving access to healthy and enjoyable food.
- Do not hurt people or the environment with our actions; keep a balance between needs and resources, in a fair and sustainable way.

CUTTING THE CAKE

The seminar that took place over the first two days had as a starting point the following objectives:

- Organize and understand the factors that are to be taken into account to build a didactic of our own for the development of Food Design in the academy.
- Close the seminar with a document that points the way to consolidate these didactics.

The first day began with a sharing and the presentation of each of the participants, among them the Italian Francesca Zampollo, founder the International Food Design Society who lives in New York; also Italian, Fabio Parasecoli, founder of the online newspaper "The Inquisitive Eater" and professor at the New School in New York. From Latin America there was Daniel Vergara and Macarena Harispe, both professors in Uruguay and Victoria Molina from Mexico. Colombia was well represented by Freddy Zapata, Samira Kadami, Amparo Quijano and Nataly Restrepo from the Andes University; from the National University, Andrés Sicard and Alejandro Otálora and from the Jorge Tadeo Lozano University, José Arango. The local industry participated with two representatives from Industrial Taylor: Oscar Garcia and Luis Gabriel Tovar. Head of the table was the director of the Latin-American Food Design Network, Pedro Reissig, who has had a rebel relationship with food by rejecting the strict recipes usual in orthodox cooking.

By the end of the presentations, the key moment took place, when designers were invited to put their brains to work and let their messy ideas scape. The suggested dynamic consisted in each participant sharing three concepts that according to them, defined what Food Design is and its reach. Boards were drawn with the first ideas to start the path of what in the future would become the first Food Design program in Latin America. The ideas were organized according to their field of action whether political, cultural, or social, among others.

An event like Dis-fruta Diseño 2014 would not have been conceivable without good food. Lunch was made by Chef Jaime Murcia from Industrial Taylor, who invited the guest to participate in the

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making and serving of the plates. The menu included ribs, chirozo, morcilla, cesar salad, grilled vegetables, guacamole, and local potatoes. All participants were actively involved in the kitchen, whether cooking or tasting and by the end that all sat down to eat and talk about food.

INGREDIENTS FOR THE MENU

This was the program for the II Latin-American Food Design Encounter:

Freddy Zapata and Andrés Sicard were in charge of the event presentation and introduction, who posted the base questions and outlined the general subjects. Pedro Reissig and Daniel Bergara presented the Network for the first discussion with Ricardo Yudi, Francesca Zampollo, Fabio Parasecoli and Daniel Bergara. Pedro Reissig was in charge for the Food Morphology Lab conference.

- Conference 2: Fabio Parasecoli—Food Design y Food Studies, Pooling
- Workshop 1: Fabio Parasecoli—Promote change in food systems: the role of Design and Food Studies
- Speech 1: Victoria Molina—An Outlook to Food Design in Mexico
- Speech 2: Luisa Acosta—The kitchens from the past, life stories by the stove
- Speech 3: Laura Hernández—Gastronomy, innovation, biodiversity and tradition
- Speech 4: Eduardo Martínez: Colombian cooking and tradition
- Round table 2: Minimal, WOK, Abasto, Slow Food, Funleo and CCI
- Disfruta 10/10: Young entrepreneurs' experiences and live music
- Conference 3: Ricardo Yudi—S3 Food Lab
- Conference 4: Francesca Zampollo—Food Design Thinking
- Conference 5: Alejandro Otálora—Food industry, developing factor for Latin America
- Workshop 2: Ricardo Yudi—Fire
- Speech 5: Fernando Espinel—Food technology applied to food Design
- Speech 6: Carolina Agudelo
- Speech 7: Eduardo Naranjo—Design and development of food field products
- Speech 8: Claudia Cárdenas y María Constanza Ramírez—Traditional knowledge and biodiversity
- Speech 9: Juan Carlos Franco—Gastronomy culture
- Conference 6: Daniel Bergara—Perspectives from Río de La Plata
- Conference 7: Federico Bobio—Slow Food, the WOK case
- Talk by the students from Peru's Catholic University
- Round table 3: Pedro Reissig, Freddy Zapata, Andrés Sicard, Francesca Zampollo and Ricardo Yudi—Perspectives and projections for Food Design in Latin America.
- Workshop 3: Francesca Zampollo
- Speech 10: Tania Delgado—Food Design as a strategy for valorization and conservation of the culinary patrimony
- Speech 11: Lucho Correa -Graphic Identity for food
- Speech 12: Pilar Romero—The value of the invisible, the profit of packaging and other disposables
- Speech 13: Macarena Harispe—¿Qué es eso? ¡Eso es queso! Chesse
- Speech 14: Felipe Chavarro
- Speech 15: Samira Kadamani y Amparo Quijano

EVERYONE WITH A PLATE OF THEIR OWN

During the afternoon a group work was done around the question ¿What is the role of Food Design? From this question different groups designed boards to explain the possible scenarios where Food Design can intervene, and strategies to teach this practice in the classrooms. This work continued through the next day.

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The second day began with the addition of new guests: Julia Tovar from Colombia who works for Slow Food, an association present in more than fifty countries, and which opposes to the standardization around gastronomy and proposes new ways of eating involving clean, good and fair food. From Cali we received Cesar Duque, cofounder on the Dinos Foundation that teaches children about healthy eating and the importance of physical activity; Eduardo Martinez, professional in agronomy, engineer and partner at the restaurant Mini-Mal, a place that promotes cultural diversity, biodiversity and creativity through their menu. Another guest arrived from Brazil that day: Ricardo Yudi, gastronomy professor and culinary advisor at S3: Food Design Lab.

It was the perfect moment for the exchange of opinions and question between designers and entrepreneurs in search of better sceneries for Food Design. Groups exchanged their boards to understand each other's ideas and at the end of the day ideas were registered in what will become the first steps to build educational programs for those interested in Food Design in the future.

There is still a lot to be done, but we hope that next year Brazil will witness the field's growth, and we will be closer to our goals.

SOME NOTABLE DATA

From the magazine *Sostenibilidad Semana* *¿Hay comida pa' tanta gente? Is there food for so many people?*

- 2014 in was the international year of Family Agriculture (FAO)
- 83% of family farmers in the world are in farm territories in North and Central America
- FAO recognize Colombia as one of the seven countries in the world that will be part of the "bread basket" by the year 2050, when the world reaches a population of 9,000 million people.
- Colombia is one of the three most vulnerable nations of America, climate wise.
- Is there a difference between agriculture and food production?
- World Food Summit of 1996 defined food security as existing "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life".
- In 2007 Social Civil and non-governmental organizations created the concept of Food Sovereignty: "People's right to define their own sustainable production, distribution and consumption politics and strategies to grant the right to healthy food access for everyone; respect to their own cultural practices and biodiversity of the production, commercialization and management systems in rural regions". 2012 Andean Parliament
- By 2008 an important food crisis occurs and governments look at family agriculture as a model for agricultural production.

From the article "Property of land and food security"

- In Colombia small producers ship in 70% of the basic food basket.
- Small farmers provide 88% of the local production and import only 12% of the diet.
- Small farmers subsidize rural regions by their reduced salaries which mean low prices of their products, maintaining 46% of their people under the poverty line. The poor on the country side pay for food for the poor in the city.
- As the income scale diminishes, food insecurity raises.
- The best land in Colombia is used for cattle rising, while farmers and agricultural companies re reduce to a fourth of the potential area available for food security.
- Since 1936 the political system introduced agricultural rights, which came from the constitutional principle of the social function of property.
- Since 1961, the 135 Land Reform forced the state to reorganize social right to property benefiting farmers.

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Basic Library Colombia Traditional Kitchen

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PLAYFUL DESIGN AND CHILDREN'S (DIS)LIKING OF VEGETABLES

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ABSTRACT

This paper explores the effects of playful and novel vegetable presentation on children's consumption of vegetables. The paper presents a holistic multi-case study with a single unit of analysis. Three case studies are presented in chronological order and each case study is based on the findings of its predecessor. The first case study was based on a professional chef's interpretation of 'playful vegetable design' using carrots, with unaltered baby carrots acting as a control. The preparations were presented to 51 children ages 4-8. "Liking" was determined by which preparation was selected by the child and by the quantity consumed. There was no significant difference between the liking of the playful vegetable option and the control. The second case study was based on carrot ideas developed by students in a food design course. Sixty-three playful ideas were developed and evaluated by chefs, students, food scientists, and children. The researchers selected 5 ideas from the top 20 that met the requirements regarding ease of preparation, vegetable composition percentage, and play value. Photos of the selected ideas were presented to children along with photos from the first case study. Nine children between 6-8 years of age were asked to evaluate the presentations they preferred. In this study, the control variable (baby carrots) was the most preferred presentation out of all the presentations. The third case study was in a restaurant setting; children were served either carrot 'fries', the highest preferred playful preparation of the previous study, or the control variable (baby carrots). "Liking" was measured by the quantity consumed. This study, along with the prior two studies, demonstrated that children prefer unaltered, "traditional" baby carrots over any other "playful" vegetable presentation. Children in this age group may be neophobic when it comes to food, even if the preparation is playful in nature. For this age group, playful design manipulations may inspire playing with the vegetable, but may not promote the consumption or the liking of the food.

KEYWORDS

Vegetables, play, health, children, liking

INTRODUCTION

Child obesity is a growing concern around the world. Research has shown that children become overweight as they consume fewer fruits and vegetables. Given the success of other programs to increase vegetable consumption, this study explores the potential for using design interventions to bring about positive changes in the consumption of vegetables. Most products for children (such as clothing, furniture, and television shows) are designed in a playful manner. However, vegetables are not typically presented this way; they must compete with other, less nutritional food products that utilize playful presentation and design in the marketplace, home, restaurant, and school cafeteria. In this paper, the researchers present several related studies that explore whether playful design and presentation can encourage children to choose and consume more vegetables.

2. BACKGROUND

Approximately 20-30% of children up to 19 years of age in Europe and the United States are overweight. If trends continue on a linear basis, it is expected that 1 in 10 European children and 1 in 7 American children will be obese by 2020 (Wang & Lobstein: World Health Organization, 2006). This is a concern because overweight children have a higher risk of developing type 2 diabetes, heart problems, and psychological problems. Specialists foresee a generation of children who may not outlive their parents (Laing, 2002; Wakefield, 2004; Wang & Lobstein; World Health Organization, 2006).

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This has been paralleled with an explosive growth of child-directed food advertising, the majority of which promotes high-calorie foods and soft drinks (Buijzen, Schuurman, & Bornhof, 2008; Hastings, et al., 2003; Holt, Ippolito, Desrochers, & Kelly, 2007). According to the CDC, childhood obesity and food-related disease in children aged 6–11 has increased from 7% in 1980 to 18% in 2012 and from 5% to 18% in adolescents aged 12–19 (Center for Disease Control, 2013). In 1995, Buttriss reported that more than half of preschoolers ate boiled vegetables such as carrots and peas; only 39% consumed leafy vegetables and 24% raw vegetables. Since then, little has changed: a recent survey of preschoolers revealed that they eat an average of 74g of vegetables per day, less than one adult portion (Bates, Lennox & Swan, 2010). The average American gets a total of just 3 servings of fruits and vegetables each day, instead of the recommended 5 to 13, and only 1 in 5 children achieves the recommended 5 portions a day (Cockroft, Durkin, Masding, & Cade, 2005; Gibson, Wardle, & Watts, 1998; Joint Health Surveys Unit, 2009; NHS Information Center, 2009; Center for Nutrition Policy and Promotion, U.S. Department of Agriculture, 2005).

Existing research has revealed the positive effect that branding can have on healthy food consumption in children. Children's preference for milk and carrots increased when the McDonald's logo was placed on the wrappings (Robinson, Borzekowski, Matheson, and Kraemer, 2007). Pempek and Calvert (2009) demonstrated that children who played an advergame (a game that advertises a product) promoting healthy food consumption chose healthier snacks than did children who played a less healthy advergame. Another study explored the bias placed on food names and stressed the importance of hedonic labeling, because it increases sensory perception. A simple example would be offering someone 'broccoli spears' versus 'fresh cut succulent broccoli florets' (Ittersum, Painter, Wansik, 2005).

Branding and the use of brand characters to promote food consumption is already in use by the manufacturers of unhealthy food products. These manufacturers have developed a wide array of marketing strategies to persuade children to indulge in their products. The presentation of fruits and vegetables, however, has hardly changed (O'Dougherty, Story, & Stang, 2006). Many studies have suggested that the appeal of fruits and vegetables could increase using similar marketing techniques (French & Stables, 2003; Pempek & Calvert 2009; Tapper, Horne, & Lowe, 2003; Roberto, Baik, Harris, & Brownell 2010). This method is effective because brand characters are familiar, bright, and engaging to children, especially for younger groups ages 3–5. Beginning at the age of 2 years, children become less dependent on their parents and start to allow other people into their lives (Damon, 1983; McNeal, 2007). Some of these people may not be real-life personalities, but rather cartoon characters they encounter in the media. Children can develop a parasocial relationship with these characters in which they believe they know the character as a close friend (Hoffner, 1996; Lemish, 2007). Consequently, the more presence an advertising character gains in a child's life, the more influence it may have on their consumption habits (Acuff & Reiher, 1997; McNeal). It follows, then, that characters with the greatest emotional appeal are expected to have a more profound effect on a child's liking of a product and purchase request intent than characters with less emotional appeal (Callcott & Lee, 1995; McNeal, 1999, 2007). A proprietary workshop conducted by the Sesame Workshop found that the presence of an Elmo sticker on food packaging affected children's selection behavior. In the no-sticker condition, 78% of participants chose the chocolate bar over broccoli. When the Elmo sticker was added to the broccoli package, half of the children chose the vegetable over the candy (Sesame Workshop, 2005).

Research has also examined the relationship between exposure and children's neophobic responses to new foods. In a visual preference study by Heath, Houston, and Kennedy, they measured a child's neophobic response by using the Food Neophobia Scale (CNFS) (Pliner, 1994). For all categories, the children were shown pictures of exposed foods longer than non-exposed foods, but there was no significant difference in the behavior of the children with high and low

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levels of food neophobia. Following the conclusion that visual exposure increases the children's willingness to look at foods, it is suggested that this strategy should be explored as a means of increasing a child's intake of fruits and vegetables (Heath, Houston, Kennedy, 2010). In 2007, Havermans & Jansen studied the reversal of the neophobic response through 'flavor-flavor learning' whereby children come to accept a new food by associating it with already known and liked flavors. This is further verified by Heath, Houston and Kennedy (2010), whose work demonstrates that visual exposure to unfamiliar fruits and vegetables impacts the child's visual preferences for the foods and their willingness to taste them.

Children begin to construct their first food ideas between the ages of 2 and 7, and these ideas often last into adulthood (Rasmussen et al., 2006; Zeinstra et al.). Because their reasoning capacities are not yet fully developed, it is difficult for young children to use conceptual motives to choose foods (Acuff & Reiher, 1997). Specifically, young children do not connect eating with the concept of health, nor do they understand that eating fruits and vegetables is beneficial for the body (Zeinstra et al.).

This study focuses on playfulness, as existing anecdotal evidence shows that unexpected form is related to the liking of and consumption of food. Thefuntheory.com presents examples of how the playfulness of an object or interaction can positively influence people's behavior. One example on this website is the "Piano Stair" which turns a staircase at the Odenplan subway station in Stockholm into a giant piano. At the end of the day, 66% more people chose the stairs over the adjacent escalator. Though little research exists on defining "playful design," there are some scholarly works that examine the definition of "play" (Smith, 1986; Huizinga, 1950). Play is described as a state of mind during an activity, not an activity itself. Play is also process-focused and requires both engagement and self-motivation.

This paper will discuss the impact of playful design on a child's liking and selection of vegetables, familiar or otherwise. It will describe the research and design methodology employed as well as the impact these playful vegetable interventions have on children's consumption of vegetables.

3. METHODS

The study utilizes a "holistic multiple-case" approach, referring to research with more than one case study but with a single unit of analysis (Yin 2003). Three case studies were conducted in different settings where children might be presented with food options; however, the case studies were specifically focused on measuring the impact of playful design on children's liking of vegetables. Children aged between 4 and 8 were the participants of the three case studies. The Institutional Review Board at the University of Minnesota reviewed and approved all the recruiting of participants and testing procedures of all three case studies.

All of the designed vegetable presentations were required to be relatively simple to prepare and were more than 95% vegetable by mass. It was also important not to deceive the child into thinking the presented vegetable was something else, therefore all the preparations were presented with their vegetable name.

The case studies are presented in chronological order and each case study is based on the results of its previous case study.

3.1. CASE STUDY 1: CHEF PREPARATIONS

A research team and three chefs participated in a brainstorming session to generate ideas for a playful vegetable presentation that tasted good, did not disguise the vegetable, and that was made from a single vegetable (Figure 1). Session participants voted for their favorites, and the best liked ideas for playfulness and easiness of preparation were then prototyped.

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The most highly ranked idea, a vegetable puree push-pop, was selected for the first case study. Raw baby carrots and thawed frozen peas were chosen as the control vegetables for their familiarity, low cost, and ease of preparation. The research team prepared three variations of each vegetable: control (raw baby carrots and thawed frozen peas), pureed (vegetables steamed, pureed and mixed with a small amount of a gelatin solution necessary for push-pop functionality) and pureed push-pop (the pureed vegetables placed into a push pop -- the playful option). Each vegetable option had the same three variations: two pureed options (one playful, one non-playful) and the raw vegetable (Figs 2 and 3). The raw vegetables were presented in a small clear cup.

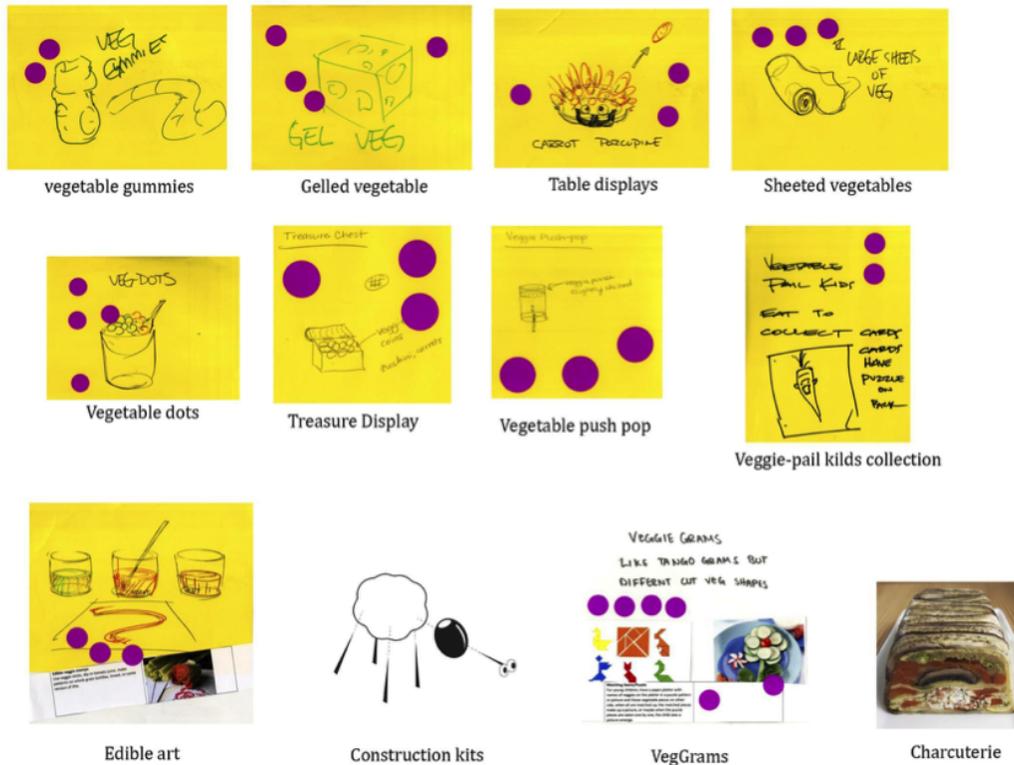


Figure 1

The participants in this study were 51 children between the ages of 4 and 8 years old. We conducted this test at a table set up on a sidewalk between a restaurant and a children's bookstore. Six options were presented to children: three pea presentations and three carrot presentations. Each child was asked to choose which one of the six they wanted to eat. The child was given their selection and was asked, when they had finished, to return any left overs and the container. The researchers recorded field notes including how many children chose each presentation and estimated the amount of consumed vegetable based on the amount remaining in the serving container (all, $\frac{3}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, none). The researchers also noted the number of children that did not want any of the presented options.



Figure 2

3.2. CASE STUDY 2: EVALUATION OF IDEAS FROM STUDENTS ENROLLED IN A FOOD DESIGN COURSE

Prior to conducting this case study, 21 students in a Food Design course took part in an idea generation session to develop concepts for healthy and playful carrot preparations. 63 ideas were executed and presented to food scientists, chefs, children, parents, and college students for evaluation based on the novelty of the ideas. The list was shortened by selecting those ideas that met the aforementioned requirements and allowed for a playful interaction with the vegetable. “Playful interaction” was described as a subjective assessment. Five playful carrot designs were selected based on this group’s evaluation. The selected ideas included: carrot ice pops featuring three different colored carrots (Fig 4), carrot gel wheels which involved raw carrots filled with gelled carrot juice (Fig 5), carrot “worms” made of gelled carrot juice (Fig 6), multi-color carrot fries (Fig 7), and carrot juice bubble tea (Fig 8). As the focus is on increasing a child’s liking of vegetables, it was also important not to alter the flavor of the vegetable, and therefore all selected preparations needed to be comprised of over 95% of the vegetable by mass. If the concepts were to be scaled for mass production, the preparations were also required to be easy to produce in most kitchens.

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Figure 4, 5, and 6



Figure 7 and 8

The second case study was conducted in an elementary school. Nine children were presented with seven photos of different preparations of carrots: the five selected ideas from the above mentioned group evaluation, the carrot puree push-pop (Fig 3) from case study 1, and a control variable (baby carrots). Each participant was surveyed individually to avoid any peer influence. At first, each child was asked to draw his/her favorite vegetable as an introductory activity to familiarize the children with the researchers and the survey. Each child was presented with all seven printed photos and was asked to rate the top three that he/she would most like to have as a snack. They were also tasked with rating the bottom three that they would least like to have as a snack. As the researchers presented the photos, they explained to the child that all the presented photos are different preparations of carrots. The children were encouraged to talk about their selection and ask questions if needed. The researchers recorded the preferences as well as the ideas the children first chose as most preferred. Notes were also collected on any comments the children made about why or why not a concept was selected.

3.3. CASE STUDY 3: RESTAURANT SETTING

The third case study was conducted in a restaurant. 12 children aged 4–8 were presented with either a control variable (baby carrots) or a playful carrot design (carrot fries). Carrot fries were selected as the playful carrot design for this case study based on the results from an elementary school survey in Case Study 2. Carrot fries are carrots cut like French fries and displayed in a recognizable French fry package (Fig 9). This playful design meets the previously mentioned criteria—they are made of more than 95% vegetable and are easy to prepare in most kitchens if the design was to be scaled to mass production.

The case study was conducted in a restaurant between 9 a.m. and 2 p.m. on a weekend, which is considered an ideal family mealtime. One of the researchers approached a family with children as soon as they were seated, and served the child either the control (baby carrots) or the playful presentation (carrot fries) without giving any further information about the research study. The selection of playful carrot presentation was based on the findings of case study 2.

Twelve children aged between 4 and 8 were served either the raw baby carrots or the raw carrot fries. Carrot ‘fries’ were raw carrots cut like French fries and packed in a plain French fry container (Fig 9). Before the child’s meal was served, the researcher collected and measured the consumed amount of carrots consumed.



Figure 9

4. FINDINGS

4.1. CASE STUDY 1: CHEF PREPARATIONS

In this study, carrots and peas were presented to children as different design options for playful presentations. The vegetables were presented pureed in a push-pop, pureed in a cup, and raw in its original form (control). Children favored carrots over peas (77% selected carrots while 23% selected peas). Push pops and control presentations were selected and consumed equally (27% selected raw baby carrots; 29% selected carrot push-pops; 20% selected carrot puree; 10% selected pea push-pops; 10% selected pea puree, and 3% selected thawed peas (Table 1).

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Vegetable	Form	Weight of uneaten vegetable (g)	Weight of uneaten vegetable per person taking it (g)	Weight of eaten vegetable (g)
Carrots	Raw baby carrot	48	3.4	25
	Carrot push-pops	94	6.3	22
	Carrot puree in cup	160	16	12
Peas	Raw peas	20	10	18
	Peas push-pops	30	6	22
	Peas puree in cup	107	21.4	6.6

Table 1: Vegetable Consumption

4.2. CASE STUDY 2: EVALUATION OF IDEAS FROM STUDENTS ENROLLED IN A FOOD DESIGN COURSE

In an elementary school, nine children were presented with seven cards showing different carrot presentations and asked to choose which would be their most likely and least likely choice as a snack. Among their top three choices, seven of the nine children favored the control (baby carrots). Five selected carrot fries, and five selected carrot worms. Tables 2 illustrate the children's selections of most likely and least likely to have as a snack based on their first three choices.

Form	Most likely to have as snack (n = 9)	Least likely to have as snack (n = 9)
Raw baby carrot	7	0
Carrot worms	5	2
Carrot fries	5	1
Carrot ice-pops	4	5
Carrot bubble tea	3	2
Carrot gel-wheels	2	2
Carrot push-pops	2	2

Table 2: Participants most and least likely to have as snack

4.3. CASE STUDY 3: RESTAURANT

Children ate more of the raw baby carrots than of the raw carrot fries (Table 3). Seven participants were served a cup of four baby carrots and the total average percentage of eaten baby carrot was 72%. Six participants were served with carrot fries served in a French fries container, and the total average percentage of eaten carrot fries was 18%.

Form	Average weight of uneaten vegetable prior to serving (g)	Average weight of uneaten vegetable after serving (g)
Raw Baby Carrots	40	11.4
Carrot Fries	48	39.5

Table 3: Average weight of uneaten vegetable

5. DISCUSSION

Most products for children (furniture, television, books, clothing, etc.) are playfully designed, but vegetables are presented in the same manner to both children and adults. The general purpose of this paper is to suggest that in order to increase children's vegetable consumption, we should be playfully presenting them the same way society presents all other products targeted at children. The playful aesthetic and interaction may have more impact than expected. The results of these three case studies suggest that carrots are a favorable vegetable to children and that children age 4-8 avoid novel food presentations. This not only counters our hypothesis that playful design would increase the liking of vegetables; it also counters the original notion that children in general do not like vegetables. These findings require further exploration with a greater number of subjects.

5.1. CHILDREN LIKE CARROTS!

In all three case studies, few children (2 of the 72) would not take any vegetable options. This suggests that there is not as much aversion to vegetables as we believed. Furthermore, in the two case studies involving consumption of vegetables, all children that took samples consumed some amount of them. In case study one, there was a large difference in the percentage of children that took carrots versus those that took peas. Carrots were clearly preferred by children. This is perhaps related to their familiarity. It was thought that carrots would be preferable because they are sweeter, but peas have 6g of sugar per 100g and carrots only have 4.8g of sugar per 100g (USDA, 2015). It is possible that peas have a bitterer flavor than carrots, and/or the green color of peas is less appealing than the orange color of carrots. The color of the vegetable might play a role in how well it is liked; for example, one study on color of soft drinks found that people perceive red colors as sweeter (Lavin & Lawless 1998). Perhaps the vegetable consumption issues are specific to green vegetables. Further research is needed on the impact of color on vegetable preference in children. Another potential area of exploration is related to context. Most children may want to consume carrots, but when given the choice between carrots and an equally obtainable but less healthy alternative, children (and adults) may not always choose the healthier option.

5.2. NOVELTY AVOIDANCE AND FOOD NEOPHOBIA

The aim of this study was to better understand the impact that playful design can have on a child's vegetable consumption. When different novel carrot preparations were presented next to a control of the vegetable in a familiar form, children selected the control. This finding is evidence that children aged 4-8 are neophobic to new and unfamiliar food. Even though playfulness was sought as a way to increase how much children like vegetables and the volume they consume, participants of the case studies were more concerned with the familiarity of the vegetable. In case study 2, when a child was asked to justify why he/she liked a specific vegetable preparation, the answer would be related to his/her familiarity with that vegetable. In Case Study 1, we focused on presenting different forms of the same vegetable along with adding a playful element in the push-pop presentation. Children favored the raw common vegetable equally with the push-pop preparation. In Case Study 2, children were presented with photos of six playful designs and the common vegetable. The results of this case study showed that children favored the common vegetable preparation over the other six proposed designs. When children selected

baby carrots (the common preparation) as one of their top three choices, their explanations and responses included citing their familiarity with baby carrots—"I like carrots," "...because I tried them," or, "I can dip it in ranch." Blitz conducted an experiment with six second-graders in Brooklyn (Blitz 2014) where he invited them to a high-end restaurant. When the children were presented with unfamiliar food, they related it to things with which they were already familiar. One of the courses served in the Blitz's experiment was a designed plate of squash ravioli with pork belly. Once the plate was presented to the children, a child said, "Looks like soap..." and then after trying it, she said, "Tastes like soap...why am I eating soap right now?" This suggests that children often begin to associate what they have never tried with things they know or have previously experienced. This association is not only exclusive to the visual presentation of food; it also influences how they taste it.

Another issue outside the scope of this study was the impact parents can have on their children's eating habits. Parents' own neophobic response to vegetables could inspire the same in their children. Relatedly, they may also be unwilling to coerce their children to eat vegetables for fear of eliciting 'bothersome behavior' (Carruth & Skinner, 2000). Research suggests that for children between the ages of 2 and 6, 10-15 taste exposures are optimal for eliciting the liking of previously unfamiliar food (Heath, Houston-Price, Kennedy, 2011). This is perhaps a natural safety mechanism in humans to prevent the consumption of unfamiliar and potentially dangerous material during youth.

At this age, a child is typically engaging in fantasy play and pretending to be other people or things (Smith, 1986). It would therefore be appropriate to infer that children of this age would also want playful foods. However, it is also possible that children in this age range may want to play with food, but not necessarily want to consume playful *versions* of food.

Another opportunity to refine this work would be to better define playful design. In studies, one could ask children if preparations are playful as well as whether or not they would want to consume it. It is possible that we have not generated a truly playful preparation in any of these studies. What adults find playful is likely not what children find playful.

We should note that baby carrots (our control) were at one time a playful preparation of carrots. When baby carrots were first developed, they were a novel preparation by carrot farmer Mike Yurosek in 1986, taking fully-grown carrots and cutting them down to smaller sizes. These new baby carrots prompted a major increase in carrot consumption. Before 1986, Americans ate approximately 6 pounds of carrots per person per year. After 1987, this reached 11 pounds per person per year. (Weise, 2004) Something as simple as changing the size of a vegetable to make it "cute" or "baby-like" was enough to spark a major increase in yearly consumption. Perhaps this technique could be used to promote the consumption of green vegetables as well.

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CHOCOLATE PACKAGES AS REPRESENTATIONS OF CULTURAL TASTE IN FINLAND AND RUSSIA

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ABSTRACT

This paper discusses cultural differences and aspects of taste in food and packaging design. Cultural differences between Finland and Russia are framed based on cultural dimensions. Chocolate is a traditional food product in Europe despite its colonial roots. Cultural characteristics of Finnish and Russian chocolate packages are analysed through semiotic analysis. Analysis is supplemented and deepened by interviewing Finnish and Russian packaging design experts. Characteristics of cultural taste in both countries are explained and discussed in relation to national culture and identity.

KEYWORDS

Food packaging, design, representation, culture, taste, chocolate, cultural differences, Finland, Russia

INTRODUCTION

As the world has become more globally connected, sensitivity towards cultural knowledge has become more relevant and visible, also in the field of design. Products are available in wider market areas than ever before. Worldwide brands such as Coca-Cola make customised packages for different cultural environments and Nescafé has 400 flavour variations to offer appealing options locally for coffee drinkers around the world. Cultural differences can be seen or sensed but it doesn't mean that culturally specific meanings would be widely understood – at least not in the same way. Cultural misunderstandings can create confusion, and in extreme cases, they can lead to conflicts.

Designers are shaping our realities and futures by designing everyday objects through their cultural lenses. Cultural aspects are present in the design process, which is being shaped by culturally bound moral questions, beliefs, and values. Cultural characteristics are present in final products too, even though they are not always consciously implemented, recognised, or analysed. Designers working in multicultural environments need cultural sensitivity to be able to recognise and understand specific meanings related to different designs, symbols and elements in specific socio-cultural contexts. The purpose of this study is to examine how such cultural aspects reveal themselves in food packages. Food products and packaging designs are an essential, integral part of our consumption culture. They are present in the everyday practices and also an integral part of the semiosphere, a concept developed by Juri Lotman (1990) to describe the sphere in which semiotic signification processes occur.

Chocolate products have a long history and presence in the European markets even though the main ingredients of chocolate originate elsewhere. Chocolate packages contain many culture specific connotations and they are sometimes difficult to understand without direct interaction with a particular culture. Chocolate as a food product was chosen for this research because chocolate brand and product identities are typically built based on visual storytelling and semiotics. Cultural differences and semiotic challenges are studied by analysing Finnish and Russian chocolate packaging designs.

Materials for the semiotic analysis were selected through content analysis and consisted of sixteen Finnish and Russian chocolate packaging designs. The semiotic analysis on cultural characteristics was based on Ferdinand de Saussure's theory of semiotics and definitions of denotations and connotation later used and developed by Roland Barthes (1972). Each package was analysed separately and as part of a cultural group representing its culture. Analysis was done by the author and supplemented by Finnish and Russian design experts in ten semi-structured interviews. Comparative material was collected from workshops organised

for design students and consumers. Chocolate packages from both cultures are analysed and discussed in relation to each other. The purpose of this study is to identify differences and possible similarities between Finnish and Russian cultural tastes by examining and analysing representations of national food culture.

CHOCOLATE AS A CULTURAL PRODUCT

The most famous chocolate brands of the world are associated with countries such as Belgium or Switzerland, even though chocolate originates from South and Middle America. Maya Indians are said to be the first ones to farm coco-beans, the main ingredients of chocolate. Mayas enjoyed their chocolate as a hot drink and also used it as a medicine and a currency. Chocolate came to Europe with Spanish explorers in the 16th century and after the next hundred years, it began to spread slowly. Chocolate was a luxury product and status drink of courtiers and elite. When chocolate became more widely available, it was advertised as a nutritious morning drink targeted for children. Mass production of chocolate began when the first chocolate factories were established in Europe in the 19th century. For example Swiss Cailler (today called Nestlé) was founded in 1819, English Cadbury in 1824, Russian Einem (later known as Red October) in 1851, Belgian Neuhaus in 1857 and Finnish Fazer in 1891. Companies innovated new ways to enjoy chocolate. For example in 1849 the British chocolate company Fry & Son created the first conveniently edible chocolate bars (Gordon 2009). Technical development together with mechanical production and packaging methods enabled mass-production of chocolate bars. Chocolate bars became popular because the size was cost effective to produce, it was easy to consume and share and small enough to carry in a pocket.

Ideas of romantic nationalism were spreading simultaneously with chocolate consumption in the 19th century Europe. National communities and later nations were set up based on ethnic, linguistic, cultural, historical and religious ideas. Romantic nationalism relied upon the existence of a historical ethnic culture and it was combined with the romantic ideal. Folklore developed as a style for romantic nationalism. Nationalism defined roles, expressions and meanings in art, architecture and literature in the society. For example, in Finland Elias Lönnroth published the national epic, *The Kalevala* in 1835. It became a great inspiration for many artists and designers of the time (Figure 1.). Products and manufacturers were inspired by the movement when local artists were designing packages and advertising for new products (Figure 2.). Sweet packages were designed by the most skilled local artists and cultural characteristics and even political views were expressed in the packaging (Fazer 2015).



Figure 1: Example of imagery related to Finnish national culture. “Defence of Sampo” painting by artist Akseli Gallen-Kallela.



Figure 2: Finnish national epic Kalevala has been naming inspiration for the Finnish Aino ice cream brand currently owned by Nestlé.

At that time the role of packaging was more practical because chocolate was usually sold over the counter by a salesperson. Packaging was to protect the product and also to reflect the quality and prosperity of it. Official regulations or laws regarding packaging were almost non-existent and packages were designed to reflect local characteristics and objects of cultural pride. At that time chocolate was considered an expensive luxury product and more associated with practices of the higher classes even though mass production slowly made it available for a wider audience. Chocolate packages have always been popular gifts and it was typical to create special, handmade packages for celebrations such as birthdays, weddings and even funerals. This tradition was continued with new production methods and special packages occurred during special events such as the Olympics, royal weddings or other local or national celebrations. In the 1940's wartime affected chocolate production dramatically in many European countries. The main ingredients of chocolate were either under rationing, became very expensive or were not available at all. In many countries chocolate production had to be suspended and companies focused on developing substitute products. After the war, more chocolate products were developed and chocolate was one of the symbols for general progress and a better future. Along with other foods, chocolate products were competing in international taste competitions and when the best products won medals, success became visible on the packaging too. Successful, winning chocolates became well-known and manufactures were proud of their extraordinary skills for creating such delicious products. Famous chocolate products became closely associated with the location and country of manufacturing.

For example, the Norwegian Stratos chocolate shows that after the 1980's, product development has mostly been focused on refining advertising and marketing strategies (Kvaal & Østby 2012, pp.179-180). Products themselves haven't changed so much but design has become a more important part of the product and brand identity. Today's consumers have more choices with variants including different packaging sizes, shapes and product flavours than ever before. Consumers and their opinions are regarded important and they are integrated into product and brand development. Their feedback and insights are collected in focus groups and panels. Consumers also have many possibilities to interact with products and brands: they can for example share their ideas, thoughts and experiences via social media. Consumers are perhaps more divided based on eating practices, use of media and type of chocolate they eat yet chocolate is more popular than ever before. Chocolate as a product has a long history in western countries and it has been reflecting many cultural changes. It may not be a necessity but

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chocolates certainly are available in every shop and supermarket and as a food product, is very integrated into our daily lives and cultural practices.

CHOCOLATE PACKAGES AS REPRESENTATION OF CULTURAL TASTE

In its widest meaning, culture is a typical way of living and behaviour for a certain group of people (Salo-Lee, Malmberg & Halinoja 1996, pp.6). Culture includes beliefs, traditions, values, and language and it also mediates by connecting individuals and groups to certain institutionalised hierarchies (Swartz 1997, pp.1). According to Marcel Danesi, culture is a system of shared meanings that is based on a signifying order, a complex system of different types of signs that cohere in predictable ways into patterns or a representation which individuals and groups can utilise to make or exchange messages.

The concepts of pleasure, usability, and aesthetics are understood based on cultural and social aspects (Norman 2002). According to Lotman (1990) meanings are created in a semiosphere, which is a concept and space where semiotic meaning making processes happen. Semiosphere consists of tangible and intangible products, practices including the use products and perspectives to explain values, ideals or concepts connect and explain experiences. All these aspects are intertwined and also connected at different levels, cultures and other communities. Packages are representations of commercial culture because their ultimate purpose of existence is to sell the products. Packages need to protect the content (product) during its lifetime and transportation, attract consumers, express distinctive brand identity, and communicate brand and product related qualities such as quality, flavour and use. In successful product packaging aesthetic qualities, specific communication needs and understanding of consumer's perceptions, needs and desires are being fulfilled and understood. The role of packaging is also to differentiate product or brand from competitors in a visible, memorable way to attract a particular target audience (Selame & Kouros 2002, pp.25-27). However, packaging has become such a vital and integrated part of the product that it is difficult to actually separate this from the eating experience. Most consumers are actually thinking of the image of packaging when they are being asked to think or describe the product. Most of the consumers recognise, understand and describe food products by branding and packaging.

Food offers easy and direct ways to interact with culture and consume it by tasting and eating. Eating practices are closely connected to food products and meaning construction processes, since meanings are created through interaction with products. Product related experiences become strong and memorable when all senses can be stimulated and included in part of interaction. The act of tasting offers opportunities to engage with the product on a physical level. "We are what we eat" in a very concrete way since our bodies are using the food we eat to create and renew our cells. Usually taste is not considered as the most important sense, even though it is very significant as a social connector (Lindström 2005). Some cultures have developed very specific, complicated and sophisticated food and eating practices, such as wine tasting or traditional Japanese tea ceremony. Taste can be understood as an acquired skill since it can be learned and developed through culture specific activities, events, and practices.

Taste is also related to decision-making and preferences. Our real values and preferences become visible when choosing products and making purchasing decisions. Food packages reflect values, ideas, beliefs and practices in that particular cultural system. Packages become mediators and they are co-constructing everyday cultural practices. Food products and packages can become identifiers for other culture related meanings. They can be cultural symbols and represent the whole culture. Some foods, food brands or dishes are known as national symbols as the story of "Royal Rat" shows (Lindholm 2008, pp.77-80). After Queen Elizabeth in 1985 ate a guinea-pig-like rodent (gibnut) as a main course during her first visit to the ex-colony Belize, it became a symbol of the young nation. Previously this shy gibnut had only been food for poor people while

the elite preferred eating expensive European imports and the middle class tried to imitate them by choosing imported corned beef, white bread and tinned sardines. This example also shows the social distinction related to the questions of taste.

Packages are products and representations of the cultural environment where they are created. When food products are exported into other markets, culture related meanings can be understood differently in each cultural context. Adaptation of cultural influences does not happen mechanically – new cultural features are being accepted selectively and new meanings are given to them (Kupiainen & Sevänen 1996, pp.179). According to Lindholm (2008, pp.86–87) the development and appreciation of authentic cuisine is full of paradox and ambiguity. He continues that food stories are connected with aspects such as resistance, pride, entrepreneurship, power, money, imagination and they are extremely intertwined with nationalism. For example, pasta or pizza are quintessential Italian dishes because they take so many forms so that they are able to unite specific and general levels of the fragmented society. Food and drinks certified as authentic offer direct ways for citizens to literally taste their immediate secular social communion. Among food and drinks there are many brands and products which can be associated with certain cultures and nations (Figure 3). Despite possibilities for negative connotations, the strategy for using country brands with a good reputation for marketing food products is understandable because it adds value to the consumer brand in the international markets without major financial investments.



Figure 3: Many internationally well-known brands and products are associated with country brands, particularly in food and drinks.

Anttila (2007, pp.12–13) combines national identity with the concept of collective identity as a symbolic meaning structure referring to nation as a whole. The most important question related to collective identity is: who are we? The core nature of collective identity is imaginary. National identities are often being built on artistic, aesthetic, metaphorical myths and narratives. As Kaunismaa describes, people create content for the collective identity by referring to similarities that represent something relevant and uniting for them, or as something that differentiates them from others. Food as a symbol is extremely tightly connected with national and imagined identities (Bellasco & Scranton 2002; Holtzman 2006). Creation of collective identity does not necessarily require an existing group. This means that national identity can be built before a

nation exists as a politically or socially organised entity (Kaunismaa 1997, pp.220). Saukkonen (1996, pp.10) reminds us that complete consistency is not possible at this level of human society, but in order to have strong sense of national identity other internal differences such as class, language, religion, and region need to be subsidiary in relation to national identity. In a social psychology national identity has been understood as individual's social identity as a member of a national group (Anttila 2007, pp.8).

According to Kaunismaa (1997, pp.222) the context of identity is related with active self-recognition. Self can be evaluated through different symbols, language phenomenon, myths, narratives and cultural representations. Identity is an interpretation of our selfness (Kaunismaa 1997, pp.222). Wheeler (2006, pp.3) describes the levels of identity construction with five levels: personal, local, national, global and virtual. Traditions, customs and established practices are ways to build and express identity. Importance of local and social identities has been rising as a counterforce to globalisation. People stick to their own national icons, customs, and traditions in order to connect with something stable, clear, understandable and familiar (Lindroos, Nyman & Lindroos 2005, pp.138).

Besides the practical obvious meanings, packages can also be signifiers for deeper meanings. Sometimes semantic meaning of a package can be clear and it can even be the only purpose for its existence. Packages can become conditional signs when their usage and existence is based on a similar kind of understanding shared by all members of the particular community. Besides the public and general surface of meanings, symbolic objects can have a deeper unconscious level of meaning (Kupiainen & Sevänen 1996, 263). Then it is a question of large cultural structures in which objects represent a model of a whole culture.

UNDERSTANDING CULTURAL DIFFERENCES

Different cultures around the world have developed local, authentic eating habits and meals based on what have been the climate conditions and ingredients available in that particular area. Many countries are famous for certain foods: Italian pizza, Swiss cheese, Spanish wine and French champagne. Globalisation and consumer culture has changed traditional eating habits and many food products and dishes are now available all over the world, at least for those who can afford it. However, this doesn't mean that consumers would have enough cultural knowledge to understand all culture related meanings related to foods that are around them.

Cultures have similarities and differences in relation to each other. Geert Hofstede (1991) has defined four cultural dimensions: individuality - collective, masculine - feminine, power distance and uncertainty avoidance. Later Michael Harris Bond recognised understanding of time as a fifth dimension (Hofstede 1991, pp.14-15). All of the dimensions have more detailed descriptions to explain them. Respect towards individuality versus collectivity might be easy to understand but the gender related dimension is not so self-evident. Masculinity is defined with more traditional and specific gender roles connected with harder values, whereas feminine stands for more equal and flexible understanding of gender combined with softer values. Power distance reflects the amount and quality of hierarchical structures. Despite the fact that Hofstede's research was done in relation to corporate culture in the 1980's, it is also applicable to other fields of life and mostly still relevant today since cultural structures and concepts change very slowly. In communication context, cultures can be defined by their ways of emphasising importance of linguistic characteristics and social interaction. Edward T. Hall (1981, pp.105-116) has defined linguistic and content centric communication cultures as low context cultures and those emphasising human interaction as high context cultures.

Finland and Russia are neighbouring countries with some similar cultural material, practices, and products. For example Karelian food traditions in eastern Finland include lots of meat dishes, pies,

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mushrooms, and pickled vegetables, which are typical for Slavic and Russian kitchens. However, Finnish culture has gained lots of influence from western society as well as Scandinavian and Swedish traditions: salted herring and grayfish or meatballs are considered Finnish dishes too. Cultures in both countries differ significantly when comparing them through cultural dimensions as seen in Figure 4. Surprisingly, they only share one common dimension, which is uncertainty avoidance. However, issues related to other dimensions can still change the ways for expressing that dimension. Uncertainty avoidance is visible in both cultures. For example many rules and laws are created in order to create a feeling of certainty but due to other dimensions Finns are more willing to follow the rules precisely while Russians are typically more flexible with them. Finnish and Russian cultures also have different historical backgrounds since Russia has a long history dating back to the 9th century and Finland only became an independent country from Russia in 1917.



Figure 4. Approximate summary of cultural dimensions in Finland and Russia presented based on the literature review by Heidi Uppa.

Cultural dimensions are also visible in various ways in the visual representations of culture. Findings of the semiotic analysis show that chocolate packages have different aesthetic qualities and meanings in both cultures. Those qualities can be linked with cultural dimension. These dimensions can be visible during the design process but also in the final products. They are effecting the environment in which design process happens but also in the decisions made and influences by the taste of the designer. There are of course some individual and local differences, exceptions and ambiguity involved but this kind of approach can raise overall objectivity and understanding and help to combine, arrange and frame experimental knowledge and details with other sources of information such as literature or interviews.

In general, cultural differences are easier to recognise when “the other” is present and if representative objects, products or practices can be examined in relation to each other. However, this doesn’t mean that one could be valued over another as something better but only to describe the differences and similarities between examples. This kind of objectivity with analysis requires a critical and systemic approach.

METHODS

This study focuses on semiotic analysis of cultural differences between Finnish and Russian chocolate packages. Definition of cultural taste and cultural dimensions are defined based on a literature review. According to Vihma (2010, pp.13) semiotics in relation to product design can be divided into four categories: semantics (message, representation, expression), syntactics (construction and technology), pragmatics (situation related use and meanings) and material. This study concentrates on semantic and pragmatic levels. Concepts of denotation and connotation are based on Ferdinand de Saussure's theory of semiotics. They were later used and further developed by Roland Barthes. They are used as a framework for analysing different levels of meanings in food packages. Denotation can be described as the first distinct meaning whereas connotation is a secondary meaning based on subjective and cultural values. Packages are also analysed based on visual appearance divided into more detailed visual modes such as colour, imagery, typography and text, layout and structure, and packaging as a message. Each mode was divided into sub-modes and each of the chosen packages was analysed by using specific analysis form.

Semiotic analysis was done by the author who has been living and working as a designer in both countries. In addition to personal experience with both countries and cultures, Finland and Russia were selected for this study because they are neighbouring countries but still very different from each other and therefore interesting for comparison. Due to historical and political tensions between Finland and Russia there is a need to understand cultural differences and food products can offer a neutral grounds to examine culture.

Analysed materials consisted of 16 Finnish and Russian packaging design examples which were chosen via content analysis to ensure requisite variety. Due to the cultural focus of the study, chosen products were affordable, everyday products available for a wide audience and all of them could be purchased from local shops or supermarkets. Even though chocolate has a history as a luxury product, premium category products were not regarded because according to the pre-research they don't carry as many culturally specific (national) symbols or meanings. Also, all products needed to be designed and manufactured either in Finland or in Russia since they were examined as representations of their cultural taste, identity, and environment.

Semiotic analysis was supplemented by semi-structured interviews with ten (graphic) design professionals in Finland and Russia. This was to ensure objectivity and richness of the analysis. Each of the interviewed professionals had long work experience in the field of packaging design and commercial culture. They were able to analyse cultural and semiotic meanings of the packages because they had been designing and analysing food packages themselves. There were also workshops in both countries organised for consumers and design students where participants were asked to analyse the same chocolate packages. Information gathered in the workshops was similar to the information gathered via expert interview. However, design experts were able to recognise more details and give more detailed and wider reasoning behind them and the design decisions than students or consumers could; therefore it was more useful to use expert interviews as material for this study.

RESULTS

FINNISH CHOCOLATE PACKAGES

Finnish food culture is a mix of local, Swedish, Russian and international traditions. This is visible in chocolate preferences too. Finnish chocolate is not as dark or bitter as dark chocolate preferred by Russians and not as sweet, as for example, Swedish Marabou chocolate. The most famous Finnish chocolate brand is Fazer Blue, which is developed based on a Swiss recipe.

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Finnish chocolate packaging designs have a connection to Scandinavian tradition because of their modest, simple and plain style (Figure 5). Most of the packages are “classical” and are reminiscent from the golden period of Finnish design in 1950’s, which can be described as functional, plain, pure, modest and simple. Due to functionality, products are easy to buy: product images are visible in almost all of the packages. The brand of the manufacturer is also strongly present. Aesthetic style can be described as traditional, although concise. According to the interviewed designers, Finnish taste in the chocolate packages could be described as appropriate, lucid, calm, and trustworthy.



Figure 5. Selection of Finnish chocolate packages.

All elements in the packaging have a particular informative task. There is not much space for additional storytelling or imagination. Special effects are not used much and product images are quite accurate even though they do not look that tasty or finalised, as for example, Swedish or English packages. This makes Finnish packages look somehow distant and technical. The downside of simple and clear is that uniqueness and strong sense of personality seem to be missing. Finnish packages look soft and sensitive but also somehow incomplete and unconfident. They do not look so commercial and delicious as food packages usually are or can be. Colours are mostly blue, northern and cold even though some brown is also used. Most of the packages are similar to each other—possibly because the domestic market is fairly small, homogenous and dominated by Fazer products.

The most well-know product and brand is Fazer Blue (Figure 6.) launched in 1922. The most recognisable brand element is the blue colour. Since the beginning it has been representing independence of the country and respect for Finnish nature with its lakes, blue sky and landscape. Nature is a suitable national symbol for commercial chocolate packaging since according to Finell (2012), nature is a neutral theme and free from negative connotation when combined to Finnish national identity. Blue colour together with white is also a combination used in the Finnish flag. Script logotype on the packaging ensures the quality of the product and is based on the autograph of Karl Fazer, a founder of the Fazer confectionery. Golden colour used in the

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package is not particularly a Finnish colour even though it represents prosperity and quality. Karl Fazer studied chocolate making in Saint Petersburg, Berlin and Paris and use of the golden colour is most likely influenced by Russian and other foreign cultures. In any case, borrowing elements is typical for Finnish visual culture due to the short history and lack of historical events and cultural material.



Figure 6: Packaging for the most popular and beloved Finnish chocolate brand “Fazer Blue”.

Other Finnish packaging designs are either produced by Fazer or by some smaller companies. Brunberg is copying the style of the market leader by using a blue background colour. In some ways Brunberg packaging is more Finnish than Fazer because it uses silver, which is more typical for Finnish colour scheme. Brunberg packages also have connotations to the Finnish National Hymn composed by Jean Sibelius with its background element.

The Dammenberg package has classical visual elements and layout typical for Anglo-Saxon traditions, as mentioned by one senior designer. Panda packaging is described as more original and brave, with an illustration associated with salty liquorice (salmiakki) and 1970’s retro style typical for Finnish visual culture. However, due to the white background colour, it was valued as a cheap, less tasty, and a bit strange since the brand character, Panda, doesn’t have any specific cultural meanings in Finland. Santa’s chocolate with fairy tale illustration was identified as chocolate for tourists or children, and Kultasuklaa was understood as a small company due to their homespun and unfinished illustration style. Finnish packaging designs can be described as minimalistic, simple, traditional, hard, cold, and Scandinavian. Their storytelling is functional, focusing on product characteristics. Packaging designs are also less commercial and are less finished when compared to international examples.

Russian design experts and students understood Finnish packages containing good quality chocolate but they were amazed by the empty space in the layout. They experienced it as strange and boring. One of the characteristics of Finnish culture is the perspective of silence, which is connected to respecting an individual’s private space and the feeling of being comfortable in silence, even in the middle of discussion. Finnish communication style is typically calm, direct, practical, and less vivid. This combined with the understanding of lower hierarchical power structures, and softer, equal values in relation to gender issues, could give an explanation for the classical, less dramatic and calm layout. It also answers the question of why there is less size contrast between different elements in the layout, particularly in Fazer Blue packaging which is considered as one of the main symbols for Finnishness.

RUSSIAN CHOCOLATE PACKAGING DESIGNS

As a culture, Russia has a long history although the country currently known as the Russian Federation, was only formed in 1991. As one of the interviewed design experts explained, Russians are usually familiar with their national history and are good at associating themselves in historical contexts. Some packages were designed during the Soviet period (1917-1991). As described by some of the Russian design experts, some of the packages are professionally made and some look more “naive” Almost all of the packages targeted for the domestic markets can be described as bold, substantial, vivid, decorative, and souvenir-like by their visual appearance. In comparison to calm and simple Finnish packages, they are bold, decorative, exaggerated, colourful, and rich with details. Russian packaging designs (Figure 7.) can be seen as an expression of power and pride for a large country with a long history.



Figure 7. Selection of Russian chocolate packages representing culture in Russia.

Images on packages are illustrations and hand made because realistic photos would not be suitable for traditional product such as chocolate. Many characters and famous buildings represented in the packages are recognisable for all Russians (and some of them also for tourists). They can be seen as symbols of national ideals and pride. Many of the images are from widely known, traditional, and beloved stories and fairy tales. Images can be very complex including many layers of messages and meanings. Relation to the product itself is not very obvious. Images of the actual products are not usually shown on the package. Quality of the product is still communicated with medals won in the international taste competitions. However, Russians are often suspicious towards the quality of Russian products since quantity is often more valued over quality in production. Consumers need to know which chocolate is the good one to buy.

Mostly warm, vivid colours are being used—they represent prestige and tradition. Red is traditionally an important colour and synonym for beautiful. Gold is also widely used in this context with meaning “best of the best”. It also links strongly with religious traditions and golden cupolas of orthodox churches. Quality of products varies and that is why stamps and prices

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are being used on packages to express quality and trust. As Russian design experts identified, connotations related to the national identity appear as appealing sales arguments for cheap, inexpensive, basic products targeted for wide audiences. Based on packaging it can be said that Finns buy chocolate when Russians are buying packaging.

Some styles or elements are borrowed from other, mostly European cultures. Typography on many Russian food packages, for example, is often copied from Latin alphabets. Russian typographic tradition is not very strong because of political decisions made in the 18th century by the tsar Peter The Great, and also because of broken traditions in type design and lettering during the Soviet times. However, visual style of packages is maybe closer to Chinese and eastern traditions than European. Several Russian designers often mentioned Eastern traditions to explain some Russian characteristics, the reason being that it is difficult to trace exactly where those influences come from since they might be typical for many Asian cultures. Similarly to French style, decorative elements are often added. Original Russian style is not defined by the Kremlin or politicians but, according to the Russian designers, it is common to use too many elements. Russian has additional meaning in “not so well designed” because the traditions in craft and design were broken during Soviet times.

Aljonka (Figure 8.) is still the most well-known and beloved chocolate brand in Russia even though the packaging for was originally created in 1966. Aljonka chocolate is reflecting Soviet style, which is not common in packaging nowadays. It can only be seen on food packaging and in some traditional products known for their good quality. Aljonka is a product of “Red October”, the oldest chocolate factory in Russia formerly known with the name Einem. This company has always been famous in Russia for their good quality chocolate. The product is not visible on packaging even though the background of the main image is brownish – it refers to a typical wallpaper pattern used in Soviet homes.



Figure 8. Packaging of the most popular Russian chocolate brand “Aljonka”.

Aljonka is a nickname typically used only by close relatives, family members or good friends. The name is written with sophisticated thin script combined with clear and practical grotesque typeface. Aljonka is reminiscent of a character from a well-known old Russian fairy tale. The main visual element in the packaging is a portrait image of a tiny innocent looking girl who is looking towards the future with her big blue eyes. Warm and yellow colours represent happiness and optimism. The image represents the ideal of the Soviet times – the style of illustration is called socialistic realism. Now it is seen as nostalgic as many remember the packaging from their childhood. Russians identify themselves as child-loving and this package and product targeted for children can be seen as an expression of that. It is one of the most original and well-designed packages of its time and because of that, also widely copied. However, none of the copies have been able to gain such success as Aljonka.

There are lots of chocolate brands in Russia and some of them are only targeted for domestic markets. However, most of the chocolate brands and manufactures are still owned by the same company. The market is large but actually almost monopolised- as explained to the author by one of the design experts.

Appearance of the cultural dimensions is also visible in Russian packages. Collectiveness can be connected to the richness of elements and details. Packages have a feeling of joyful vivid discussion. Meanings are more difficult to understand without knowing the stories behind the visual elements and in that sense they reflect the dimension of high context communication. Long history with many events and symbols is also present in packages. Masculinity of packages

is visible when analysing Russian packages in relation to each other: some packages are clearly targeted for men, some for women and some for kids.

DISCUSSION

As the literature review and semiotic analysis on chocolate packages shows there are major cultural differences between Finnish and Russian cultures and those differences are visible through the example of food culture and chocolate packaging. Chocolate packages in both cultures contain nostalgic elements and are connected to childhood memories among the representatives of that culture. Emotional bonds connected to memories and food products such as chocolate can be very strong and often connected to unconscious meanings.

Cultural dimensions identified based on the literature can be linked with visual communication of the food packages. Communication in Finnish packages focuses more on simplicity and practical product qualities (low context communication) while Russian packages contain more cultural symbols and storytelling combined with more complicated semiotic structures (high context communication). These chocolate bar packages are examples of everyday food products even though they perhaps mostly express values of the wide middle class: higher classes are more interested in high quality luxury chocolates and the poorest part of society do not buy chocolate since it is not compulsory grocery or they buy only the cheapest products available.

Packages in both countries have very different aesthetic styles reflecting different tastes and preferences. They become more understandable when examined through cultural dimensions. Some meanings were recognised by the designers with different cultural background, however, they were often valued differently emotionally. For example, vivid richness of Russian designs were interpreted as kitsch old-fashioned or as something highly fascinating by Finnish designers. Likewise, Finnish packages were described as cold, modern and stylish but distant and empty by most of the Russian design experts.

Russian chocolate packaging designs include many connotations of national and cultural pride. "They talk more" with their visual appearance and contain many layers of messages and meanings. Russian packages are rich in the amount of images even though the images are not directly related to chocolate. Style of images is decorative, rich, and on most of the packages, clearly feminine. There is more variety and selection due to the large size of the market. Some packages are clearly targeted for a particular target group because of the imagery and style used, for example Aljonka is a chocolate for children. Correspondingly, Finnish packages are more informative, practical, clear and pure by their visual appearance. Colours are mostly cold and blue reflecting Scandinavian and northern atmosphere. Fazer's Blue is the oldest and most popular brand. For Finns Fazer Blue is a symbol of national pride and belonging. Other Finnish brands are smaller; they are not really challenging the market leader. Finnish packages are targeted for a wider target group since the Finnish market is relatively small with only five million consumers. Visual style of packages can be described as more masculine due to their cold colours, seriousness and technical feeling even though their spirit is reflecting feminist cultural dimension. Packages in both countries cannot be seen as "pure" as they are borrowing elements and styles from other cultures. However, the borrowing happens for each country for different reasons. Also, quality connotations are communicated differently. In Finland, Russian packages can seem to be exciting and exotic, yet not very reliable because it is not easy to understand the product found inside. On the other hand, Finnish packages seem to be reliable and informative but most likely they are too boring and not communicative enough in an emotional sense for Russian consumers. Based on the research, Russian food culture and packages are more traditional with many historical references in comparison to Finland, where traditions are still in the process of refinement. In both cases, deeper levels of culture are difficult to access without direct cultural experience and interaction.

CONCLUSIONS

This study concludes that chocolate packaging designs are products of culture, shaped by history, markets, socio-cultural circumstances, and even political ideologies. Cultures can be theoretically defined through cultural dimensions. Cultural meanings related to Finnish and Russian chocolate packages were analysed via semiotic analysis. In addition to the author's knowledge and experience, packaging design experts in both countries were interviewed in semi-structured interviews to ensure objectivity and richness of the analysis.

Despite some common cultural elements, major differences were discovered when both cultures were defined based on cultural dimensions. Those dimensions could be connected to food packages and their visual appearance even though some aspects were not directly perceivable in the packaging. Chocolate packaging examples reflect national taste on many levels. Despite possible challenges, references to national culture offer a cost effective way to attract a wide array of target groups. Symbolic food products and packages do not just nurture our bodies but also nurture our identities by creating feelings of belongingness. Theoretical knowledge on culture is important in structuring and organising cultural observations and practical, direct experiences and interactions are needed to understand and engage with the culture on a deeper level. Both are needed when designing meaningful food products and packages.

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SYSTEMIC EVENT DESIGN—SEED: A NEW DESIGN APPROACH FOR FOOD EVENTS

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ABSTRACT

Food events represent a challenge for sustainability not only for the economic development and educational potential for which they may be the vehicles, but also for the ways in which their design is done. Too often, such events, even if temporary, have a considerable environmental impact, a factor that cannot be left aside by the organizers or by the local communities hosting them. The planning of sustainable events is not a practice rooted in the Italian territory yet, but has spread rapidly in other countries. In 2014, only the 30 per cent of Italian companies were holding eco-friendly events, while in Northern Europe, Great Britain and Canada, close to the 80 per cent were doing so.

Within this context, the project Systemic Event Design (SEeD) is being developed. Its intent is to analyse the dynamics triggered by a 'system event' and to propose concrete actions to make it sustainable.

This applied research, commenced in 2006, was coordinated by the University of Gastronomic Sciences on behalf of Slow Food, the Piedmont Region and the City of Turin, with the sponsorship of the Italian Ministry of the Environment.

The selected case studies are the Salone Internazionale del Gusto and Terra Madre that give rise to a unique international event, based in Turin, for the exhibition and sale of high quality food and wine.

The event also coincided with the meeting of the food communities belonging to the Slow Food movement.

For five days every two years, the fair in Lingotto accommodates about 220,000 visitors in a space of 90,000 square meters. There are 125 institutional stands, more than 1000 exhibitors, about 4000 people from the food communities. In addition there are spaces for rest rooms, lecture theatres, tasting laboratories and much more.

The methodology used belongs to the systemic design theoretical framework, which has been integrated with the requirements for a sustainable fair, according to the Slow Food philosophy, of 'good, clean and fair'. Stand construction, waste treatment, energy, packaging, materials for onsite food consumption, the logistics for transporting goods, carbon dioxide (CO₂) emissions, the ease of movement of people and goods, and water resources are some of the design issues considered for improving the environmental side of the event.

The outcome of the 2014 edition of the project was the creation of a system comprising more than one hundred concrete actions that have significantly reduced the environmental impact of the event and have increased its social, cultural and economic value, thanks to the active participation of more than 60 stakeholders.

The methodology and the results achieved represent a replicable model for other events in Italy and the world and which can, potentially, be extended to 'certain conditions' for other design areas.

KEYWORDS

Food events, systemic design, environmental impact, good, clean and fair

1. FOOD EVENTS AND SUSTAINABILITY: THE RATIONALE OF THE PROJECT SYSTEMIC EVENT DESIGN—SEED

Food events, beyond playing a significant role in rural and urban economic development, should also be recognized for their impacts on other dimensions of sustainability, such as environmental and social ones (Hall and Sharples, 2008). A food event or festival, though of great scope and complexity despite being limited in time, has a significant effect on the level of stress of human activities and on the delicate balance between the territory and the community.

Too often, the event's considerable environmental impact is overlooked by the organizers and by the local communities hosting it (Getz, 2004). Several elements, including the exposure to food and goods, the use of the exhibition centre, the movement of people and goods, and the tools and services used to catch the emotional and sensory involvement of the visitors, contribute to the creation of a linear system that produces a large amount of waste (output). When dealing with the design of a food event or any transient activity, the organizer usually focuses primarily on the immediate message to offer the visitors, trying to bombard and seduce them with displays and messages having a limited life span. In the short term, it is definitely a winning approach. For just a few days, it intensively presents the best design choices and products for living. When the event ends, however, the striking quality first perceived is the waste that has no more value, *'almost like a house of cards that collapses at the first puff'* (Bistagnino and Fassio, 2008). It is imperative, therefore, to think about this sudden change in value of the whole material and intangible constructions from being very high to almost zero; all too suddenly the values are trivialized and their potentials destroyed. Consideration of these aspects is not only appropriate, but necessary, as all these food events and festivals aim to promote more awareness of and responsibility for food consumption. All kinds of events can become sustainable in toto, if we can find consistency between the content and the container.



The purpose of this article is, therefore, to describe the ways in which we link all these aspects together and the final results obtained by their application in a concrete project. Systemic Event Design (SEED) has been applied to events organized by the Slow Food Association¹, like Salone Internazionale del Gusto and Terra Madre, Cheese and Slow Fish. Salone Internazionale del Gusto and Terra Madre in the food fair field represents the answer to the homogenisation determined by a globalized market, which penalizes the small producer of quality food products. It represents a safeguard for all cultural and environmental heritages linked to gastronomy, revitalizing the micro-economic level. With Terra

Madre, the international meeting of the Slow Food communities was born to defend the fundamental right to share the daily happiness offered by food and, as a consequence, to promote the collective duty to protect the heritage of alimentary cultures that afford these pleasures. For five days every two years, the fair in Lingotto, Turin, Italy accommodates about

¹ Slow Food is a global, grassroots organization, founded in 1989, to prevent the disappearance of local food cultures and traditions, counteract the rise of the 'fast' life and combat people's dwindling interest in the food they eat, where it comes from and how our food choices affect the world around us. Slow Food coordinates projects that defend local food traditions, protect food communities, preserve food biodiversity and promote quality artisanal products. Since its beginnings, Slow Food has grown into a global movement involving millions of people, in over 150 countries, working to ensure everyone has access to good, clean and fair food.

Slow Food have 1 million supporters, 100,000 members, 2000 food communities and, in general, its approach is based on a concept of food that is defined by three interconnected principles:

- Good: quality, flavoursome and healthy food
- Clean: production that does not harm the environment
- Fair: accessible prices for consumers and fair conditions and pay for producers.

Slow Food believes food is tied to many other aspects of life, including culture, politics, agriculture and the environment. Through our food choices we can collectively influence how food is cultivated, produced and distributed and, as a result, bring about great change.

220,000 visitors in a space of 90,000 square meters. There are 125 institutional stands, more than 1000 exhibitors and about 4000 people from the food communities. It provides space for rest rooms, lecture theatres, tasting laboratories and much more.

In 2005, its President, Carlo Petrini, proposed a new definition of food quality with the manifesto of 'good, clean and fair' (Petrini, 2005). He outlined the criteria for a new quality standard that food products should fulfil across the whole life cycle. This new holistic vision of gastronomy has been further investigated by the University of Gastronomic Sciences.² Gastronomy is defined as an in-depth understanding of the entire web of food production—from agriculture to processing to distribution. It provides knowledge about the material and aesthetic relationships between man and food. When gastronomes use this background to modify and improve relationships with and around food, they can be considered as active and pro-active food designers.

From the combination of the Slow Food manifesto—good, clean and fair—with the new design spaces that have been created within the gastronomic sciences, was born the idea of proposing a new food event model. The purpose of this new model was to associate quality content with a more sustainable 'container' and educate consumers to recognize a new concept of systemic quality for food production, distribution and communication.

2. THE SYSTEMIC DESIGN APPROACH

Food events can be considered as living systems for several reasons:

- The dynamics of their continuous evolution position them at the cross-roads of the latest phenomena in the internationalization of the cities-countries system.
- They create a localized network oriented to territorial development.
- They provide an opportunity for dialogue with, and education of, visitors.

Acknowledging these reasons and with the intention of designing an event that will be less wasteful by harmonizing the content and making it conform to its container, the research was moved to adopt the systemic design methodology of investigation.

Systemic Design is a network of interdisciplinary knowledge that takes into account different design areas and complexes. It seeks to promote new, sustainable consumption and management of output (i.e. waste), making it usable for other processes and giving it a new economic value. The starting point of systemic design is, therefore, a knowledge of the principles of organization and efficiency that ecosystems have developed to survive for millions of years (Benyus, 1997). Each organism, animal, plant, microorganism or human being is a living system made up of parts that are themselves smaller living systems, but not the less important for being so. In the living world we have systems within systems. They are related not only as a static configuration of elements, they share common properties and organizational principles created by the interactions between the different parts (Capra; 2002, Capra and Luisi, 2014). The whole is more than the sum of the individual elements (Forrester, 1974; Emery, 1989; Bistagnino, 2011). For this reason, nature does not know the meaning of the word 'waste' because each surplus is metabolized by the system, through the dynamics of the five natural kingdoms.

By considering the event itself as a living organism, the research adopted the principles of systemic design to rethink and to shape the event according the mechanisms of a functioning ecosystem.

² The University of Gastronomic Sciences, was founded in 2004 by the international non-profit association Slow Food in cooperation with the Italian regions of Piedmont and Emilia-Romagna. It is an international university, based on practical experiences and cross-disciplinary teaching, with more than 50 study trips a year throughout the world. To date, more than 2000 students have studied or are studying at UNISG and about 60 per cent are international students from more than 120 countries. Its goal is to create an international research and education centre for those working with food at different levels. The result is a new professional figure called 'gastronome', who is an expert in the production, distribution, promotion, of and communication about high-quality foods. We think that gastronomes, for the 'food system', are the next generation of educators and innovators.

3. THE APPLICATION OF THE SYSTEMIC METHOD TO SLOW FOOD'S EVENTS

The project has been developed over an eight year period from 2006 to 2014. The application of the methodology and the research construction have followed the calendar of the different biennial events organized by Slow Food (Salone Internazionale del Gusto and Terra Madre, Cheese and Slow Fish).

The research took its first steps by analysing the life cycle of the event 'Salone Internazionale del Gusto and Terra Madre 2006'. It took a snapshot of the dynamics triggered by the system event. The time frame considered was not only related to the 'opening days' but also focused on the operative phases before and after the event. The status quo of the relative incoming and outgoing flows of the trade fair system were considered for the main design settings that determined the environmental sustainability of an event.

Data were first collected through a questionnaire that had been proposed to the different stakeholders involved in the research (10 organizers, 81 exhibitors and 389 visitors). Then these were analysed taking into account the different areas of the event (market, Presidia, wine house, kitchens, bistro and tasting laboratories) (Fassio, 2008a: 72). Estimates of the quantity and quality of the outgoing flows of materials were determined from the data. It also emerged that there was a defined quantity and quality of waste associated with each area of the fair and that it was necessary to adopt a new system for waste disposal (Fassio, 2008a; 84). The data derived from the questionnaires administered to visitors, in addition to the reconstruction of the dynamics related to the flows of matter, were relevant to the definition of the project's target (Fassio, 2008a: 87).

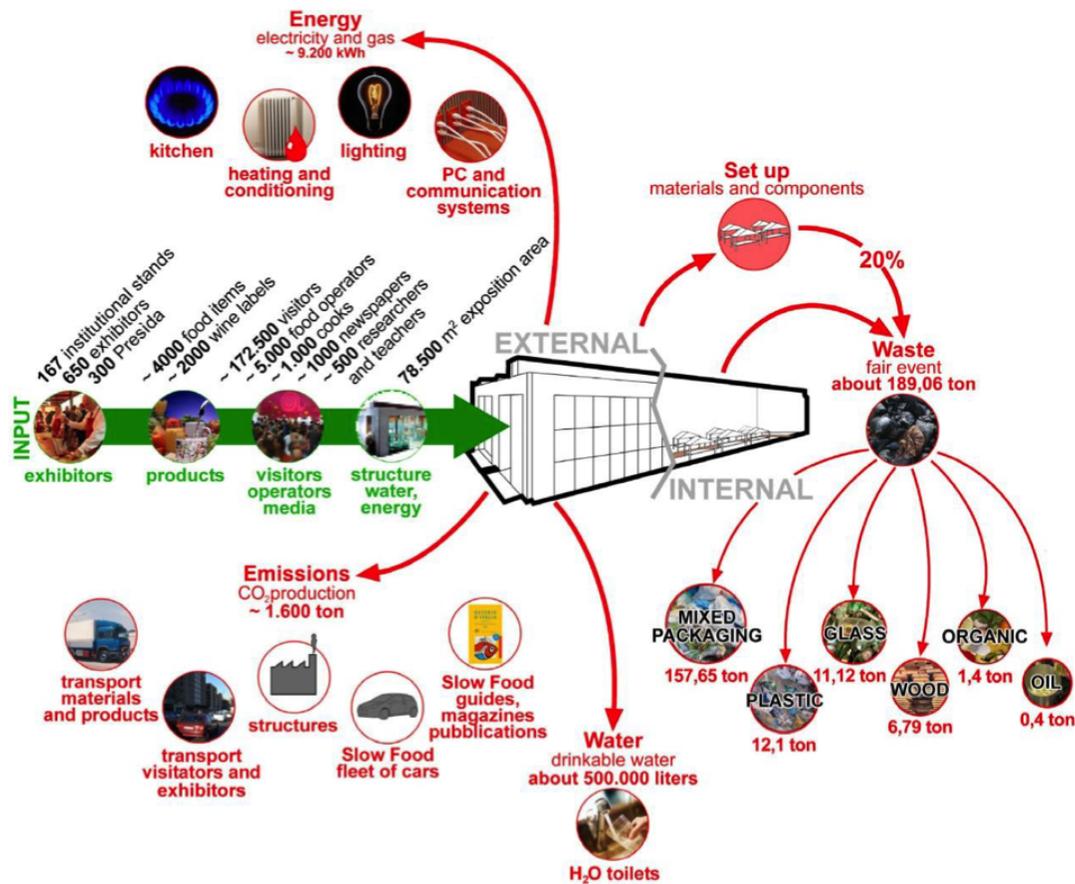


Figure 1: Input-output schema: this shows the quantification of the data related to the different design settings selected for the 2006 Salone Internazionale del Gusto and Terra Madre.

With this first map of the event's system (Fig.1), we collected the information necessary to select the design scenarios of the project and the appropriate concrete actions to reduce the environmental impact or to improve/rationalize the flows involved. The design scenarios for the 2008 edition, chosen on the basis of those of 2006 were: stand construction, waste management, energy, packaging, materials for onsite food consumption, logistics for transporting goods, CO₂ emissions, ease of movement for people and goods, and water resources.

For each scenario a technical partner has been identified. Starting from the first edition of the project, we have begun to build a network of collaboration between companies of the territory and others at the national and international level for some specific products or services (Fig.2). The choice of partners was based on their actual involvement in the status quo of the system or according to the contribution they could generate for the system. A memorandum of understanding has been signed with each partner to share the path of research to be implemented. Through the development of these partnerships the event was born and has grown as a system characterized by relationships built among the partner companies of the project. Today, we can say that the value of these partnerships is more than the sum of each individual one (Fassio 2008b; Fassio and Balbo 2008).

The periods between the different editions of the Salone Internazionale del Gusto and Terra Madre (2006, 2008, 2010, 2012 and 2014) were used to test the actions and to improve their sustainability. The trials during smaller events, such as Cheese and Slow Fish in 2007, 2009, 2011 and 2013, has been functional and instrumental in the implementation in the following edition of the Salone Internazionale del Gusto and Terra Madre. The same logic has been applied to the different editions of the Salone Internazionale del Gusto and Terra Madre. In 2006 we started to analyse the system and in 2008 we had the first application of the actions and a collection of data with which to evaluate the results and shortcomings of the initiative. When an action was considered 'good, clean and fair' not only in the design process, but also in its results, in the following edition it was further improved and enlarged. The following edition was also improved by increasing the number of partners involved and adding new design scenarios (for example, in 2012, the scenario of virtual and real communication started to be considered).

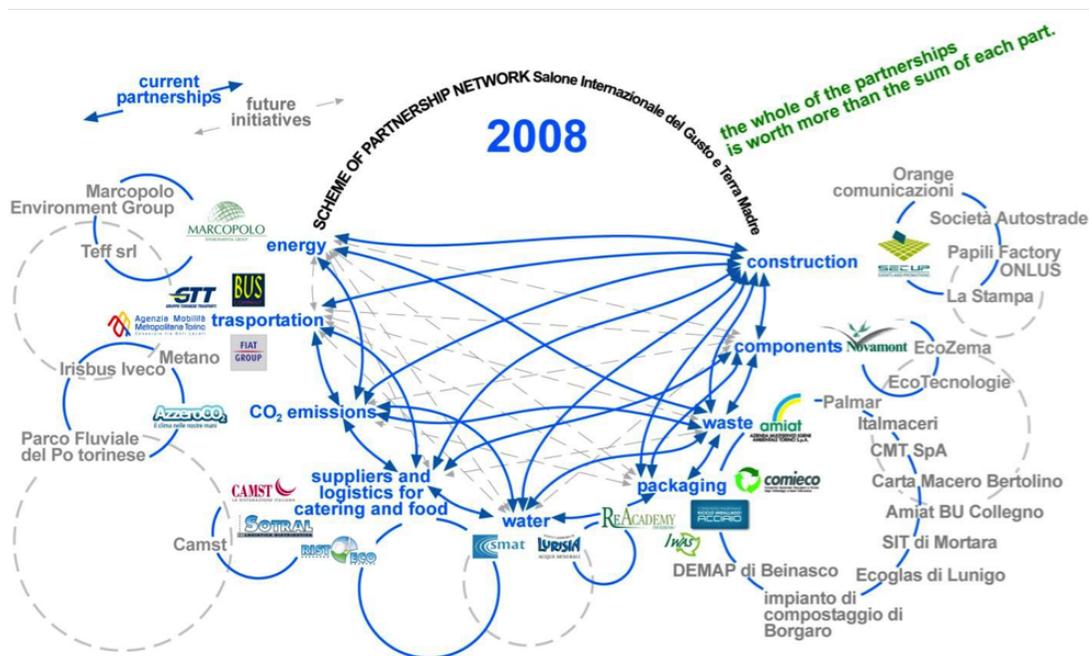


Figure 2: Partners' schema: this shows all the actors involved for each design scenario.

Highlighted in blue are the relationships built among the partner companies of the project in 2008. Highlighted in grey are the possible increases of the system. By the 2014 edition, the number of companies involved had increased to 60.

All the measures adopted for the different scenarios share a common project philosophy—to redesign objects, tools and services for food consumption, transportation, cooking and disposal in order to create a system that reduces the environmental impact of the event and increases the awareness/involvement of the different stakeholders. All the actions include in their design the whole life cycle of the edition—pre-event, event and post-event.

Following this principle, an explanatory example of what has been realized is the system of actions around the pallets used as tertiary packaging for food transportation. In Italy, there is a legislative loop hole regarding tertiary packaging that makes it impossible to have traceability for the whole packaging system. Paradoxically the law demands traceability in the food supply chain, but does not consider, in turn, the packaging chain.

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The project (schematized in Fig. 3) decided to use a Forest Stewardship Council certified pallet, the Greenpallet³, produced by Palm Spa, for constructing the stalls, market stands and the other exposition areas. Using essentially a snap-fit structure, the units could be constructed without the use of additional material. At the conclusion of the event, the Greenpallets were collected by a local industry, Lavazza and Mapei, for the transportation of their goods, thus allowing significant economic and environmental savings.

This choice was made on the one hand to extend the pallet life cycle and reduce the amount of waste produced, and on the other hand to increase the awareness of the consumers/expositors of the role of packaging and its different levels (from the first to the third) along the whole food supply chain.

The food product to be exhibited (the content) was brought into the exhibition on Greenpallets (its physical container). The Greenpallets were then used to construct the stalls, stands and other exposition areas using a snap-fit structure. Subsequently, when the exposition closed and the structures were taken apart, the pallets were recycled to transport other products (filled with a new content).

This action has also enabled the development of relationships among the partners that has persisted beyond the laboratory context of the event.

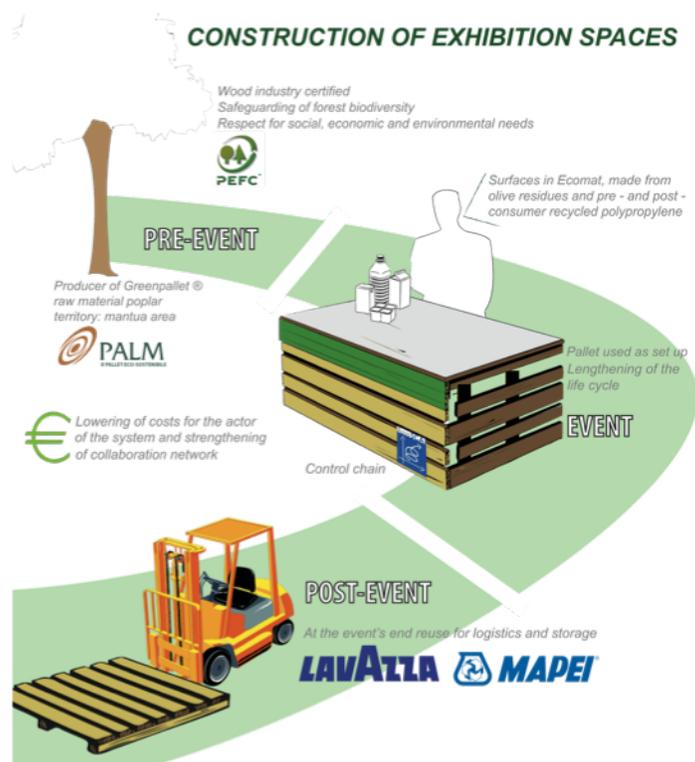


Figure 3: Iconographic schema of the project scenario 'stand construction' design for the 2010 Salone.

Almost all 6400 Greenpallet® products from Palm Spa, Programme for the Endorsement of Forest Certification poplar (from Italian forests managed correctly and responsibly according to strict

³ It is a pallet that follows a strict protocol governing the environmental sustainability of their supply chain.

environmental, social and economic criteria) were recovered. Thanks to this operation 145 tonne of waste, corresponding to 51 tonne of CO₂, were avoided.

We have asserted that from 2006 an event can be defined as a quality event only if it takes action in the direction of environmental sustainability. In the 2014 edition of the exposition, the project created a wider and more holistic definition of event sustainability, going beyond the environmental dimension and including the social, sensory and economic ones, according to these definitions:

- **Social sustainability:** the development and implementation of new ideas (products, services and models) to meet social needs, creating new relationships and partnerships. Social innovation brings new answers to pressing needs that involve the processes of social interaction. Social actions add value to society by increasing the capacity of an individual action and community (according to the definition of social sustainability in the Guide to Social Innovation, European Commission, February 2013).
- **Sensory sustainability:** This is determined by all those actions and design choices that guarantee the functionality of the event and its perception through all five senses. What is being investigated is the attractiveness of the event or the 'pleasure' caused by the use and perception of space, determined by such factors as aesthetically functional—the arrangement of the areas, the choice of materials used, the functionality of the spaces and the ergonomics of the instruments, the clarity of communications and their educational potential (reproducibility of the messages in daily life), the presence or absence of 'anthropological places' as opposed to increasing development in our cities of 'non-places'.
- **Economic sustainability:** This is the economic impact generated on the territory by the event and its degree of accessibility for people and companies. It takes into consideration the permanence of income and work for the people of the territory in which the event takes place and for the companies that are involved.

One hundred and two concrete actions were put in place for 2014, thanks to the involvement of more than 60 companies. Thanks are also due the Italian Ministry of the Environment, which funded the project, recognizing it as being innovative and bringing benefits to the territory. New activities and services dedicated to the family included the 'baby pit-stop' for mothers and their breastfeeding children, a special itinerary for deaf people and a laboratory based on all five senses to overcome any language barriers. These are some of the exemplifying actions addressing the social sustainability of the event. For example, to increase the sensory sustainability of the cultural experience, all directional panels in the event are written using the font EasyReading which is a compensatory instrument for readers with dyslexia. Additionally the conference proceedings were translated into seven languages and we used soundproofing and sound insulating materials to improve the general acoustics of the event—preferring those which are of natural origins.

For the food experience central to the event to be a vehicle of the new content it was necessary to re-work and improve the sensory accessibility to this experience. The whole project was finally explained in a stand of over 200 square meters, where, using daily animations, we increased awareness of the project's actions and their educational value.

4. RESULTS AND AWARDS

The applied research SEED has profoundly changed the event. Considering matter, energy and emissions, people and territory, we have totally changed our concept of the quality of an event. The quantitative and qualitative factors identified in 2014, in addition to determining a new concept of holistic sustainability for a food event, will contribute to developing new design strategies for the future editions.

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From 2006 to 2014 the environmental sustainability of the Salone Internazionale del Gusto and Terra Madre has grown by over 65 per cent compared to the starting data.

A meticulous, constant and ever-more detailed waste collection has been on-going from 2006. Then about 16.2 per cent of the waste collected was separated. By 2012 about 59.11 per cent of the waste collected was separated with 92 per cent purity of the separated wastes. In this activity the role of the participants has been crucial. The participants involved in waste collection transformed themselves in co-organizers because they directly contributed to reaching the goal of good differentiated collect of waste. The amount of waste per capita has decreased from 1.1 kg in 2006 to 0.75 kg in 2012 and the associated CO₂ has dropped from 0.47 kg to 0.15 kg. The waste reduction and the increase in its value at the end of its life are factors that contribute to decreasing CO₂ emissions by 60 per cent as compared with those of 2006.

In 2008, the combined efforts to reduce the environmental impact of the event, led to the Salone Internazionale del Gusto and Terra Madre (among 50 other events) being mentioned by the jury of the Prize Biennale Italy for innovation brought to the 'Design of Events' for 'the capacity of the event to plan cultural activities for a site or a territory able to realize a direct, cognitive and emotional experience for the visitor'.



Photo from Salone and Terra Madre 2014

In 2009, international experts who were working to update a second edition of the BS 8901 standard selected the systemic design approach applied to the Slow Food events as a best practice and a case study. This resulted from the lessons learned from the experiences and practices adopted during the first two editions. The standard has been integrated with elements

regarding the sustainable management of events according to the perspective of the Life Cycle Assessment.

The project content has become a best practice, a replicable model for the design of other national and international events (Bistagnino and Fassio, 2011; Fassio et al., 2012).

5. CONCLUSIONS

This contribution has placed itself within the debate and attempts to look for a way to design sustainable food events.

One of the most relevant pieces of evidence from the project is that when we are dealing with food design in general, and in our specific case to food events design, it is necessary to go beyond just the evaluation of many variables and to analyse the interactions among them. Using just a static checklist or single and isolated actions for achieving a sustainability goal is insufficient.

A 'sustainable food event' should coincide with a 'food event designed in a sustainable way'. Design has the goal of creating and verifying this correspondence, pursuing it in the development of products and services that the market has recognized and accepted according to a widespread and shared food culture of sustainability, and turning it into a daily habit.

Thinking of holding a sustainable event means designing it, organizing it and making it happen in a way that minimizes environmental impacts. It also means leaving a positive heritage for the community through a lasting and balanced approach that encompasses economic activity, environmental responsibility and social progress. This can be achieved by applying rules and principles oriented to saving, reusing and recycling resources. All kinds of events can become sustainable, but first of all they should be organized according to the logic of consistency, transparency and real commitment during their whole life cycle. Otherwise the risk is to fall into 'green-washing' or into an unjustified appropriation of environmental values and sustainability.

Another interesting insight of this research work is related with the process related to stakeholders' involvement at different levels. They can be both research partners and simply an events audience starting with food design action as a catalyst for innovation beyond the spatial and temporal boundaries of the event.

In SEED the design of a sustainable event has been characterized by a series of design choices, valid case by case, with the aspiration of approaching an infinite network of interconnected phenomena. As was said by the biochemist Louis Pasteur, "*Science advances through tentative answers ... which reach deeper and deeper into the essence of natural phenomena.*" This kind of approach, even if it was not totally complete in its results, was oriented to lead and guide all the actors involved in the 'system event' towards a reflection path about complexity of food sustainability as related to a sequence of concrete actions. The passage through the actions has been able to trigger a process of social innovation, especially for expositors or project partners involved in more actions.

The most striking result was the promotion of a new culture of environmental, social, sensory and economic experiences applied to the design of food events that could be spun off by the event itself. If the events are in fact temporary, the relationships created on the shared principles of 'good, clean and fair' have continued over time. Over time the event has become a meeting point for new projects and the consolidation of existing relations, a sounding board for sustainable action promoted by each actor. By attempting to create more awareness and responsibility, it has been possible to design actions for an event involving the co-evolution of a sustainable network of actors who cooperate for a common and shared welfare.

Food events, like Salone Internazionale del Gusto and Terra Madre, also can be seen as social institutions that have a human involvement that goes far beyond the strictly functional economic content. They assume the characteristic of a meeting point of cultures, contact, exchange and mutual understanding where all the actors of the event are 'co-organizers' (with their choices determining the sustainability of the event) and, in everyday life, 'co-producers' (with their choices influencing the market both locally and globally).

Therefore, such events will be well designed if the designer is able to deepen the relationships so that the replicable actions and gestures in our daily life become an educational function. But, always, we must be aware that the model created is subjected to the diversity of the situations that arise and accept this situation because if there was no diversity there would be no evolution—a diversity working in the same direction.

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A COMMUNITY-DRIVEN AND HUMAN-CENTERED APPROACH TO DESIGNING A FARMERS' MARKET CART IN SAVANNAH, GEORGIA

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ABSTRACT

Food and design entwined in this collaborative design/build project—enabling an innovative material re-use initiative that fostered community development and highlighted the triple bottom line value of material re-purposing. The project involved creating a cart for a farmers' market vendor(s), in order to improve the incessant and demanding process of loading, transporting and unloading their produce and wares. The design process comprised a cross-institutional collaboration between two local colleges in order to fuse contributions in human-centered research and innovative material repurposing. This paper concerns the Design Research phase— capturing its trajectory while depicting its nuanced role and illustrating its impact on the project's perceived scope.

KEYWORDS

Sustainability, design research, collaboration, community, design/build, materials reuse

INTRODUCTION

Food was the nucleus of this collaborative, community-based design/build project. "Food" can be further contextualized as supporting local farming communities in securing economic vitality through a triple bottom line lens which equally acknowledges social and ecological capital. This project spawned when a Savannah, Georgia-based non-profit— Emergent Structures (ES)— recognized a perceived hardship amongst the farmer vendors at the Savannah Farmers' Market. The process of loading, transporting and unloading their produce and wares to various locations was laborious and time-consuming, but vital to earning their livelihood. ES' mission revolves around reducing the land-filling of building materials through innovative re-purposing projects. Their portfolio features food production projects that focus on providing food independence, food justice, and community resilience as a means of empowering historically disadvantaged communities. ES saw this potential farmers' need as an opportunity to create a cart to ease the burden of this loading/transportation process while also enabling an innovative material re-use initiative that could foster community development and highlight the triple bottom line¹. They secured a grant from Gulfstream Aerospace (headquartered locally) to "*design/build a mobile produce stand, constructed upon a street-legal trailer, that would be donated to a local farmer selling at multiple markets.*" ES' role comprised planning and leading this construction project that would mentor college students regarding social design, processes around reclaimed building materials, and the resultant sustainable benefits for a community. This inspired a first-time, cross-institutional collaboration between Savannah Technical College (STC) and Savannah College of Art and Design (SCAD), a private art/design school. The project phases were delineated as: Design Research, Materials Research, Schematic Design, and Drafting and Fabrication. Where ES' past projects typically began with design/build, the ES Board welcomed the addition of a design research phase since this could authentically reveal the problem, related strategy, and potential form factor through field immersion. This was the catalyst for SCAD joining the project since they led the Design Research phase. STC took the lead on all of the other phases. The project will be completed in December 2015.

This paper will offer a window into the Design Research Phase which constitutes research, analysis and initial synthesis. The research portion typically focuses on holistically accruing and fusing data from two lenses: the ethnographic lens of capturing the farmers' (and users) nuanced needs, motivations, behaviors, beliefs, rituals, frustrations (pain points) and successes (happy

¹ A framework for business that equally regards social, environmental and economic capital (or people, planet, profit), versus models that solely consider the economic; a quadruple bottom line also exists distinguishing between social and cultural. <http://livingprinciples.aiga.org/>

points); and the design lens of employing frameworks such as AEIOU, POEMS, and PESTLE to understand these factors deeply.² For this project the research team sought to understand the social, economical, logistical, environmental, technological and political aspects and implications of the farmers' market culture. In this paper some of these specific details will be shared through the lens of synthesis, since the data points support the derived insights, related design strategy, and corresponding initial design concepts. The paper's structure will align on the research objectives: to inform the final design and to recommend the process for determining which farmer/farm should receive the final product. In hindsight, the trajectory of this project shows evidence of fluidity and openness, where because of ultimate receptiveness with the research findings the project focus and final recommendations journeyed far from the (albeit typical) initial prescriptive scope, various uninformed inclinations, and human hunches.

METHODOLOGY

This qualitative study iteratively spanned from research to analysis to initial synthesis as the project dictated. The research phase was completed over a 10-week academic quarter—with the research conducted over a 6-week-period. This phase launched with secondary research, where the team broadly examined related trends and developments in business, technology, society, culture and policy, and then honed in on the existing context, market and offerings (Kumar 2012:10). Themes developed around farming, logistics and retail. The research team generated the following large-scale visual models: (a) Trends Matrix, Convergence Map, Offering-Activity-Culture Map and Analogous Models Map³—offering a transparent analysis of the data and insights to share amongst all stakeholders. A Policy Model (analysis) aggregated the various project's constraints and parameters as prescribed from the farmers' market, historic park and city. For primary research, the team employed applied ethnography—predominantly focusing on observation, shadowing and semi-structured contextual interviews at the Savannah Farmers' Market and three regional farms. Observation inspired visual models analyzing the breadth of the market's existing transportation options, unloading tools, product storage and objects. Interviews concerned three overarching perspectives: vendors, policy and logistics. Interview goals targeted the participants' mental models behind market, farm, and transportation processes and operations; participation and ascribed value of the market; and their interpretation of success in their business/community. The team interviewed 10 market vendors (that represented user groups) spanning two spectrums: small to large offerings; and hobbyist to full-time professional. Other regional markets, stores and farm stands were duly visited. As participant observers, the team members volunteered in an official capacity as Savannah Farmers' Market volunteers for each Saturday venue.

The research (SCAD) and design (STC) team interfaced via various touchpoints during the research phase. These consisted of: the research team sharing core data and insights via co-creation sessions, time-lapse videos, visual models and empathy exercises; and the design team explaining their design approach thus far. The time-lapse videos featured the farmers' market and farm loading/unloading/setting up/breaking down processes. This inspired an accompanying User Journey model. Through the empathy exercise, the research team used various on-hand props to simulate a typical Saturday morning farmers' market set up with an emphasis on underlying pressing factors and potential threats. The students attempted to transport precariously stacked boxes filled with balloons via office chairs within a short timeframe. This inherent difficulty allowed the design team to internalize the myriad and simultaneous pressures of time, weight/physical exertions, delicacy/protection of merchandise and related revenue anxieties.

For analysis, the team hierarchically “affinitized” an estimated 500 data points from observation and interviewing by using an Affinity Mapping procedure (Holtzblatt, Wendell, Wood 2004) to realize deep insights. The insights depict and define the farmers' market culture and farmers' core

² Activities, Environments, Interactions, Object, Users (originated at Dublin by Rick Robinson, Ilya Prokopoff, John Cain, and Julie Pokorny; People, Objects, Environments, Messages, Services (101 Design Methodologies by Vijay Kumar); Political, Economic, Social, Technological, Legal, Environmental Factors from Foundations of Economics by Andrew Gillespie)

³ See images: offering_activity_culture_map.jpg, analogous_model.jpg, convergence_map.jpg

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values—the latter explored and narrated further via a Values/Enabler model (Lextant 2014). Eight core insight themes were identified. Each insight theme was converted to an actionable design principle via an opportunity statement, accompanied by design strategies via “How Might We” descriptions that motivated initial design concepts. Though the design team would be generating concepts based on the research, the research team was encouraged by their professor to somewhat penetrate this space—their ideas could offer a diverging perspective since the research team comprised an industrial designer, service designer and two design managers. The final deliverables comprised core insights, design principles and initial design concepts. The design team incorporated this output into their existing schematic designs, with continued refinements from their synchronous materials research findings.

BACKGROUND (DERIVED FROM SECONDARY RESEARCH)

Farmers' Market vendors essentially play a role in three overlapping areas: farming—the growing of the food; logistics—the storage and transportation of the food; and retail—the marketing and the selling of the food.

FARMING

In the past, the farmer was at the mercy of the elements and the production process. Whole harvests could have been destroyed by a drought because the plants were not designed to withstand those conditions. Crude wooden equipment, hand sowing and broadcasting of seeds further contributed to this uncertainty (Growing a Nation). With advances in biotechnology and genetic engineering, crops are now able to withstand harsh conditions—which means that even in bad weather years, a good harvest is possible.

Food production as a means of livelihood has undergone cyclical evolution as well. In 1790, farmers were 90 percent of the labor force (About.com), which contrasts with findings in 1990 where farmers constituted only 2.6 percent of the labor force. Now, however, food production is making its way into the urban environment, which is where the majority of the world's population lives (United Nations Department of Economic and Social Affairs). Farming is therefore turning from a rural task to an urban activity. Now, with the emergence of farmers' markets, farmers are playing multiple roles. Apart from farming, they run their business, involving customer interactions, marketing, transportation, distribution and presentation. This has created a need for flexibility and customizability in the offering's design to promote the DIY and local farming culture. Farmers are thus requiring greater convenience to justify all the work.

LOGISTICS

Before the invention of modern food preservation techniques, canning/bottling, drying, salting, pickling, sugaring, smoking were the popular forms of preservation. Most of the perishable food was therefore considered local. With the invention of refrigerated transport in 1938 (Ganzel) and modern food preservation techniques like oxidation, vacuum packaging, canning/bottling and artificial preservatives, food could be transported and stored for global consumption. Now, more modern preservation techniques are surfacing like irradiation, chemical additives and high-pressure processing (MicrobeWiki).

Another trend emerging is the growth of food hubs. Food hubs are creating a middle-man culture that may be slowly turning local food into mass production. With the farmers' market culture becoming popular, it is becoming a year round phenomenon—estimated to be a \$4.8 billion dollar business (NYDailyNews.com 2011). This has led to farmers catering to multiple farmers' markets, some over hundreds of miles away, and travelling longer distances with a greater need for preservation of their produce.

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Farmers must also be aware and comply with the local policies dictating regulations of their food transport. For example, in the state of Georgia, a farmer's trailer has to be 60 feet in length (excluding safety and energy conservation devices), 92 inches in width (102 inches allowed on certain roads) and 15 feet and 18 inches in height (AAA/CAA Digest of Motor Laws). All storage and transportation have to comply by Sanitary Food Transportation Act (SFTA) of 2005 (U.S. Food and Drug Administration 2014) which provides guidelines to avoiding cross-contamination of food, permitted storage temperatures and cleaning instructions.

RETAIL

Several trends show the development of farmers' market from the consumers' point of view. Customers who attend farmers' markets are aware of the impact of local or organic food and are interested in knowing the origins of their produce. People are becoming more aware of food traceability, asking where their food is grown. Food miles—the distance food travels from where it is grown or raised to where it is purchased by a consumer—have come under considerable scrutiny. Packaging now often offers more information for the consumer via quick response (QR) codes (Agri-View 2014). Locally grown foods have come to be perceived as tasting fresher and retail stores are increasingly stocking and promoting their organic and locally grown sections. With this awareness there is now an emerging trend of supporting local businesses.

Yet, there is a lack of customer service outlook in the farming culture. Despite the awareness and demand for local and organic food, surveys show several reasons for not shopping at a farmers' market: absence of availability in the patron's vicinity; lack of knowledge about market existence; inconvenience in payment process and high prices (City of Iowa City). Several solutions have emerged to address these concerns. Farmers' market are now emerging in multiple locations, using the internet to promote and inform their audience and offering credit card readers. The latter enables lower income consumers using SNAP (Supplemental Nutrition Assistance Program, formerly food stamps) to purchase more from the market (Food and Nutrition Service). Farmers are now also addressing the need for presentation of produce to be practical, earthy, and possess visual appeal (Penn State College of Agricultural Sciences 2014).

The popularity of local food has also lead to the misunderstanding of the terms local and organic. Local does not mean organic (Consumer Reports 2012). Many people assume that produce sold at a Farmer's Market are all organic, which is a misconception. Organic certification is one of the most heavily regulated policies in the food industry and is expensive and difficult for local farmers to obtain.

THE INTERNAL PROJECT CONTEXT

The initial project scope was conveyed with the following details: *to construct a mobile produce stand out of reclaimed building materials. This farm cart was to be constructed upon a street-legal trailer and to be donated to a local farmer who routinely sells local, organic produce at the Forsyth Farmers' Market and surrounding markets. The farm cart would make the process of loading, hauling, and selling fresh local food easier and less time prohibitive. The mobile trailer would conveniently store food for hauling and convert into an attractive food stand once the farmer arrived on site. The completed farm cart was to be given to one of the farmers by a random lottery draw, or whoever was the most eligible to receive the farm cart, based on the size and needs of the farmer's logistical and production practices.*

Varying interpretation of the scope by the two teams could provide a beneficial holistic outlook or cause a project polarization with essentially two competing teams. The project began with the research team planning their study while the Design team (simultaneously) began conceptualizing schematic designs—due to external institutional constraints. Therefore, the scope was initially interpreted in varying ways. The Design team internalized it at (its) face

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value and began sketching various mobile produce stands. Whereas the Research team removed the prescribed theme and broadened it to: *What do these farmers need to ease the burden in their logistical process?* Similarly, the donation process was still being deliberated with the two teams being of two minds: (to) design a cart that is later raffled off to one farmer (this reflects product design since it is designed for a user group [and allows for potential higher production volume in the future]) versus selecting one farmer and designing it to their needs (similar to a Habitat for Humanity Model). (The ES Board was also divided on this issue.) Though potentially counterintuitive, the Research team supported the former. They thought that the derived principles would depict a group with descriptive, aligned needs. Ethically, they were concerned were that the community could potentially feel exploited if they offered time and energy as research participants for ultimately one farmers' gain (leading to potential alienation). Alternately, with such diversity in farmer types and needs, the Design team could not comprehend designing a cart to an average amount—potentially rendering an ineffective product. Therefore, the Research team developed a research question asking: *What selection process and distribution process best supports this culture and farmers?* At this point in the project, mild concern surfaced since the teams were acting in parallel concerning: The research study's value could be overlooked as the Design team expanded energy and a natural attachment to their ideas and solutions. This team exhibited positive and open minds toward research, but possessed no prior experience or utilization of a research phase—thus potentially triggering an age-old struggle where design research is leveraged and lost. To mitigate this early on and throughout this phase's tenure, the research had to be conveyed in engaging and readily-accessible formats replete with interactive exercises that further instilled the field discoveries.

THE ENVIRONMENTAL CONTEXT MARKET

The Forsyth Farmers' Market was founded by six women in 2009. The market operates every Saturday from 9 am–1 pm, unless inclement weather occurs. According to its founders, [it was] “conceived and planned to provide all members of Savannah's community a welcoming, inclusive place to purchase local food and address food access issues.” It is a producer-only market, with solely food and plant offerings—where all vendors must produce at least 75 percent of the products that they sell. Their policy mandates that all offerings are to be produced within 200 miles of Savannah.

The introductory immersion in the Forsyth Farmer's Market indicated the disparity between the initial scope and the actual environment and culture. The Research team immediately noticed the sheer absence of mobile farm carts amongst the roughly 30 vendors on the premises. The market is hosted on the south end of the historical, 30-acre Forsyth Park, with a policy that prohibits driving on the lawn or sidewalk. If vendors wheeled mobile carts on the park grounds, the City of Savannah would become involved, whereas the farmers stressed a need for existing off of their radar. The farmers hauled and drove variously shaped and sized trailers or trucks. In considering the project's mobile farmer's cart offering, one farmer said that he would have to purchase another truck—since his truck is already pulling a trailer bed which he would continue to use. This would involve hiring another driver to drive the second truck, which would just cost more money and be less efficient over time.

HAULING

The set up process began with farmers parking in an adjacent, limited-space lot. When parking was full they parked in a lot across the street. Farmers wheeled their produce and equipment from the parking lot to the market area—back and forth, multiple times on dollies or handcarts. To mitigate hauling, farmers used a City-owned golf-cart pulled trailer bed offered by local police Officer Jackson—available when no competing events occurred, or were helped by volunteers. Many of the volunteers were passionate about local farming and invested in the market's

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existence and continuation. The trailer bed could only hold about 2-3 farmers' load at a time. As apparent on the time-lapse video, a typical market day required at least five two-way trips from the parking lot to the market area. Farmers who opted to not wait for the trailer bed solely used dollies and hand-carts. Their large equipment, such as tents and unstackable assortments of baskets, were inconvenient to haul on the dolly. The tents would protrude, making the cart difficult to maneuver, and the baskets would fall off of the dollies, devoid of any sort of attachment function. The team realized that the hauling process imbibed a community effort with shared resources, which negated the existing project's focus concerning an individually-beneficial resource.

Set Up

The team and other volunteers helped the farmers set up in their 10 x 10 frontage spaces. Each space cost \$22-\$26/week depending on vendor type and attendance frequency. If a week was missed, the farmers risked forfeiting their usual spot. Some vendor's farm size or market offerings mandated that they use two spaces. Vendors were limited to their allotted square, left and right, but they were allowed to set up as far back as they needed. However, nothing could be protruding onto the sidewalk cement where the shoppers walked. These vendors carried in a week's worth of harvest to sell, of which they stored the majority in coolers behind their stands in order to keep fresh—refilling the baskets and crates on the tables whenever their offerings were exhausted. The produce farmers prioritized finding a shaded location, such as under one of many Forsyth Oak trees, or brought a large tent in order to protect their fruits and vegetables from sun exposure.

Through shadowing the team learned that some vendors started preparing for the market at 4 am or days in advance (depending on the weather or type of vendor), in order to be ready to pack, transport, and set up by the enforced set up and check in time of 7-8:30 am. This intensive time requirement was a key user pain point for the design to mitigate. Vendors arriving after 8:45 am are charged a fine of 20 dollars. No set-up is allowed after 9 am.

This was a pivotal point internally for the project. Though the design team was frustrated that their suggested designs were not relevant, they obviously could not deny the park and market's personality, context and policy. Since their program resided within a technical college with a focus on skill development, their curriculum did not follow a typical demand of design conceptualization and innovation where brainstorming may require 100+ independent (idea) sketches in order to extricate the mind of the trite or expected—thus interpreting the beginning designs as pure process. Nevertheless, most designers can relate to an engrained disposition to their work. Therefore, some of these pre-concepts did resurface unexpectedly at intermittent points in the project but did not wholly endure. The time-lapse videos proved instrumental to the design team as they consistently accessed them in shaping the schematic design concepts.

FARM

After several weeks of volunteering at the Farmer's Market, the farmers consented to letting the research team visit their farms. Some farmers exhibited concern since they had cultivated a potentially classified processes through years of self-taught experimentation and horticulture education. The team assured them of confidentiality and stressed the sole objective of observing the loading-transportation-unloading process to identify areas for improvement. Other farmers were open yet faced time constraints because of the perpetual demands of the farm. On the farm, each farmer had varying but strict routine schedules, including specific days and times when they would tend to the farm, harvest, wash, and pack; they each had a system in place, even if they admitted it probably was not the most efficient one. They had hired additional labor to assist with harvesting, packing, and loading. Some farmers sold at multiple farmer's markets and harvested multiple times per week. All the farms incorporated some scale of hydroponic system, a soilless farming method, to grow some of their produce and housed large greenhouses. The

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farmers exhibited an inherent passion in offering locally grown, organic foods. They viewed the Forsyth Farmer's Market as a positive opportunity that increased revenue gain.

SYNTHESIS

The research team's contribution lay in transparent data grouping and insight identification. Each insight was derived from a data cluster signifying a common theme regarding participants' needs, desires, or present experiences. These insights were translated into design thinking which offered abstracted design directives or strategies independent of a specific solution, reflective of the culture. The team represented this holistically as a Value Enable Model (Lextant 2014), and individually as a Design Opportunity and How Might We exploration (per insight). This was the prime offering for the design phase of the project, and could be accessed for any future design needs related to this user group. The research group's findings elected to explore some initial design conceptualizations (partially included below in Insights and Correlating Design Strategy and Concept Space), relating to the cart structure and details within; but the final concepts were largely under the jurisdiction of the design team who informally shared their progress in two group sessions.

FARMER'S CORE VALUES

Through a Value Enabler Model (Lextant 2014), the team portrayed the participants' desires, drivers, hopes and aspirations.

- *I Am a Part of Something Bigger Than Myself* (core value). The farmers understand that they are one small part of a whole community. They accomplish more when they work together and help each other. They know that variety brings in customers. They sell products because there is a market within the local community that wants and needs what they are offering. They are aware that they are a part of a larger ecosystem.
- The supporting drivers: *I Want to Survive*. Farmers are resilient people. They overcome obstacles like inclement weather at the Farmers' Market, challenging seasons that affect their crops' yield negatively and storage/transportation limitations. They persevere, sustain their business and survive.
- *I Want to Provide*. At their essence, farmers provide. They grow food that is later consumed by others. They give the community the sustenance that it needs to survive. The farmers from the Forsyth Farmers Market do not only offer their products, but also contribute to the community's access to healthy food and the associated lifestyle. They pride themselves on the quality of the products that they sell, the processes they use to grow them, and the certifications that they have acquired. They also offer their customers information and knowledge. These farmers often present tips on how to consume their produce (or merchandise), relate nutritional benefits, and share recipes with their customers.

I WANT TO THRIVE

As much as farmers pride themselves in what they do, they also want to achieve success and realize a prosperous business. Their livelihood depends on the income that they generate. Because their smaller scale allows them to differentiate from the main stream, they want to be recognized and build a reputation of growing authentic, healthy, and organic products. These farmers are also aware of the difficulties they face and their operational limitations. They want to be as efficient as possible with a smaller cost impact on their business.

These values cannot be achieved without the help of key enabling elements: customers who purchase products; transportation to haul products from the farm to the market; infrastructure provided by the City of Savannah; the Forsyth Farmers' Market community; policy that regulates the standards of the market; passion to grow and sell the varied kinds of products; land from which the produce is grown; and finances that provide income security and sustenance for farmers and customers alike.

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INSIGHTS AND CORRELATING DESIGN STRATEGY AND CONCEPT SPACE

The team considered their audience for extending this insight narrative. Therefore, each insight was represented in a compelling, memorable engaging voice that would produce a stickie quality in the design team's memory—versus a factual or clinical treatment.

ALL FOR ONE, ONE FOR ALL

Immediately evident during field immersion was the deep-seated sense of community that was embedded in the Forsyth Farmers' Market culture. Farmers, vendors, volunteers and staff worked together to overcome the many difficulties that they encountered during and after the market. Whether it involved helping to set up a stand or defending the local farming community when determining appropriate prices for restaurants, they melded with passion and goodwill. Working together as a community also allowed farmers to thrive individually in their businesses, for example they were able to survive in a competitive market by attracting customers based on the promise of their communal high standards. Therefore this inspired an opportunity to contribute to the community as a whole and not as just one individual. This opportunity allowed the team to establish questions that would later help develop concepts such as “How Might We”: reduce the physical labor farmers encountered during their operation; expand the community culture beyond the Farmers' Market; help bolster the culture within the Farmers' Market; contribute to the entire culture instead of a single farmer; ease the burden of work off of the farmer; and incentivize volunteerism. These questions gave the team boundaries to develop solutions. The resultant design concepts were all focused on tools that would be used not by one farmer, but that could be replicated by many, such as: a modular crate system that could be used as a dolly when stacked; tables that could be used as dollies; a double-layers flatbed featuring a modular system that maximizes trailer space; and dollies that have a place to hold baskets and bags. This expanded the original scope's farmer selection to consider products that all farmers could access and utilize, which was consistent with their Saturday morning market set up routine. This furthered the conversation with the Farmers' Market organizers to consider the feasibility of owning, storing or managing shared equipment.

AH! MY BACK.

Each week as the Farmers' Market date approached, vendors needed to prepare and load the produce that they were planning to sell at the market. They later traveled to the market's location, which required unloading the heavy crates of produce one by one from their trucks, carrying them to their designated stand space and setting up their displays. When the market closed, they then had to fulfill the same taxing process in reverse: packing up all of the items that were not sold, loading them into their trucks again, and then (re)unload everything when they reach their farms at the end of the day. During this entire process the team observed and experienced firsthand how farmers and volunteers resorted to unsafe techniques in their routines in order to work within time and resource constraints. On numerous occasions farmers acknowledged that their approach was “wrong”, but that these processes did not incur extra expenses or time (to develop or convert to alternative processes). Their main drivers comprise surviving, and then thriving—both of which are achieved by utilizing what they already have in place. For this insight, the team identified an opportunity in making safety a priority and not an afterthought. The team explored “How Might We”: diffuse safety into the farmer's routine; develop a mechanism to ease lifting; incentivize safety; and educate volunteers and farmers on proper lifting techniques to prevent injury. The initial concepts concerned education or the creation of tools that would ease the loading and unloading process, such as: a tiered shelving system similar to a bread cart with larger wheels and a motor to assist the movement; a cylindrical container with an inside compartment that remains stable as the container rolls and opens up to transform into a display; and the inclusion of educational materials on trailer's visible interiors and surfaces illustrating proper lifting techniques.

JENGA

In order to transport their products to the Farmers' Market, farmers relied on different types of storage containers to haul them. They used plastic cases, coolers, baskets, and wooden crates among other objects to pack their products. Once at the market for set up, the farmers needed to unload and prepare their stands within the established timeframe policy, therefore they resorted to getting as many objects as humanly possible into their dollies and hand trucks. Signs, tables, and carts of produce moved and shifted around as they were transported from the parking space to the designated stand area. Sometimes these items would fall and break, resulting in losses for the farmers. The research team examined the idea that even though farmers were not using a standard method of transportation, they all had similar storage issues regarding logistical operation. This insight exposed an opportunity to keep the farmer's sole focus on the product and not the storage container. The team considered: "How Might We": create a space saving storage system that is stackable and adapts to each stage of operation; create a liftable storage system; create a storage system that caters to different types of products; create a storage system that serves farmers' branding needs—all while ensuring the product's security and maximizing space efficiency. The related design concepts further explored this idea of designing a storage mechanism that could adapt easily to the farmers' changing and diverse needs and potentially incorporate the selling or display aspect, such as an elongated dolly with a door that opens with a modular shelving system inside that can lean back and become a display; triangular containers that stack as a square and offer product storage and display options; and movable, adjustable crate dividers.

WHEN LIFE GIVES YOU LEMONS

Farmers often faced many limitations on their day-to-day activities that they overcame with workaround methods from anything readily available. They often used one object to complete numerous tasks. They understood each tool's constraints and consequently realized its full potential. Because they always resorted to what they had on hand, their problems were not always fixed thoroughly, but topically. The team found that farmers' day-to-day methods are not informed by the task's objective as much as built up from ad hoc materials and resources. Therefore the farmers are driven by limitations more than opportunities. The team identified two opportunities: to see limitations three-dimensionally instead of at face value; and to realize the "how" in limitations, beyond just the "what." These two opportunities originated several questions, including "How Might We": make use of what we already have or reframe traditional uses for items; confront limitations head-on as breakdowns and not building blocks; portray the system as one that does not promote individualism, but a place where sharing is encouraged; share successes and best practices of prior workaround methodologies; and build trust within the community through open communications based on prior successful methods. These questions allowed the team to generate design concepts such as an attachable air hydraulic system that can be created using repurposed PVC pipe and rubber pads. The air hydraulic system would be attached to the back of the farmers' existing dollies and would have a base that would sit on the tailgate while preloaded dollies of food are safely and slowly lowered to ground level. A net system was also devised for non-stackable baskets and material that could be carried by several people from different angles.

RAIN OR SHINE

The team found that the Farmer's Market vendors were incredibly resourceful in the management of their business. However, this resourcefulness had limits due to elements outside of the farmers' control. The factors of weather, on-hand resources and Farmers' Market stipulations created boundaries or potential roadblocks. Consequently, the farmers have developed an intrinsic sense of improvised adaptability, fueled by their drive to survive, that helped them prepare and work in virtually any unplanned situation. Whereas the farmers may have been experts at adaptability, this does not mean that they wished to be unprepared when facing new challenges. This insight

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revealed an opportunity to improve the current system of preparation for varying seasonal demands and unplanned events. To maintain a holistic understanding of what lies within this area of opportunity, the team explored “How Might We”: better prepare farmers for weather conditions; make use of the resourcefulness of the farmers; include preparation for weather in the design solutions; and use the seasons to be in the farmers’ favor. These questions led the following thought-starting concepts: a cover that would extend the length of the tents at the Farmers’ Market; a Farmers’ Corner that serves as an enclosed space for farmers to spend time away from the elements; modular tent walls that may be removed or added for additional protection; padding and grip that is comfortable on any surfaces touched repeatedly by the farmer or a volunteer; and a cover that protects the community transport vehicle so volunteers and products stay sheltered from the elements.

PICTURE PERFECT

As farmers became more experienced in selling at a Farmers’ Market, so too did their experience in learning better ways to market their business. The farmers paid close attention to the marketing techniques of close competitors as well as vendors with other products. Picture Perfect explores the idea that farmers put effort and thought into how they are differentiating their stands and products to portray a stronger sense of coming from a farm. These farmers went out of their way to purchase containers or display stand items that lacked convenience but added to the aesthetical quality of their market presentation. From this information, the team realized that there is an opportunity to not just bring produce to the table, but the farm to the actual market in an effort to convey the farm from a long distance using minimal resources. This opportunity allowed the team to further examine “How Might We”: get the customer to be aware of the process in order to feel an emotional connection with the product; share the farmers’ vernacular in an inclusive, educational and effective manner; reveal parts of the farm that are not related to the product at hand; reflect the farm’s unique character; create an instantaneous connection to homegrown products; inspire brand loyalty; and encourage a community culture that maintains differentiation within. These questions allowed the team to develop the following concepts for exploration: stackable crates that (together) form the branding of the vendor’s farm; crates that have an option to slide in a sign with the farm’s name; and enclosed tent sides that inform who the vendor is in order to create a discernable difference from other farmers.

THE IMITATION GAME

Vendors typically attended several farmers’ markets throughout the week during the peak seasons of spring and summer. Because of this, farmers spent a large amount of time interacting and observing customer shopping habits and behaviors. This provided the farmer with a basic idea of how customers interacted with their business and offerings which allowed farmers to emulate those in order to better connect with customers over time. This understanding provided the team with an opportunity to utilize the knowledge of the customer’s purchasing behavior so that it benefits the farmer by catering to the customer. This opportunity led to the development of several questions for concept exploration, which included “How Might We”: design a better and more authentic shopping experience; create a more inviting farmers’ market experience; enhance the shopping experience while keeping its essence; maintain a “fresh from the farm” experience; and develop better relation with the consumers. These questions helped in the development of conceptual development for ideas, such as providing customers a straight-from-the-farm experience by actually picking their produce off of the plants and displaying information that educates the customers as to what types of produce are in season.

FOOD FOR THOUGHT

A distinct lack of understanding and communication existed between the farmer and the customer, even though farmers continually worked to educate their consumers. Customers became confused when they did not understand where a product came from, what it was, or

what it cost, so farmers were looking at new ways to inform their customers. These breakdowns in communication could lead to a customer not making a purchase and an increased loss of business for the farmer. This insight uncovered an opportunity to develop a better method to keep customers informed, while ultimately improving the communication between customers and farmers. This opportunity opened up numerous questions that would drive further conceptual development, such as “How Might We”: share information effectively with customers; reach out to new and potential customers; expose farmers to the latest trends; infuse a ludic aspect to customers seeking information; bring farmers and customers closer; use existing channels to share information; circulate the benefits of the products; create more reliable sources of information; create a positive trajectory in the farmers’ market trends and provide a platform to disseminate knowledge openly and honestly. These questions allowed for the creation of concepts to solve some of these issues, such as: “sold out” signs that incentivize curiosity and return visits; the creation of a space for dialogue between farmers and market staff to talk about trends affecting the market and ways to improve the market; and the utilization of unused surface areas to create cultural awareness of the market and products.

DESIGN RESEARCH PHASE RECOMMENDATIONS

When the research team presented their final recommendations to the stakeholders they responded to a visual slide asking *Should We Create A Mobile Farmer’s Market Stand(?)* with a resounding NO. They proceeded to show quotes and context from each of their 10 farmer interviews. Where Sonya explained, “You have two people that go to separate markets. My husband and my sons.” Adam’s supporting comment followed, “My parents are at another [Farmers’ Market] right now for me.” Helen directly addressed a potential flaw, “It [mobile stand] may limit the ability to display and sell in a unique manner... I like a certain presentation.” She raised an issue with job security: “It may take away jobs from some of the hired help. We have two fellas who meet us here [to help unload].” Thomas mentioned its potential conflict with existing farm infrastructure: “The way the greenhouse is laid out the truck can’t get right up to the door.” Marilyn brought up its conflict with farm processes: “[The product] has to be inventoried and put back in the freezer [after the market].” Sonya also referenced the market’s present environment and feel, “[It] may not mix with the current aesthetics and culture of the market... “When I imagine a row of cars standing the park then I’m perfectly fine with how it is now.” Adam’s comments related: “It may not fit what the farmer thinks they need... “I think it would be better if you made something that everyone could use here.” Teri suggested, “If we have a park full of them... I just wonder what they [the City] might say about the grounds.”

Therefore, the research revealed that the farmers use a variety of transportation methods. They do not send the same people to multiple markets in one day. They also desire the ability to display, sell and brand in a unique manner. Additionally, a mobile stand would take away jobs from dedicated employees, while interfering with the market’s present culture, aesthetic and policy. This design direction could inadvertently cause the City to become a watchdog at the market in ensuring that the market is not infringing upon any historical park codes. Concerning the process of selection and distribution of the final constructed cart, the design research team emphasized that farmers, volunteers, and others at the market routinely work together because they possess a passion for the community and empathy and appreciation for what it takes to put the farmer’s market into fruition. Thus, the final deliverable should enable the community to thrive, rather than serve an individual. It should help lessen the stress of carrying heavy items and minimize the number of times the farmers’ containers are loaded/unloaded. It should be adaptable to the different needs of each farmer. It should be congruent with the resourcefulness of the farmers, who use what they have to the maximum extent.

PROJECT RESULT

Whether the cart would be designed for a user group or particular user evolved into a less polarizing approach, where the two alternatives became the two design scenarios: a community cart operated at the market site focusing on the hauling/setting up process and a cart that a specific farmer could take from field to stand. The community design comprised individual mini trailers that could be pulled by hand, linked up or pulled by a utility vehicle. This design requires the Forsyth Market organization to host the structure, which they are presently unable to support. Yet, ES and Gulfstream are exploring other storage alternatives. For the second scenario, the design team was invested in individually tailoring the cart's dimensions to one farmer's specific needs. This was accepted by the ES Board since a community-based structure was explored. However, since the structure was informed by design principles derived from the composite group, the Board plans to use this cart as an unofficial prototype where the other farmers will interact with it next season to determine whether they desire a similar (modified) structure. ES and/or Gulfstream will then embark on another phase of the project.

For the farm-to-customers design, Adam's Farms was selected because of Adam's consistent participation and expressed interest. At one of the community meetings, Adam spoke of eternal gratefulness that a local non-profit and corporation would connect the Savannah farmers' world to the world of design and acknowledge that the farmers are an important part of the community. Adam's Farm is a small-scale garden and greenhouse offering a variety of vegetables, herbs and fruits that are grown year round using sustainable and environmentally friendly agricultural practices. The design team spent many immersive days there learning and participating in the harvesting process. The team and Adam co-designed an enclosed climate-controlled farm cart with merchandise and storage bins. The cart can fit adjacent to Farmer Adam's rows of crops. They are presently experimenting with a detachable conveyor of rollers to eliminate the process of hauling bins during picking. (This roller feature could also be incorporated in the community design.) The downsized 4 x 8 trailer size would adhere to the Forsyth Market's size restriction. Where it could be driven onto certain market grounds, it would feature a dolly attachment for pulling it into a Forsyth Market's space. The design is surpassing the project's original vision of easing the farmers' hauling and transportation burden by removing certain hauling processes altogether, while also adhering to the research phase's insights that accommodate a farmer's individualized internal strategies and visual preferences.

CONCLUSION

In this paper, the cross-institutional collaboration revealed potential and typical challenges to the design research phase, albeit common due to design research's relatively young and burgeoning status. Yet the differing ingrained perspectives and concurrent approaches/outputs (merely) became process in ultimately: understanding this particular farm(er) culture's authentic needs; creating a communal cart system; and co-designing a structure that will continually enable a farmer in his/her many contexts.

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STORY OF THE URBAN FOOD CHAIN: THE DESIGN OF AN INTERACTIVE INSTALLATION ON FOOD CULTURE

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ABSTRACT

This paper aims to explore the complex relationship between food and its consumers, as well as various perceptions attached to it. The outcome of the project is an installation which seeks to provoke people into thinking critically about existing practices of food production. Through thoughtfully constructed characters and metaphors, the installation strikes a dialogue with the audience to evoke food practices and politics, juxtaposed with technology, to enable an artistic conversation.

In order to get familiar with the context, we need to understand its various layers: belief systems, politics of production and consumption, relationship of ethics and aesthetics, and science and nutrition. Food is an integral part of our existence but ironically we are so disconnected from the food we eat that all these layers are neglected. The installation manifests this paradox of choice by making the audience aware of the intricate layers.

KEY WORDS

Politics of food, new media, food as interfaces, food design, critical design, installation

ABOUT THE AUTHOR

'Story of Urban Food Chain'

This project is an outcome of a research investigation as part of the author's master's thesis at the National Institute of Design under the guidance of Professor Dr. Jignesh Khakhar.

1. INTRODUCTION

'We are what we eat'¹—This is an epigram which validates our long-standing relationship with food. Besides being a subject of endless passionate discussion within our personal and most intimate lives, food has historically been a significant indicator of our cultural, ecological and social realms.

'Story of Urban Food Chain'—a public art experiment—represents the vitality of food design and explores food concepts beyond the table through a technology driven installation with food items as interfaces. Food items acts as a medium to interact, explore, and engage in reiterating consumer choices in everyday life.

The installation is a social experiment to gauge individual reactions to the narrative as well as to the aural and visual interfaces of food, focusing on the subtle indications of participants' food choices. The audience acts as the consumer where he/she goes through the different aspects of the food chain that is part of their daily lives and sees the paradox of choice.

To bring out the paradox, the installation is constructed on the intersection of new media and food, where food and technology traverse on a common meeting ground, resulting in varied effects. Through carefully crafted interactions and an element of humor in the dialogues, people can interpret the story of the 'Urban Food Chain'. It uses ubiquitous objects and interactions of everyday life with an objective to subconsciously alter the perceptions of individuals; to be able to encourage participants to question the existing urban food culture and make informed decisions as a consumer.

The project explores a new dimension in interfaces which enhances communicative possibilities and embodies a new balance between technology and people, bringing technology down to a

¹ Harris Patricia, Lyon David. *The meaning of food*.

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comfortable, comprehensive human scale to stimulate the viewer into subconsciously thinking about the concerns.

The installation offers an insight into our urban food chain where everything is controlled by corporations, branding and politics driven by capitalist mindsets. Consumers are left devoid of choices, burdened with unanswered questions, health issues and inflation.

The installation was positively received within the design community at National Institute of Design, India; the exhibit was on display for three days, opening a space for community interaction and dialogue.

The remaining discussion concentrates on the narrative built around food practices, sensitive to the consumer's relationship with food and centered on the theme's relevance rather than the ingredients of how.

2. METHODOLOGY

The project started with an abstract idea of, what is food and how is it relevant to people and their lives? The questions were how food, politics and society are interlinked, influencing its consumption and production. The subsequent investigations led to findings about the cultural relevance and the current food culture in which we currently live.

The next step was a background study (or secondary research). This led to the formation of certain hypotheses which were validated by conducting primary research. Primary research led to the formation of concepts which were prototyped and tested iteratively.

3. BACKGROUND STUDY

Secondary research was initiated to understand how food is not only connected to nutrition but has also been historically and culturally relevant for understanding a person's social standing. Also, how have people expressed through food, about food, and through creative mediums, the study of existing and emerging trends in the food culture to get insights into how society has influenced food and vice versa.

Secondary research thereby established the premise that food has always influenced people and society as a whole. The current culture that we live in is based on how production and consumption of food takes place. For example, the fast paced lifestyle is accompanied by quick meals which are prepared in fast food chains. It is on this hypothesis that the investigation was based and was the basis of primary data collection.

3.1 FOOD CULTURE

Many interactions with food create a culture of imagining, producing, preparing, and consuming food—a 'food culture' of the community at a collective level, influencing behaviors of both the community and the individual.²

The emergent middle class which arose during the post World War II era, comes to full fruition by the end of the twentieth century through the process of globalization, with consumerism and fast food among its many outcomes.

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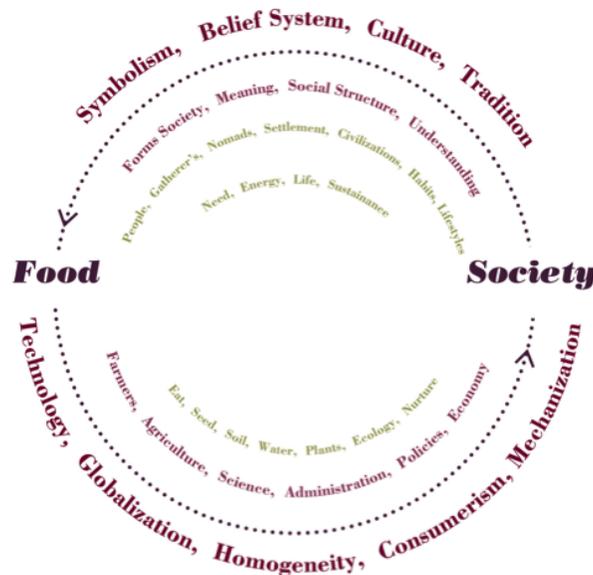


Figure 1. Diagram depicting the socio-cultural relevance of food

3.2 INVESTIGATING THE FOOD CHAIN

The city's food web that we exist in right now is not a linear consequence of who eats whom, but it is a series of controls and influences that are put forth by people who rule or control the food pyramid.

To consumers, producers are influenced by local stakeholders such as corporations, governments, science etc. who act like predators. Our daily food is caught up in the cycle of demand and supply which is also influenced by world politics.

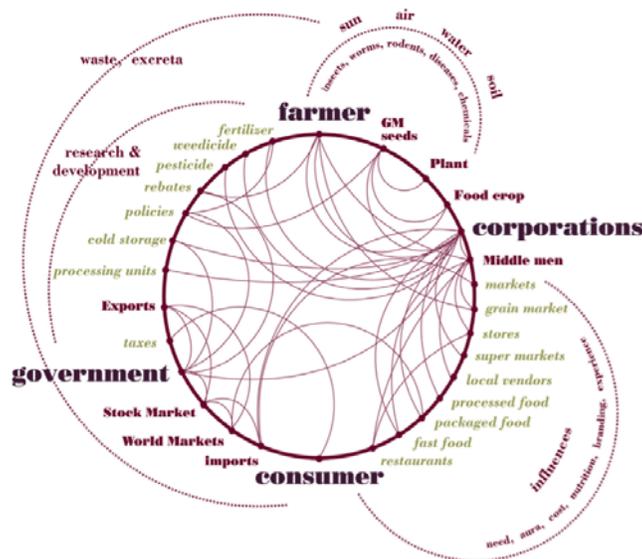


Figure 2. The diagram was made after consecutive iterations of different food chains that were studied.

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Understanding the various factors that influence the food chain/scenario led to defining linkages which facilitated the realization of associations between the issues.

3.2.1 CONSTITUENTS OF FOOD CHAIN

3.2.1(A) CONSUMER BEHAVIOR

Food has become an exigent issue due to the behavioral modification of appetites, as urban scenarios are provocative environments which are structured on consumerism.³ For example, with an increase in disposable income in urban India there has been a boom of global fast food chains and supermarkets. An average Indian youth has limited knowledge of how food is produced although he comes from household where authentic food habits (of home cooked slow food) have been passed on through generations.

Globally there has been a shift towards processed meals which do not involve any participation in preparation e.g., it is cheaper to do a take away via a fast food chain than to cook a meal at home in America.⁴

3.2.1(B) CHEMICALS IN FOOD

Homogenization and appearance of the food products matters in corporate farming. An apple a day might have kept the doctor away prior to the industrialization of food, but according to the research compiled by the United States Drug Administration (USDA), today's apple contains residue of eleven different neurotoxins—azinphos, methyl chlorpyrifos, diazinon, dimethoate, ethion, omthoate, parathion, parathion methyl, phosalone, and phosmet.⁵

3.2.1(C) FOOD AND SCIENCE

Radiation breeding and genetic modification are some of the ways in which new mutated varieties are being produced, which are said to be better than the already existing natural ones. Fast food chains still embrace a boundless faith in science and as a result they have altered the approach on not just what we eat, but also how food is prepared.⁶

3.2.1(D) FOOD GOVERNANCE

Despite technological advances in agriculture, nearly a billion people around the world still suffer from hunger and poor nutrition, while a billion are overweight or obese⁷. This imbalance highlights the need to not only focus on food production but also to implement successful food policies. It deals with how food economy is regulated and how food policy choices are devised and implemented.

3.2.1(E) MULTINATIONAL CONTROL ON FOOD SYSTEMS

The way food is produced and handled, from farm inputs to consumption, is controlled by corporations around the world. 'Agribusiness' exerts corporate control and suppresses the market's competitiveness. This applies to global food production and distribution, sector by sector. For example, merely five companies now dominate grain trading.⁸

3.2.1(F) FARMERS AND WORKERS

Farmers are constantly subjected to government policies, corporate pressures of demand and supply, giving them no ability to lead a good sustainable lifestyle. Starvation, bank loans, and diseases are part and parcel of farmer's lives.

³ Schlosser Eric, 2001. *Fast Food Nation: The Dark Side of the All-American Meal*. United States of America: Houghton Mifflin Company.

Pollan Michael, 2006. *The Omnivore's Dilemma: The search for a perfect meal in a fast food world*. United Kingdom: Bloomsbury Publishing.

⁴ Pollan Michael, 2008. *In Defense of Food: An Eater's Manifesto*. United States of America: Penguin Group US.

⁵ Lang Tim, Heasman Michael, 2004. *Food Wars: The Global Battle for Mouths Minds and Markets*. United Kingdom: CPI Antony Rowe

⁶ Pruned 2011. [Accessed September 2012]. Available from pruned.blogspot.in/2011/04/atomic-gardens.html

⁷ Patel Raj, 2008. *Stuffed & Starved: The Hidden Battle for the World Food System*, India: HarperCollins Publishers.

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These hypotheses led to the primary research questions to ask the users.

4. PRIMARY RESEARCH

4.1 STUDY 1: EXPRESSION BOARDS

Preliminary data collection was through a community based exercise where participants were to write the first 5 thoughts that come to their mind about food. Expression boards were created and placed around campus for them to express their thoughts in writing at different times of the day. The exercise was undertaken within an approximate sample size of 50 students within the age group of 25–30 years at National Institute of Design, India. This exercise revealed how thoughts are influenced through different time periods in a day and based on moods. Students expressed these thoughts through words, drawings, songs and poems. These emotional expressions ranged from their mother’s cooking, childhood memories, first dates, famines, religious practices, festivals, travel, marriages etc. These thoughts were in sync to what was found through earlier secondary research on how the social fabric is intricately woven with food culture.

4.2 STUDY 2: PARTICIPANT OBSERVATIONS:

The later part of the research was designed to understand the buying and consumption patterns of people through participant observation. It was carried out at restaurants, vegetable and grain markets, fast food outlets, ethnic restaurants, etc. It was observed that every place has a distinct set of consumers and producers along with its own characteristics. Coffee shops and fast food chains are full of youngsters within the age group of 13–20 years. On the other hand markets and restaurants see an older audience 25 years and above.

Religious and socio economic divide comes into play in a country like India where wholesale markets are thronged by price sensitive income groups who can get a good price for the produce. The socio political divide is a fascinating dimension in food which is different within countries and communities.

4.3 INSIGHTS

The presence of a socio-economic divide became the strong motivation for the holistic idea of the project. The consequent series of prototypes tested how food initiates a political dialogue, triggering a conversation with others around participants.

The data threw light on why consumers do not pay attention to what they eat, the real cost of the food involved, and how and why a certain choice is made regarding food.

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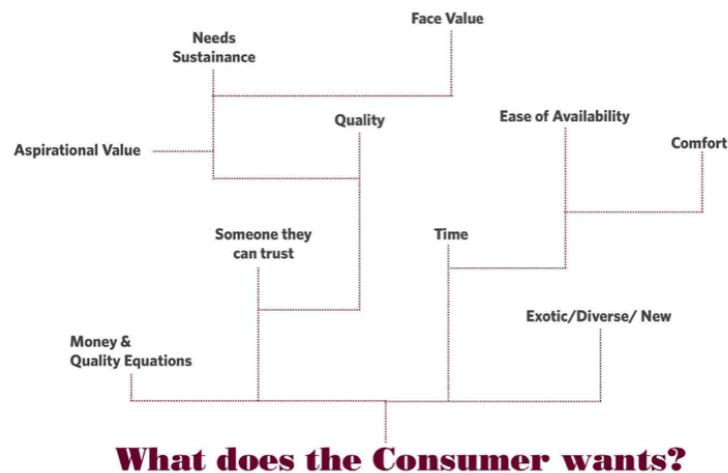


Figure 3 Explains touch-points of consumers

5. ART & FOOD: Precedence

Historically, art is a medium to express society and its dynamics, functioning as a tool to understand its cultural, economic, and social change⁹. Essentially, this paper wants to demonstrate the same through food production and consumption in an urban environment. That is why art was chosen as a medium to bring out the current food ecosystem, which is open to interpretation.

From the Renaissance to the present day;¹⁰ the meaning of food imagery is determined by factors such as myth, religion, and social privilege. Recent artists have also used food as a depiction of the society and the culture that we subsist in right now. For example works of Umberto Boccioni, Ralph Goings, Stefan Sagmeister, David Bowen etc. use food as metaphors or a medium to comment on social and political issues. Since food is an integral part of our existence, the relationship formed with the viewer is deep and holistic.

6. INSTALLATION

6.1 INTENT

Our relationship with food, although uncomfortable, is deeply personal. This was the thought behind the installation where the audience acts as the consumer in the food chain where each stakeholder plays a role and influences the act of consumption. It is this interaction in the installation that will make the audience subconsciously realize how they are left devoid of choice. The project is a commentary satire on the current state of food culture through an artistic expression in the form of an installation, commenting on the nature of our metropolitan food system. From the implementation point of view, the structure spectacularly concealed the idea and the technology, putting the interactions and the interpretations in the foreground.

6.2 FORM

The space plays a crucial component in involving the viewer and creating an environment to construe. A specific space will provide the liberty for the people to engage and interact with the installation, giving them time to understand the underlying significance.

⁹ Kenneth Bendiner, 2004. *Food In Painting: From The Renaissance To The Present*. Reaktion Books

¹⁰ Literature: *The Arcimboldo Effect: Transformations of the face from the 16th to the 20th Century*. Abbeville Press, New York, 1st Edition edition (September 1987).

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The structure of the installation was conceptualized as an urban skyline, with building-like structures representing the homogenized character and quality of urbanization. The skyline of a city is symbolic of its progress, character and growth. Similarly the installation is commenting on aspects of development and its consequences. The dimensions of the installation are 5 meters in width and 6.5 feet in height and 1 foot in depth.

6.3 CHARACTERS & METAPHORS

To add personality to the installation, there were characters for which particular actors (food elements) were chosen which communicated the metaphors through interactions to be interpreted by the audience. The audience were an active part of the installation as they were the primary consumers of information in the system.

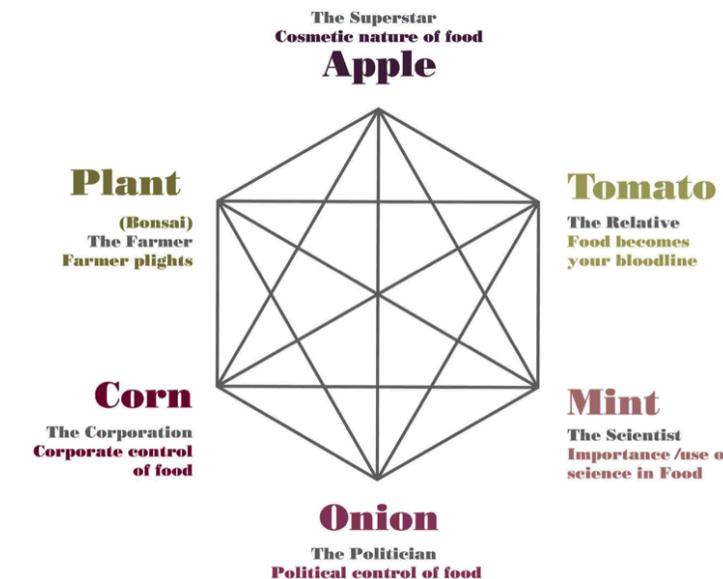


Figure 4. Visual Representation

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Performers—Characters—Concerns

6.3(A) THE SUPERSTAR

Actor: Apple

Concerns: Cosmetic nature of food, branding and marketing influence our buying decisions

Interaction: Proximity—“Come close to tweet”

When a participant is in close proximity, the apple starts tweeting on its personal twitter handle. An apple was selected for portraying the “superstar” as it has been a symbol of health and nutrition however, lately the reputation has been exploited by amplifying its cosmetic nature and carbon footprint. Consumers are made to believe, if a food item looks good, it will taste good and be nutritious. This outlook is developed due to the persuasive nature of marketing, advertising and branding which is done for food products nowadays. The indigenous varieties lose out in the competition and are not sold as widely or even considered as good as the imported ones. This act increases the carbon footprint of the imported food item to a very large extent. Taking into account the transportation, waxing, polishing and storage, each apple has a big carbon footprint which gets sold with an expensive price tag. The personality of the apple is that of an arrogant, popular celebrity. It is in tune with the era of connectivity where popular people use social media to communicate to their fans. The dialogues of the character are realistic and satirical in nature.

Few Dialogues:

- “Flying business class from California to India”
- “Just got my #waxing done, #polishing coming next”
- “Bite into the Snow white’s poison”

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The 'Tweeting Apple'

6.3(B) THE RELATIVE

Actor: Tomato

Concerns: Chemical and toxic content in food due to fertilizers and pesticides.

Interaction: Tasting—"Pick one to taste"

When a participant picks up a cherry tomato from the tray, it triggers voice output in the form of dialogues. Taking the analogy of its color to represent the bloodstream, to what we consume; blood flows through our veins, making it synonymous to a close blood relative. One cannot disregard their relatives, one cannot overlook a tomato in our daily diet. It is also one of the fruits which has the highest amount of chemical content. Due to high consumption demands by the consumers, farmers are forced to continuously use chemicals. The character is very well connected to the concerns it wants to convey. The triggered voice is that of an irksome woman, she talks in a quirky tone, with an underlying tone of sarcasm and disgust. She is talking about consumerism and how it leads to the usage of more chemicals in food, harming our body. The dialogues instigate a feeling of repulsion and as a result the person keeps away from the picked up tomato.

Few Dialogues:

- "Food chooses your bloodline"
- "It is just some neurotoxins organophosphates and carcinogens"
- "I am red with cancer and mental retardation"

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Participant interacting with the Tomato

6.3(C) THE SCIENTIST

Actor: Peppermint

Concerns: Power of science and how it influences our food, touching on topics as radiation testing, atomic seeds, genetically modified food & genetically modified organisms.

Interaction: Communicate “Call or message”

It picks up a participant’s phone’s EMF (Electro Magnetic Fields), engaging with the installation and triggers a visual output on a green LCD screen. It initiates a dialogue on the LCD display by catching the EMF radiation from our mobile phones. In a way it is commenting on the ill effects of ubiquitous technology used in our life now. These technologies have a hidden consequence and effect on our lives, be it culturally, socially or physically.

Few Dialogues:

- “There is no evil in science but only in a man’s soul”
- “Science & nature work together to sustain mankind”
- “Government turns science into a biological massacre”

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A viewer engaged with peppermint

6.3(D) THE POLITICIAN

Actor: Onion

Concerns: Understanding the role of politics in our food chain and exemplifying the politician's position in exercising control over our food.

Interaction: Chop "Cut to reveal"

Chopping an onion triggers a voice output revealing secrets and eliciting clarifications from the 'politician' onion. Imbalance in the current food system of the world highlights the need for successful food policies and governance. The governments control the policy making capacity of a country, thereby controlling the food economy. As you chop the onion in the installation, it reveals secrets within its layers, giving clarifications to portray an image, far from the truth. The dialogues address the collaboration between government bodies and multinationals, government schemes which are introduced for the farmers, touching on topics such as inflation and food policies.

Few Dialogues:

- "If you don't have bread you can eat cake"¹¹
- "Right to food... is it a right??"
- "Vote for me, I will feed the world"

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Chopping the Onion

6.3(E) THE CORPORATION

Actor: Corn

Concerns: Realizing the corporatization of the food system also understanding the industrialization of food and Mcdonaldization of the world.¹²

Interaction: Pay up "Please insert coin"

Inserting a coin into the coin slot, gives you a printout/ bill, citing the cut throat business one liners of the 'corporate' corn.

The intent is to enlighten the person into thinking about the hidden cost of food and to give a second thought about where they spend their money and is it really worth it. The emotion of greed and wanting more was the main drawing factor. As seen in a vending machine, you put in coins or money to buy the packaged consumables. Similar interaction was used in the installation for the effect of corporatization of food. Response from the corporate is a bill citing all that has been transacted for, without giving the exact costs for the product as they hide the real environmental and human cost of the products. The bill prints the individual dialogues of the 'corn-poration' relaying the stark aggressive nature of a multinational corporation whose balance sheets matter more than lives.

Few Dialogues:

- "We make the rules pal, the news, war, peace, famine, revolution, the price of per bag of corn",
- "Who cares about the quality, just sell it",
- "Processed foods, make fat people & fat money"

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Interaction with Corn

6.3(F) THE FARMER

Actor: Plant (bonsai)

Concerns: Due to all the above factors cited, farmers suffer the most. They fall prey to industrial farming and government policies while no one is there to listen to their plights.

Interaction: Touch “Need a touch of help”

When someone touches the plant it talks back. The live plant is converted into a living interface triggering a voice output according to the pressure and place of touch.

Government policies concerning the production of food commodities play tricks with the lives of the farmers ensnaring them in the vicious cycle of loans. Farmers need support from consumers so the interaction used was based on touch. The live plant is converted into a touch based interface with a voice output. When you touch the plant it calls out for your help, it has peculiar dialogues which state its condition due to different circumstances, declaring the facts about how their own life is governed by consumer demand and supply.

Few Dialogues:

- “Your wish is my command, increasing fertilizer demands”
- “Fields of gold exist no more”
- “Ignorance is bliss in a farmer’s paradise”

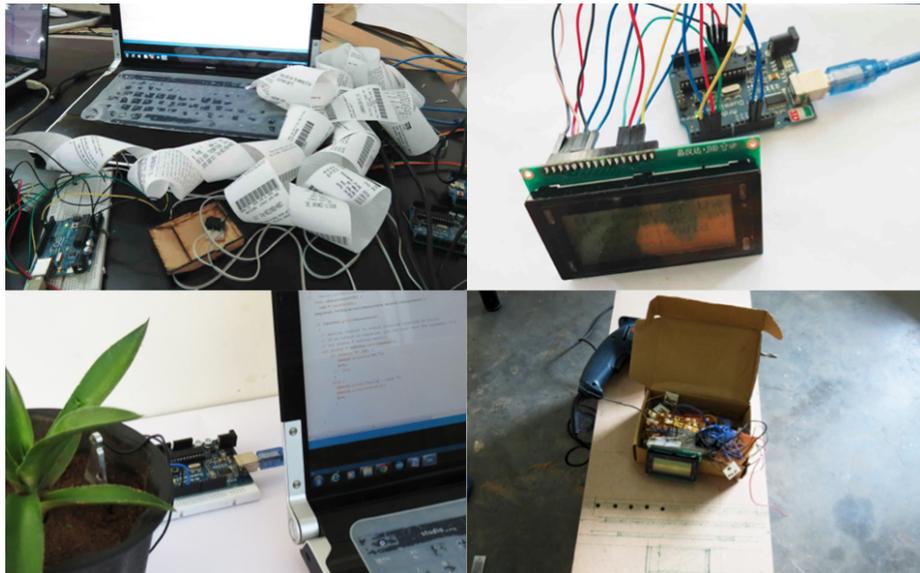
**STORY OF THE URBAN FOOD CHAIN:
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Interaction with Bonsai

7. DESIGNING INTERACTIONS & TECHNOLOGY

New Media examines the impact on mankind, while investigating the future of new technologies and behaviors, allowing technology to become the mandatory medium to communicate¹³.



7.1 Technology

Open source hardware and software was used in creating the installation which had multimodal interactions. Arduino Microcontroller, Arduino Ethernet Shield, Distance Sensor, Internet connectivity, Twitter, Smartphone Arduino MP3 Shield, Processing, Adafruit Thermal Printer, ElectroMagnetic field detecting circuit, LCD (Liquid Crystal Display). Light Detecting Resistors and mini speakers were some of the hardware components used.

¹³ Sanders B.N. Elizabeth, Stappers Jan Pieter, 2008. *Co-creation and the new landscapes of design*. Codesign, Taylor & Francis. March 2008.

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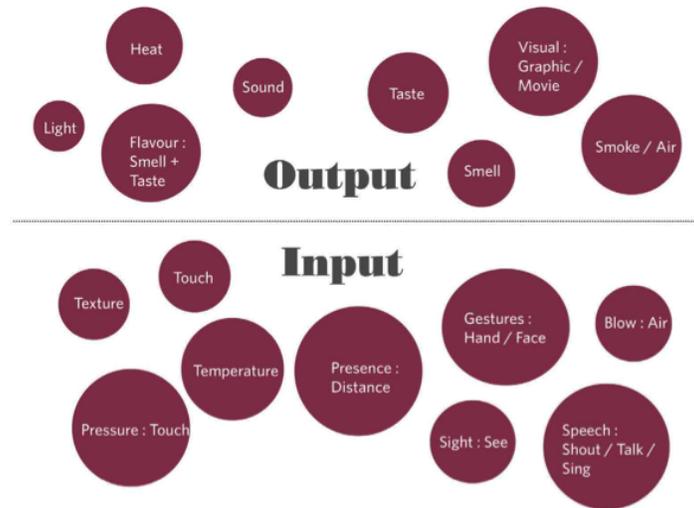


Figure 5. Multi-modal Interactions | Input-Output

7.2 LIVING AND EDIBLE INTERFACES

Incorporating plants and food into the study of concern appears inevitable. However there was a need to create a way to make them more expressive and relatable using technologies present around us. Further development of the idea took place by imbuing them with human like characteristics and emotions in a response to quantitative/qualitative inputs through ubiquitous technologies. The concepts and experiments lead to plants and food becoming multi-touch or multi-modal interfaces for human interactions. The deployed anthropomorphism can be expressed as “Living interfaces”¹⁴ or “Edible Interfaces”.

¹⁴ Eva Burneleit, Fabian Hemmert and Reto Wettach. *Living Interfaces: The Impatient Toaster*.

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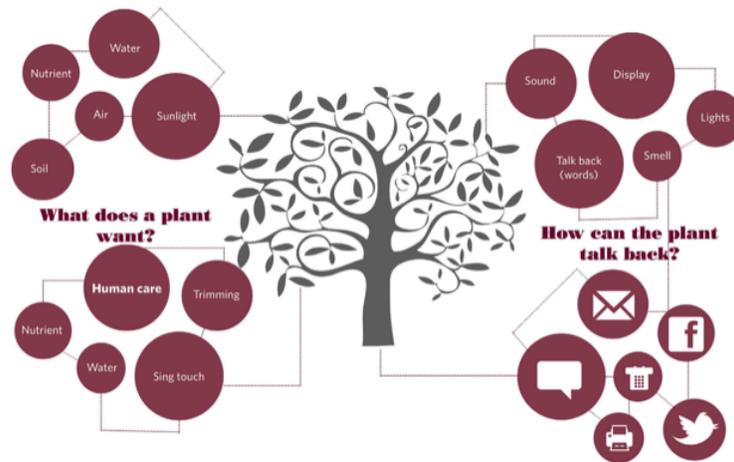


Figure 6. Visual representation of Plant as Living interfaces



8. CONCLUSION

Art as a medium is unbiased and thought provoking. It can be used to depict multi-layered relationships, and in a way, participants are able to understand and interpret them. Since art is open to interpretation, viewers' recall depends on how an art piece is interpreted. As interpretation is personal to the user, it tends to imprint in their memory.

The appeal of the exhibit was the consumable, live, organic items on display enabling the participants to interact with the objects. This allowed for mapping their responses and observing their reactions, which were largely mixed with distaste and delight, due to the dark humorous tone of the dialogues. People quickly took to the one liners of the characters. The dialogues

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initiated a discourse between the items and people and other members within the community. As learned from the project, there is a struggle within different aspects of the food chain where ethics and aesthetics are important contributors. The nascent area of Food Design focuses on consumption of food, however there is a need to critically look at the complex relationship of food with society.

The settings chosen for the installation are art galleries, exhibitions and public spaces. Getting the people interested to know about the factors influencing our daily meals, the concerns, characters and metaphors are already in place and the interactions can be made more intense. By taking data from people's consumption patterns, their presence in the vicinity of the installation, current price of the vegetable/ commodity, watering the plant in the installation and other similar inputs, the complexity of the interaction can be augmented further. Future scope of the project is to be able to display it in community areas, to generate public interest in the topic of concern.



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SUSTAINABLE NATIVES, YOUTH MANIFESTO AND DESIGN APPROACHES: DESIGNING THE WORLD FOR “SUSTAINABLE NATIVES”

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(SPEAKER AT THE 2ND INTERNATIONAL CONFERENCE ON FOOD DESIGN)

ABSTRACT

Opportunities for design have increased in the past 20 years and designers are currently investigating how to build new food systems and social interactions to incentivize producers, distributors and eaters towards healthier and more sustainable behaviors.

The term “design” in this paper is not used in terms of the creation or styling of an artifact or product, but rather as a formalized thinking process running from problem framing into human-based research, analysis of research findings resulting in new insights, and synthesizing the insights into new ways of approaching solution development.

In this paper, two case studies will be presented. The first case study is a project called Youth Manifesto (YM)¹ launched by the Barilla Center for Food and Nutrition (BCFN) Foundation in 2015. The YM is the result of four creative design thinking sessions where a group of eighty international young students and researchers with different academic backgrounds worked together with experts on food and sustainability to come up with a potential model for a “sustainable native” society. The text of the YM contains seven specific proposals for professions that will have decision-making roles for future food sustainability. The YM was designed to impact world leaders, and to encourage responsibility from today’s young generation, who will be the leaders of tomorrow. During the YM creative sessions, design was used as a transdisciplinary research method to allow different professional categories to collaborate and create systemic and innovative solutions for a more sustainable food supply chain.

The second case study is a Food Design Workshop inspired by the YM principles, where 20 international young food designers worked together to envision instruments and scenarios for future food educators. Teaching food to sustainable natives means designing pedagogical tools that take into account the social, cultural and environmental values of food.

INTRODUCTION

Digital natives (Ferri 2011) are individuals who are born and grow up in an electronics-filled and increasingly online and socially-networked world. Growing up, they observe and learn how to adopt and share cultural media and tools. This is similar to what happens with language acquisition. The Z Generation is considered the first generation of real digital natives. They do not remember a time without social media, are increasingly adept in new technology to grow in expressive capacity, expand in cultural awareness and create new relationships (Massari, Paulos & Antonelli 2015). Digital natives live beyond the screen, where the interface disappears and the analogic and digital worlds meld together in what are called “bridge experiences” (Marti 2008). Digital natives see themselves as makers rather than users. They uphold smart tribes and feed their creativity. They share ideas and solutions and believe in what they do because they feel as an integral part of the system rather than mere passive users.

‘Sustainable natives’ are individuals who culturally grow up in a society that upholds respect for communities and the planet, and which provides them only with tools designed to support correct consumption habits. Unfortunately, this generation does not yet exist. Unfortunately, this generation does not yet exist.

In 2010, the Food and Agriculture Organization of the United Nations defined sustainable diets as “those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair

¹ Food People&Planet, BCFN Publication, 2015

and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources” (FAO & Biodiversity International 2010). It is important to draw attention to the notion of sustainable diets as it could help concentrate policy attention on transforming consumption, not just production and distribution (Lang 2014). Despite important progresses in food safety and security, the problems of hunger and malnutrition, food waste and lack of sustainable diets still exist.

Designers and all the actors involved in the food sectors (farmers, policy makers, researchers, managers and educators, etc.) should work together to prepare the ground for helping a new generation of sustainable natives to grow up. They have to design and create products, services, instruments and policies that will lead to correct behaviors for individual health and collective sustainability. Through innovative ideas and creative solutions, the next generation should feel less like part of the problem and more part of a continually improving system.

INNOVATION—DESIGN CAN BE APPLIED FOR SOCIAL CHANGE.

Creativity is an important characteristic that allows one to imagine new solutions, but it is not sufficient in itself to produce innovation. Instead, it serves as a necessary stimulus for initiating complex processes involving different actors and nonlinear paths to help an idea become an innovation.

The effect of globalization has changed the operational context in which actors, whether public or private, work towards, whether it is change dynamics or the management of complexities. For example, if in the past there was a natural calamity or emergency in fields/farms, the government used to give economic incentives or subsidies for the most needy (such as the farmers). Over time, many imbalances were fixed in this way. Today, a similar disaster would generate a more complex solution involving different institutions (energy, water resources, transportation, health, family planning to name a few) and many actors (farmers, policy makers, media, university researchers, etc.).

Innovation processes must involve all of society (the entire system). The term innovation has different definitions, from the noted OCSE² definition that considers every type of improvement on a product or service as an innovation, to that of Prof. John Kao, which defines innovation as the capacity to always guarantee the future (Kao 1996). Design unites the different definitions of innovation under a single umbrella concept: innovation is the capacity to adapt to change and a fundamental tool that can achieve transformation over time.

Design can be a lever that can enable social change and involve all actors, from researchers to citizens, from entrepreneurs to activists, from journalists to farmer. It is recognized that “successful behavior change requires a systemic approach that goes beyond persuading or ‘nudging’ individuals to change their behavior, to include government policies and practices, new and different business practices, and civil society initiatives working in synergy to facilitate the desired behavior change” (Dibb & Fitzpatrick 2014).

Digital natives are using digital technologies to find creative ways of exploring reality, resolving problems, building and maintaining relationships, but they are also continuously searching for innovative tools to experience and to experiment with new ways of thinking and sensing.

In the same way, sustainable natives will need to have access to sustainable tools for designing their social norms and relationships. It will take time to create a new generation of entrepreneurs, public administrators, educators, researchers and citizens. New ways of thinking, producing, and organizing the market and its production will emerge only when people have been trained to face and manage the complexity of food. Alternative forms of government and innovative educational

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systems will be paramount for designing more sustainable models of production, management and consumption.

In the next paragraph the Youth Manifesto, a BCFN Foundation scientific project, is presented. The YM case study shows how design can be applied to several critical problems and its results suggest a potential use of design to reinvent policy ecosystems.

CASE STUDY 1: BCFN FOUNDATION AND THE YOUTH MANIFESTO. BACKGROUND

Since its foundation in 2009, the BCFN Foundation has worked to identify and denounce the global paradoxes besetting the food production system, contributing through research and debate to find the right balance between nourishing people and preserving the resources of our planet (BCFN 2009). The BCFN Foundation wants to encourage young researchers from all over the world who work on food and sustainability to take the lead and responsibility for fighting global food paradoxes (see figure 1). In 2014 the BCFN Foundation developed the Milan Protocol, the objective of which was to raise awareness among governments, institutions and public opinion about the urgent need to take action to make the global food system truly sustainable. The BCFN Foundation has defined three global food paradoxes: 1) Slash Food Waste: 50% reduction by 2020 through targeted campaigns to raise awareness and long-term agreements involving the entire food chain; 2) Promote Sustainable Agriculture: implementation of reforms to cut land designated to animal feed or biofuels, and fight against financial speculation, placing restrictions against those who bet on the price of raw materials; 3) Eradicate Hunger and Combat Obesity: provide all populations with access to adequate food and encourage healthy lifestyles through educational campaigns, starting from schools. Although these issues have attained global scale, they need local or even individual solutions (Massari 2014).

The Milan Protocol played a remarkable role in the field of food sustainability and global public food policy, specifically in the field of agriculture (Altieri 2010). It became a best practice for the development of effective, international policies in the field of food sustainability (Massari & Allievi 2016),

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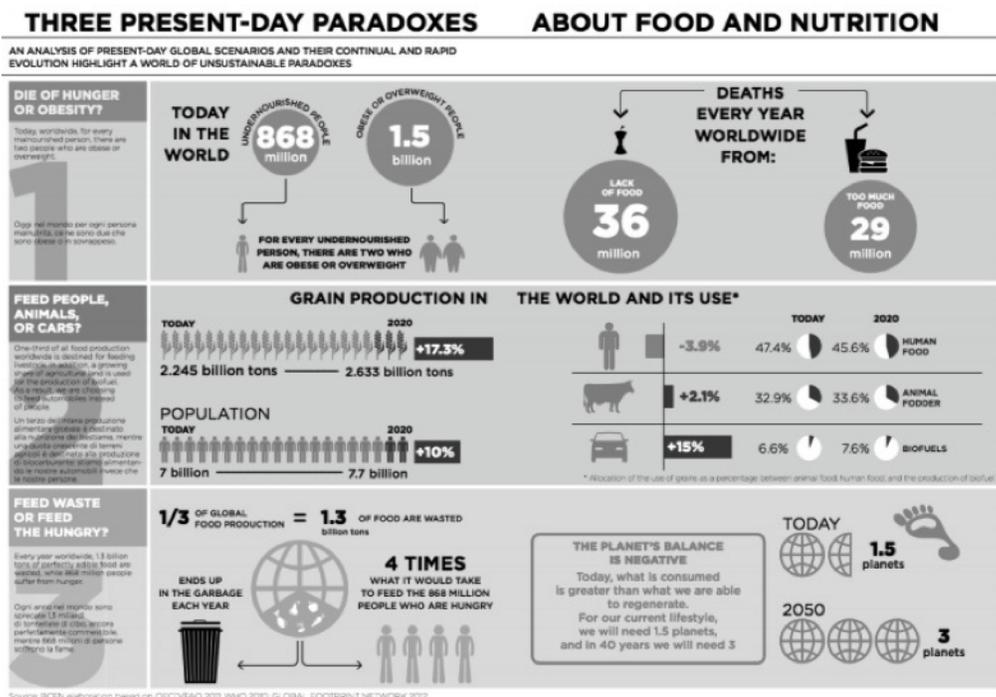


Figure 1: Food Paradoxes BCFN Infographic

TARGET

In 2012, the BCFN Foundation launched Young Earth Solutions (YES!), an international competition for young students and researchers from across the globe. The aim of the initiative was to reward the best ideas about food and sustainability. Annually, the YES! contest invited young people from all over the globe to submit ideas for projects with innovative and functional solutions. Projects were assessed by an international jury according to their social impact, innovation, originality and feasibility.

In September 2015, the BCFN Foundation decided to convene the BCFN YES! alumni (finalists from the past four editions) to participate in an interactive workshop in Parma, Italy. The alumni are young thought-leaders, students and researchers from over 20 countries (5 continents), who are committed to the topics of nutrition, food and sustainability. They are between 20 and 30 years old, and in 2030 they will work in the field as food experts or professionals. They were asked to unite their forces and to step into the shoes of their future selves (as policy makers, researchers, farmers, food managers, educators, activists and journalists).

Other than the young participants, there were also ten mentors: experts in the global food debate with an active role in food policies, nutrition and sustainable agriculture. They were assigned as guides to moderate the creative sessions.

PROCESS

The goal of the 3-day event was to develop the content of the YM, a document that was used to communicate to leaders the shared ambition of international youth, highlighting individual projects and commitments that could function in a cooperative framework to end the paradoxes

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that currently plague food systems and threaten food security. The final version of the YM presented the top ideas that were considered the most effective in radically changing the global food system.

In four consecutive creative sessions (detailed below), the participants brainstormed in small groups using several design thinking methods to develop a set of ideas and projects based on the four core issues highlighted by the Milan Protocol: hunger, obesity and healthy lifestyle, sustainable agriculture and food waste.

SCENARIO-BASED DESIGN SESSION

In this first session, YM participants were guided by the experience of each mentor whose important role was to assess the emerging ideas and provide valuable feedback with regard to the economic, cultural and political feasibility, ambition, and timeline for implementation of the solutions that were proposed. Before the first session, seven speakers (actual farmers, food business managers, policy makers, etc.) shared their expertise and knowledge with the entire group, briefly presenting challenges and opportunities of their daily work to support more sustainable food systems. Mentors and stakeholders were involved in storytelling activities.

ENVISIONING CREATIVE SESSION

Envisioning Create Session was based and focused on the “professional profile”. Alumni were divided into seven different role groups (see figure 2):

1. Policy maker
2. Researcher
3. Farmer
4. Food Business Manager
5. Educator
6. Non-governmental Organization (NGO) / Activist
7. Journalist/media

In this session, farmers met with other farmers, NGOs with other NGOs, and so on. During the discussion, role-play techniques were used to collect many perspectives. Mentors and stakeholders were involved in co-design activities.

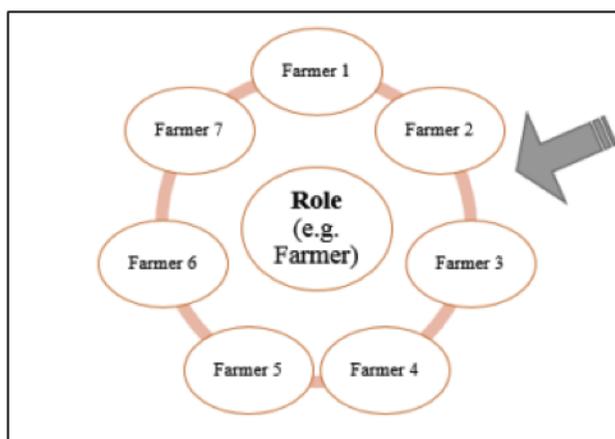


Figure 2: Envisioning Creative Session

THEMATIC FOCUS GROUPS

Alumni were divided into groups and other speakers weighed in on one of the four major themes.

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This divergent design session focused on the four Milan Protocol issues: hunger, obesity and healthy lifestyles, sustainable agriculture, and food waste (see figure 3). Eight focus groups (two per theme) were created. Each alumni (in his/her role) was in charge of possible projects according to the assigned theme, to reflect on the strengths and weaknesses of existing solutions and use creativity to develop new, innovative approaches.

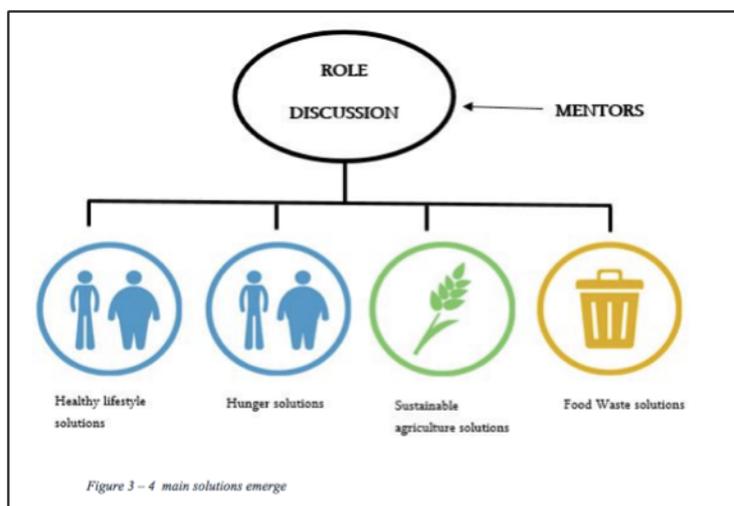


Figure 3: Divergent Session

For the FINAL session, the convergent design session, alumni returned to their original group and gave a report on the results of the thematic discussions. Three final ideas and concepts were finalized, selected and graphically designed by each team. The best were reported in the final YM document.

OUTCOME—YM FOR DRIVING THE CHANGE

The YM (BCFN, 2015) contains seven operational proposals/commitments for facing food paradoxes by interpreting seven key roles: policy maker, farmer, activist, educator, food manager, journalist and researcher. The YM ideas and draft conceived in Parma were presented at the Milan EXPO 2015 to the Italian Agriculture minister Maurizio Martina, and to representatives of different countries in their respective pavilions, as well as to the European institutions.

These are the seven commitments:

- *Policymakers, we will: Move away from a purely economic cost-benefit analysis by considering carefully the environmental, social, health and cultural impacts of policies when designing and adopting legislation.*
- *Farmers, we will: Bring young people back to farming, this profession that feeds us all. Work with governments for better access to land and urban spaces, to financing, and to appropriate methods to empower a new generation of farmers.*
- *Educators, we will: Commit to teaching all children about the relationship that connects food, people, health and the planet by making food, nutrition and agriculture education mandatory in school curricula around the world.*
- *Food industry businesspeople, we will: Lead by example by creating sustainable supply chains, supporting farmers and making available healthy products that inspire consumers to adopt sustainable living.*
- *Journalists, we will: Bring recognition to the importance of fact-based media coverage of hunger, food, obesity, nutrition, and agriculture with the “Foodlitzer”, an international award*

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for excellence in independent reporting on sustainability issues.

- *Activists, we will: Advocate that food and agriculture corporations provide a seat on their boards to include our perspectives. This will create new spaces for activist-business cooperation, for example in sustainable agriculture, food waste reduction and healthier product composition.*
- *Researchers, we will: Deliver unbiased open data in a way that connects multiple disciplines to make complicated concepts about food, agriculture and nutrition understandable, accessible, and exploitable.*

THE IMPACT OF YM—MAKING THE SOCIAL CHANGE

The visit to the European (EU) institutions and policy debates in the European Parliament was meant to build on the YM, following its initial launch at EXPO 2015 in September. A member of the European Parliament (MEP) invited the BCFN Foundation alumni to present the Youth Manifesto in Brussels. The visit was an opportunity for the BCFN Foundation alumni to open dialogue with the European institutions and to hear their insights on the YM commitments, and what course(s) of political action are either happening, planned, or could be imagined to address the YM goals.

The BCFN Foundation alumni visit to Brussels culminated in a policy discussion at the European Parliament entitled, “How to Implement the Youth Manifesto”. The discussion focused on four of the YM proposals, addressed at policy makers, farmers, activists, and the media. To tackle these four aspects, the discussion featured MEPs and stakeholders representing the role “in real life” alongside the BCFN Foundation alumni delegates. The desired outcome of this policy discussion was to reveal ways to mitigate the food crisis and address the global paradoxes where hunger coexists with food waste, rising levels of obesity, and unsustainable agriculture. Participants looked at all levels of society—from individuals to NGOs to national governments to multinational corporations—and sought avenues of collaboration and coordination on possible solutions. It was a day that put the BCFN Foundation alumni and their message at the center of the debate. In this context, new points in common with the political terms that are already in place by the European Commission were identified. An example is the Circular Economy Package that was presented on the same day, and contained different actions to fight food waste.

CASE STUDY II: DESIGNING TOOLS FOR FUTURE FOOD EDUCATORS

The commitment of future educators listed in the YM, which states:

Educators, we will: Commit to teaching all children about the relationship that connects food, people, health and the planet by making food, nutrition and agriculture education mandatory in school curricula around the world

The commitment inspired a creative Food Design Workshop in October, 2015. The workshop was organized and sponsored by the BCFN Foundation and was also part of the 1st European Conference on Understanding Food Design in Milan, Italy.

All materials gathered from the group that worked on the issue of educators during the YM creative sessions was available for the participants of the Food Design Workshop. The starting point was the assumption that future generations will need a new educator profile: the “Creative Food Educator”. This profile can not be given to a teacher that simply acquires knowledge about food production, transformation or marketing, nor to a farmer that would acquire instructional and pedagogical expertise. Rather, the profile envisioned during the YM creative session was of an educator, an expert on supply food chain, with design skills. A food educator should aim to apply creative methods to help children (5-13 years old) to become sustainable and knowledgeable consumers. Food educators should help the next generation to become sustainable natives.

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The challenge for the participants of the Food Design Workshop was to envision educational facilities and tools to create formal and informal educational spaces that cater to new and expanded food learning modes.

TARGET

Twenty five international food design students, professors and experts of food design. Five groups were created. Each group contained an equal number of participants who had a similar level of expertise and different geographic origin. Each team had an expert food designer as a leader.

THE PROCESS

The starting point was reading the entire YM text. The working groups went beyond the commitment about educators to read the entire manifesto and used it as a reference point to understand the effective role and engagement for a ‘creative food educator’ (inside and outside the school). The groups worked for four hours and they experimented several creative design methods proposed by the leaders.

OUTCOMES

At the end of the Food Design Workshop, each group presented their results. One team designed a contextual map for defining spaces, people and systems of future food education. The map revealed that in order to design new food education tools, it is necessary to consider the child’s food system and the child’s food habitat (restaurant, cafeteria, daily food habits, etc.). One of the points that the team focused on are the limits that today’s school environment might place on the child’s learning process. The conceptual map became a reference point (see figure 4) for the other teams, helping them to visualize several possible food design education paths. Among the workshop outcomes were ideas on how to design the architecture of food learning spaces, including edible gardens and spaces for eating and cooking. According to the analysis on food learning architecture, the food educator should have supportive tools to develop a food-centered pedagogy. However, both kids and educators should be involved in the learning process:

- Project based learning methods (instead of lectures and observation)
- Field work assignments (instead of homework)
- Learning playground as peer to peer educational activities

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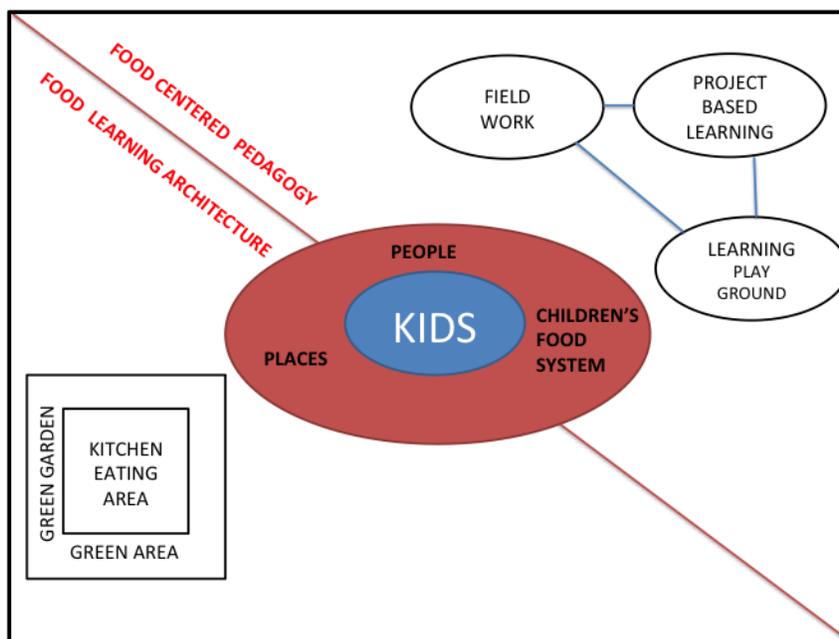


Figure 4: Food Education Conceptual map

Below is a brief list of some of the concepts (educational tools) that were developed during the Food Design Workshop.

- A simulated market within schools: instrument with which children can explore and understand the entire production, distribution, consumption and post-consumption food chain (see figure 5).

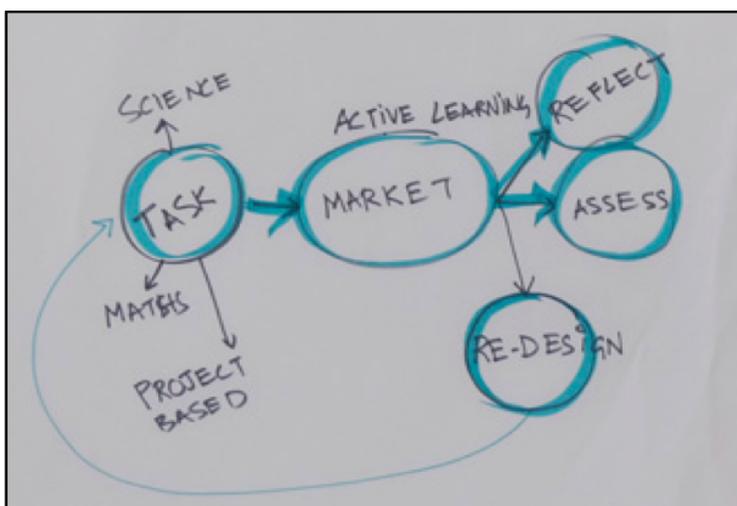


Figure 5: Simulated Market at school

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- Food App—this concept started from the idea of teaching a component of economic sustainability to children. The proposed solution is based on a digital app through which the digital native would translate nutritional terms or values with ease, and also includes visual information about the products and their origin.

Two groups proposed tools that do not use digital technology but rather use food as a social connector and media of inclusion:

- A Table of the World that can be used in the cafeteria, where food becomes a means of communication to help different cultures to dialogue;
- Dedicated Sensorial Labs to help kids to learn and teach taste with 5 senses: specifically kids will be able to empirically experience food odors, texture, smells;
- Pizza garden is a concept of an indoor eatable garden from which the kids can get ingredients for a simple recipe such as a tomato pizza. In this case, the kids would not only see the different phases of production but would be able to follow the whole process up until the final product.
- In class workshop on “design&packaging”: to learn the dynamics and strategies used by mass media and marketing to promote food products (from persuasive communication to distribution, from the labels on the product to the ergonomic aspect of processed food, from materials used for packaging to food waste, etc.). The idea of the “design&packaging” workshop for children of 5 to 14 years could have a potential double impact of creating more knowledgeable consumers and future business managers who aim for sustainability.

THE IMPACT

The result of this interactive Food Design Workshop gave the opportunity to young food designers coming from different parts of the world to collaborate and to use their creativity to imagine new educational solutions.

Schooling and education will have a fundamental role in shaping culture until the generation of sustainable natives develops. Educational tools, environments, systems and products must be designed considering the social system, and to help children understand food through different perspectives by giving them diverse lens through which to explore food.

The purpose is to educate a future generation who will critically enlarge the vision and points of view in the important domain of food and nutrition (this can happen by studying and working in an experiential manner at each level of the supply chain from production to final consumption).

CONCLUSIONS

In our society there is an enlarged need for a concrete understanding of food systems and innovative solutions for a more sustainable world. The coming generation will have to preserve and drive human health and sustainability of the Planet. The complex nature of the innovative system needs a new and more systemic governance method that encourages all the actors to take responsibility for accomplishing the various actions in a coordinated way. This systemic approach requires the capacity to identify and evaluate the measures, and to take actions that will sustain innovation at all levels of the supply chain.

It is increasingly clear that there needs to be a convergence of expertise as well as the creation of new expertise such as food science and technology, communication science and creative business management, that can sustain change processes. Food education, for example, can involve different stakeholders which can support the exchange of knowledge between the world of production and the university to give value to food resources.

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The conclusion of this paper is that through design it is possible to have a future generation of sustainable natives. For this to happen, it is necessary to design new products and tools for them, and to build collaborative systems and creative scenarios where different expertise (farmer, policy maker, designer, educator, etc.) can collaborate.

The two case studies presented in this paper show that:

- Through design methods, it is possible to manage converging and diverging discussion sessions among different interlocutors to find systemic solutions. The BCFN Foundation YM represented an opportunity for young people to raise their voice and create a shared document that built upon the Milan Protocol objectives, reflecting the ambition of young people to generate meaningful and systemic change. As can be read from the seven commitments of the seven profiles, there is extensive space for design. Designing the seven profiles means creating useable environments, systems, products and services on behalf of each category, involving human diversity in the design process.
- Through design it is possible to enable the research for, and creation of, solutions. As of today, it is premature to define ‘food design’ (or design applied to food) as a discipline, but it would be correct to define it as a field of research, which through a trans-disciplinary approach, aims to develop both individual and collective creativity.

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SHORT REPORT: FOOD DESIGN EDUCATION SYMPOSIUM (FDXE)

PEDRO REISSIG
SONIA MASSARI

BACKGROUND

This report summarizes the outcomes of the Food Design Education Symposium organized in conjunction with the 2nd International Conference on Food Design at The New School, NYC. The Symposium was part of a series of international events centered on Food Design Education (FDE) created and organized by FDxE, a platform supporting and contributing to the seminal research, promotion and discussion involving its development (www.fdx.org). This foundation building hinges on the reality that Food Design is a complex and emerging transdiscipline, with multiple ramifications and implications at different levels of life, not just academics. It is an opportunity for articulating and exchanging ideas, open to thinkers and transformers interested in the emerging field of Food Design in an educational context. The first FDxE event was held in Bogotá, Colombia in 2014, followed by Milan, Italy and Porto Alegre, Brazil during 2015, prior to the one held in NYC, subject of this report.

INTRODUCTION AND GOALS

The Food Design Education Symposium brought together a group of experts, professionals and students interested in the fields of food, design and education. The aim of the Symposium was to address the following questions:

1. What do we consider the fundamental principles and theoretical frameworks that FDE implies or evokes? Can we define the DNA of FDE? What are the values, visions and methodologies intrinsic to FD that can be developed through teaching and learning contexts?
2. What are the possible career paths for current and future Food Designers, and what might a Food Designer's profile or identikit look like?
3. What are the logical and natural teaching/learning environments and formats for the FD profile including versions beyond traditional academic structures?
4. Is it possible to identify alternative formats and spaces for formal FDE, including different scenarios and prototypes for FDE outside of university academic settings, including business, government, NGO, community driven, etc.? For example: could there be alternative non-formal FD educational venues such as cultural and social platforms including museums and other community-oriented spaces that can develop and promote FDE?

Before the symposium took place, all participants had received a working document stating the research agenda, a complete participant list along with their affiliation and an extract of a document written by Pedro Reissig (FDxE founder and co-organizer of the Symposium).

Next, the symposium was framed by stating the working definition of Food Design: "Food Design includes any action that can improve our relationship with food individually or collectively in diverse ways and instances, including the design of food products, materials, experiences, practices, technology, environments and systems" (by Pedro Reissig). As Reissig explained in his introduction, the food universe has become so complex and presents so many challenges that a response like FD is natural and welcome. FD proposes changing the notion of a 'food user' to a 'food decider', and it is with this spirit that we can empower ourselves in improving our relationship with food as individuals and professionals.

Following the above, the basic aspects regarding the specificity of Food Design which justify the need for it to have a dedicated didactics and pedagogy, were outlined:

- Food Design deals with the very real materials we biologically consume in order to live. It is literally vital to our existence.

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- Food Design deals with materials that we put into our bodies and which become our bodies. A process of physiological and chemical transformations so incredible and complex that it goes almost beyond our capacity to comprehend it. We most often take this phenomena for granted, especially since most of it is not readily or rapidly visible. Here the model of food as fuel is confusing at best, since fuel in the mechanistic system does not become the motor, it just runs through it. In the organic system fuel is transformed into the body and its vital functions simultaneously.
- Food Design deals with putting things into our bodies and through our mouths, a very intimate and personal act.
- Food Design is an intrinsic and significant part of all of our daily lives to the degree that we all make and engage in multiple food choices and activities throughout the day. This makes Food Design into a familiar and daily practice, not an optional or remote activity.
- Food Design has direct implications for our health, both good and bad. This makes it of vital importance to have a good relationship with and around food, and implies ethical considerations at many levels, starting on a personal one, but including political and social factors.
- Food Design looks at all the actors and instances of food as a production, distribution and consumption system, further implying ethical considerations at various levels, including industry, commerce and culture.
- Food Design deals with our food universe and its implications in business and economy, which is so large and complex that it is almost incommensurable.

For all the above reasons, FDxE has a fundamental role in opening up the discussion, including live and collective interactions amongst likeminded people, interested in being part and making sense of all that is happening in and around Food Design Education.

PARTICIPANTS OF THE SYMPOSIUM

The symposium opened with short introductory oral presentations where each participant introduced themselves and their goals for the discussion (issues, questions and/or visions). Most attendees were from higher education and academic fields, while others were professionals and experts from the art, museum, food industry and culinary sectors. Geographically, the group was heterogeneous: six continents were represented (South and North America, Europe, Asia, Africa and Oceania). A majority were from the USA, and the rest included professors, students and professionals from Argentina, Australia, Canada, Colombia, Finland, France, Iceland, India, Italy, Korea, Mexico, New Zealand, Nigeria, South Africa, Spain, Taiwan and UK.

CASE STUDIES

Following the introductions, four case studies were presented to reflect and outline different ways of thinking about FDE.

The first two speakers brought cases from Europe: Italy and Spain. Sonia Massari (Director at Gustolab International Institute for Food Studies based in Rome) started her presentation by comparing the rapid development of food studies and the growing interest in FDE in academia. FD is increasingly becoming very popular in Food Studies due to its role in providing solutions and innovations within food systems and cultures. Teaching FD means teaching how to build tools and systems, for framing healthier and more sustainable worlds. During her presentation, Massari shared the results obtained in four of her FD courses in Italy. The comparative analysis between the courses showed the strong and weak points of each but also the potential of applying FD transdisciplinary teaching methods in science and policy.

Raffaella Perrone (Design Professor and Researcher at Elisava School of Design and Engineering in Barcelona) described the FD courses and workshops that take place where she teaches. Design

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students analyze food from a 360-degree angle, studying it as an important media of interaction between human beings and their environment. She presented Elisava's systemic approach which enhances the relationship between product design and other disciplines (such as humanities, engineering, architecture, arts, health sciences, etc.). She gave evidence of FD as a challenging field of study in which students are allowed to design emergent behaviors and innovative scenarios.

The next speakers introduced two FDE initiatives in NYC. Peter Kim (Executive Director at the Museum of Food and Drink- MOFAD) illustrated the mission and values of this pioneering museum based in NYC. MOFAD is an experimental endeavor involving experts from different sectors who merge their competences to create sensorial exhibitions and installations where visitors can learn about food in an experiential manner. The educational approach used by MOFAD as reflected by its current exhibition on food production and transformation of ingredients, places the museum at the forefront of communication and dissemination of this specific type of perception / knowledge. With several practical examples, Kim underlined how cultural centers like this museum aim to educate, connect and inspire people.

Finally Andrea Lipps (Assistant Curator at Cooper Hewitt, Smithsonian Design Museum, NYC) concluded with her case study presentation of the exhibit "Design and Food", held previously at the museum. She described how the act of preparing food involves being conscious of food's properties and ritualized cooking, while the act of eating it involves experiencing the present with all five senses. The mass production of food during the twentieth century gave bland, processed, and thoughtless food experiences that many designers, chefs, farmers, artisans, and others are now seeking to overturn with an emphasis on rediscovering and embracing geo-gastronomical origins. Design students should be an important part of this conversation, as they could propose solutions and provide provocative commentary.

The Case study presentations can be summarized with the following key statements:

- FDE aims to improve cross-cutting competencies in potential food designers through its transdisciplinary teaching and learning methods.
- Teaching FD means teaching people to open their eyes and to help them see food in a systemic manner and in all its complexity. If universally applied, FDE can be the foundation for a new generation of informed consumers (deciders) and a more sustainable and healthier world.
- FDE can create new opportunities for communities by teaching different targets how to innovate.
- FDE should not only be considered in its conventional current academic applications but also in all the contexts where new food experiences are designed.

SYMPOSIUM WORKING GROUPS

All the participants were then divided into four working groups, taking into account their geographic provenance and profession (academia or professional) and including an equal number of students in each group in order to create balanced dynamics and discussions. Each group's task was to create a collaborative dialogue on the following four topics using any technique desired (brainstorming, focus group, post-it, etc.):

1. DNA of FDE
2. Career path of the food designer
3. Current education formats in FD
4. Alternative formats and platforms for envisioning the FDE of the future

The discussion phase concluded after each group had a chance to explore and elaborate their ideas. Afterwards each group summarized their conclusions using posters and other graphic resources.

OUTCOMES OF THE WORKING GROUPS

1. DNA OF FDE

This working group analyzed FDE as a “work in progress” discipline. First the working group investigated FDE as a subject matter and source material. The discussion focused on pedagogy and learning methodologies. Their second task was to identify the mix of different types of knowledge in FD and their implications on FD teaching and learning methods. The result was the definition of a common statement in which the pedagogy of FD is epistemologically based on culture, and on its symbolic universe. Their common vision was, “we believe in a world where food is a (fair, happy, positive, enjoyable, meaningful, healthy, sustainable) reality by and for all (environmentally, economically, socially, culturally, politically, ethically).” This is crucial for revealing the motivations, operations, contents, methods, codes, languages and specific goals of FDE. They identified a possible mission for FDE, “To build on and integrate scholarship related to food, to advance and to improve our food system”, and six keywords were defined to describe the potential impact that FDE could have: critical engagement, awareness, recognition, transparency, intention and consciousness.

The working group considered whether the term “Food Design” is suitable for the discipline. They preferred and proposed the name “food.D” inspired by the d.school, (Institute of Design at Stanford University) which uses a methodology for innovation that combines creative and analytical approaches, and requires collaboration across disciplines. The d.school process, which can be called design thinking, draws on methods from engineering and design, and combines them with ideas from the arts, tools from the social sciences, and insights from the business world. Food.D could be a great strategy to combine the multifaceted identity of the two words: “food (systems solutions, ecology initiatives, futures, planning) & design”.

The working group also determined as paramount considering feelings and people in FDE: both are currently absent.

2. THE CAREER PATH OF THE FOOD DESIGNER

This working group defined the skills and study paths currently available to potential food designers. As a connector of culture, science, pleasure, changes, health and communities, the food designer is able to put ideas into practice and transform concepts into tangible and concrete solutions. The working group’s statement was that “the food designer is a creator of values at all levels of the food chain”.

A food designer needs to learn how to use a transdisciplinary approach, how to manage design-thinking techniques and how to pass from vision to action. The group underlined the need for accreditation / validation and an “international” ethical code (which currently does not exist) for food designers, to direct them to design fairer food for equity between communities and to defeat food paradoxes (waste of food and energy, sustainability and biodiversity, malnutrition, etc.). Following that, the working group’s discussion focused on the skills that a food designer should possess, such as the ability to interact and work with communities, to adopt digital technologies and to apply them to create new food networks.

The role of the food designer as a consultant is already a reality in the food industry, agriculture and architecture sectors, and increasingly in sustainable tourism (promotion of the territory) and food activism initiatives (development of food movements). The food designer often has the opportunity to exhibit projects and ideas in museums or other cultural spaces, therefore

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communication and presentation skills as well as expertise in performance are useful. Furthermore, over the past few years new types of businesses such as startups and accelerator models (as well as competitions or call for concepts) seem to be very helpful to young food designers who want to economically sustain their ideas.

Although food designers continue working in the above-mentioned sectors, the working group expected that in the near future, food designers will become an increasingly strong component for re-thinking production processes: their conclusion was that the food designer could truly become a driver for change, even in sectors that are apparently very diverse and removed from FD such as in research, science, and food policy.

3. THE FORMATS OF CURRENT FDE

This working group presented FDE as an ‘umbrella’ that envelops within itself the material, social, productive and cultural aspects of food. The main question was whether FDE is already a discipline or not? It was nearly impossible for the working group to provide a definitive answer to this question during the symposium but they were able to focus the discussion on how FDE is currently implemented in different fields. Beside the formal educational field, FD educational projects could take place in scenarios that look dissimilar such as the agricultural field, at home, at the supermarket, in the hospital, at the restaurant, in a factory, etc. The group came up with an idea called “studio kitchen lab” (living lab) which could be a suitable environment for FDE. While a traditional classroom is not necessarily a priority in this space, a kitchen/eating area is indispensable. This space should exalt creative dialogues that bring together people with different backgrounds.

They also examined the requisites for attaining proficiency in FDE. The conclusion showed that FDE is searching for a specific pedagogy. The group analyzed two levels of formal FDE: undergraduate and postgraduate. At the undergraduate level, FD is used as a subject of work (for example: in a learning project) as well as material of study. In this learning context, students sketch, cook, prototype, do storytelling, research and create systems and services. At the postgraduate level, FDE takes on diverse characteristics such as FDE for designers, FDE for food studies, FDE for chefs and FDE for scientists. The working group concluded with the statement that “only at graduate level could official recognition of FDE as discipline be obtained”. Through FD graduate curricula, students can gain a comparative and critical perspective of their roles as makers, thinkers and strategists.

According to the working group, other interesting instructional paths such as apprenticeship masters and lifelong learning education opportunities should be developed in the future.

4. A LOOK TO THE FUTURE: ALTERNATIVE AND POTENTIAL FORMATS FOR FDE

This working group examined potential professional figures and profiles that could be interested in learning FD techniques and methods:

- Policymakers,
- Specialists who work in emergency and critical situations (marginalized, disabled, refugees, or those who work in the context of war, poverty etc.),
- Those who work in early education or who take care of children (parents and other family members, teachers, nannies),
- Food workers throughout the food chain, including producers and those at the beginning of the food supply chain (at farms, slaughter house, etc.),
- Trash collectors,
- Medical doctors and social workers,
- Information workers (tourist and museum guides, critics, curators, book designers, artists, TV industry managers).

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The conversation then turned to FD contexts and scenarios that currently exist but are not well-developed and identified potential contexts where FDE can be inserted. For example: new spaces for cultural learning (other than museums and libraries), schools, innovative restaurants and other places where food and cuisine can help people to connect the past and the future (ways for preserving and conserving the cultural heritage of a community).

Even the home, the domestic environment, and places dedicated to daily commute (cars, buses, trains, airplanes, etc.) seem to be fertile domains for FDE. The way of eating in our cities is changing and FDE could support new interactions between our individual and public/social lives (through new distribution models, spaces for markets, food systems for hospitals, etc.).

The working group ended with the statement that FDE inserted into unexpected scenarios can contribute to making a substantial change. The following three examples were envisioned and presented to the group:

- A new certificate for restaurant managers and chefs. The FD certificate would be based on the use of storytelling techniques (to allow professionals to take part in courses during working hours). The professional skills and the restaurant (its interior design and its food experience) could evolve together during the course. It would be a “learning and designing by doing” method, where the working and education experiences influence and impact each other.
- The visionary idea is a bag that is also an electrical appliance. How does it work? The bag would allow for heating, cutting, and transporting an ingredient, as well as serving as a plate. Its uniqueness is in its cultural component as there would be a bag for every cuisine, designed for the ingredients that characterize that food culture. It could be an instrument for learning other cultures, enhancing creativity, but could also allow users to experiment with different ingredients to create new food products and culinary results.
- Why shouldn't food policy be created through FD techniques? This visionary instrument will not teach policymakers how to write a policy, but since it will be digital and on the web, it will allow for collaborative policy creation using co-design techniques to ultimately create food policies tailored to the needs of the territory with the real engagement of communities.

FINAL REMARKS AND CONCLUSIONS

The Symposium concluded by putting in context the outcomes presented by the four working groups and imagining next steps. FDE is not yet a full-fledged discipline, but rather a field of study and research that is in the process of consolidating, working on creating its own didactics and pedagogy. A graduate level of study and research will be necessary to acquire authority (validation) as a proper discipline. Presently, it is not possible to predict all its applications but we can envision the most interesting directions it can take.

All working groups showed how FDE could be inserted into many professional career paths. This is something to keep exploring and contextualize as per diverse scenarios in different cultures, geographies and economies.

A student in FD can acquire the ability to work in a transdisciplinary manner only by cultivating experiences of collaboration with experts from different fields. This means that more opportunities and simpler ways for collaboration between university departments should be created.

FDE seems to be a fundamental instrument for supporting connections between academia and people from other areas of activity. Furthermore, another observation that came out from all working groups is that the network and connections between universities, industries and the governments should be strengthened.

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The symposium ended by re-visiting the objectives of the FDxE platform and encouragement for use of its resources and website. The goal of the platform is to become an instrument of collection, sharing and teamwork to help understand the meaning and development of teaching/ learning approaches in the field of FDE!

Annex 1: Final List of Participants

Annex 2: Agenda and preliminary working document

Annex 3: Collection of pictures of the event

FOOD DESIGN NORTH AMERICA (FDNA)

PEDRO REISSIG

BACKGROUND

Food Design North America (FDNA) was officially launched during the closing session of the 2ICFD. FDNA is an independently organized association dedicated to expanding the understanding and promotion of food design in North America. The creation of FDNA was led by Pedro Reissig, and occurred by a flowing and open group of like-minded people based in the NYC area that met during the course of almost two years, sharing meals and ideas until enough clarity and conviction surged so that a launching version was envisioned. This first stage of FDNA's growth is now led by Emilie Baltz.

Inspiration for FDNA came originally from the Latin American Network for Food Design (Latinoamericana de Food Design- www.lafooddesign.org), in that it was conceived not so much as a society or professional association, but more as an opportunity for framing a work-in-progress spirit, asking more questions than providing answers, embracing issues diverse and complex in nature, while enjoying and sharing the journey.

One of the clearest ways to communicate this initiative is to publish relevant parts of the Foundational Document, signed by its 12 founding members: Adam Brent, Andrea Lipps, Anita Cooney, Claire Hartten, Emilie Baltz, Fabio Parasecoli, Jennifer Scanlan, LinYee Yuan, Michael Adé Elegbedé, Pedro Reissig, Peter J. Kim and Stefani Bardin:

EXCERPTS FROM THE FOUNDATIONAL DOCUMENT: (SIGNED 9/21/14, NYC)

DEFINITIONS

1. The function and purpose of the FDNA is to bring together like-minded people in pursuit of our mission statement. It is a network of people and entities that can connect freely through real life as well as virtual means.
2. Our understanding of Food Design includes any action that can improve our relationship with food individually or collectively. These actions can relate to the design of food products, materials, practices, environments, systems, processes and experiences. We offer this working definition as a point of departure, not arrival. We think it is essential to offer useful and motivating definitions since our goal is to open up the discussion, and not offer schematic or reductionist definitions.
3. This new field is mainly oriented to designers (in the widest sense of the word) and open to all activity which can benefit from its reach, including practitioners, researchers, scholars, scientists, engineers, technologists, nutritionists, producers, entrepreneurs, cooks, chefs, artists, curators and inventors from both the public and private spheres. This speaks to the multifaceted nature of Food Design and the diverse range of stakeholders involved.
4. North America is considered a diverse territory with developed business and entrepreneurial spirit and skills applicable for Food Design. It is also an important food-producing region with significant influence in trends, standards and practices at a global scale. When referring to North America we include U.S.A. and Canada (not Mexico since it is already a member of the Latin American Food Design Network).
5. Food Design is transdisciplinary in essence, comprising knowledge, experience and visions from complementary fields, including:
 - Food Sciences: e.g., technology, engineering, chemistry, nutrition...
 - Food Services: e.g., culinary arts, hospitality, gastronomy...
 - Food Studies: e.g., sociology, anthropology, geography, psychology...
6. We think of Food Design not just as an emerging transdiscipline, but also as an attitude, as a way of being in the world, something we all embody since we make food choices everyday, we relate to food in many ways, and we are literally composed of food. This implies relevant and unique conditions, also having ethical implications.

FOOD DESIGN NORTH AMERICA (FDNA)

7. Food Design implies Food Designers as practitioners. In this sense we distinguish three distinct yet converging realms of praxis relating to Food Design:
 - Strategic: as when research based and aligned with design thinking.
 - Technological: as related to industry and closely tied to food production.
 - Experiential: as experimental in nature and more related to gastronomy itself.These approximations have to be better understood to help clarify the character and scope we are referring to by the term Food Designer, but we find it useful to recognize these broad categories as a point of departure.
8. We propose developing a specific format for promoting Food Design in different areas of life, based on our idea of CTA (Cook, Talk, Act). This format can be applied to a wide range of situations, from smaller community-based events to larger institutional venues. CTA can become a strategic tool for taking FDNA's goals to meaningful and concrete transformations in our food lives.

MISSION

1. We create space for the gestation of actions, ideas, discussions and proposals in relation to Food Design.
2. We promote the resources of design for the improvement of food and its universe of products and processes.
3. We encourage dialogue between the different actors and sectors that have an impact on our relationship with food, including designers, scientists, technologists, engineers, nutritionists, cooks, chefs, artists, entrepreneurs, cultural managers, producers, and consumers.
4. We seek out and identify opportunities that are not being served satisfactorily in relation to food.
5. We create an integrated, unbiased way of thinking to improve our relationship with food for as many people as possible.

VISION

FDNA is committed to becoming a point of reference in the field of Food Design in North America, providing visibility to North American initiatives, and integrating this emerging transdiscipline to related disciplinary interests pertaining to food and design in this and other regions of the world, thereby contributing to education in Food Design.

VALUES

1. We value contributions to food-related issues in all its dimensions and manifestations.
2. We believe in creating benefits for the largest number of people regarding health and well-being (personal and social) in their relationship with food. This involves improving access to healthy, delicious and enjoyable food, compatible with their needs and context (social and economic), integrating local knowledge and cultural values about and around food.
3. We recognize the importance of not causing damage to persons and/or to the environment with our actions, while maintaining a balance between needs and resources in a just and sustainable way.

By way of closing, it is with great optimism and hope that we share this initiative with any and everyone interested in contributing and being part of this construction, and invite all to visit the website and become a member! www.fdna.org

THE INTERNATIONAL JOURNAL OF FOOD DESIGN (IJFD): A SCIENTIFIC JOURNAL ON FOOD DESIGN

HENDRIK N.J. SCHIFFERSTEIN
FRANCESCA ZAMPOLLO

During the conference, the first issue of the International Journal of Food Design (IJFD) was presented to the audience. This is the first academic journal entirely dedicated to Food Design research and practice. We define Food Design as the discipline that connects food and design: design applied to food and eating, or food and eating investigated from a design perspective.

The journal aims to create a platform for researchers operating in the various disciplines that contribute to the understanding of Food Design. It would like to push the boundaries of research that connect aspects from Culinary Arts, Hospitality, Food Science, Food Culture, and any other food discipline, with aspects from Design Theory, Design Education, Industrial Design, Design History, and any other Design discipline. Because of the very nature of the discipline, IJFD is an interdisciplinary and transdisciplinary journal. Our main aim is to bring all relevant fields together, so that they can cross-fertilize each other, and the journal may be an excellent outlet for facilitating this process.

In addition, the journal tries to connect the various designers and researchers in the field, by providing a platform for sharing their most inspiring new insights and the best empirical tests of design principles. We work closely together with international and regional food design societies to facilitate publishing the work presented at conferences and make this knowledge available to a larger public in design practice and academia. We also work with guest editors to develop special issues on themes that are likely to interest a broad audience. At the moment, we have special issues planned on the topics of food design education, food packaging, and the people involved in food production. Furthermore, the journal editors manage a Facebook page where anyone can exchange information on food design in an informal manner.

Through this journal, we hope to advance the quality of research in the area of Food Design. In addition, we hope that our publications will also have an impact in improving the various roles that foods play in current societies all over the globe. This may start out with the environment where foods are produced and the ways in which people operate in food production, trading, transportation and distribution: environmental implications, working conditions for labourers, political consequences. It can also impact the characteristics of the foods people have access to: hygienic quality, sensory attractiveness, storage stability, ease of preparation, satiating properties, long-term health effects, and so on. In addition, we hope to improve experiences people have when consuming the food as influenced by the places where we consume food, the occasions at which we eat, the rituals associated with consumption, the people that join us for dinner, the type of utensils we use, religious taboos concerning foods, and the cultural role of the products in society.

The journal is pursuing originality, ingenuity, innovation, as well as thoroughness and rigour. We give room for various types of reports that have a basis in scientific inquiry in which design and food both play a role, including experimental studies, consumer surveys, observational research, case studies, literature reviews, personal visions, and book reviews.



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