GLIDE12: CONSUMED

INTRODUCTION: A WICKED SOLUTION TO THE GLOBAL FOOD PROBLEM

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ABSTRACT

Key Words: memetic design, design meme, food, localization, wicked solution, creative problem solving, wicked problem, communication design

FULL PAPER

Welcome to the Special Issue "Global Interaction in Design (GLIDE) 2012: Consumed"

Whereas my previous work (Bennett, 2006) purports the rise of research in communication design, my recent review of the field (Bennett and Vulpinari, 2011) shows how communication design has fully evolved into a research discipline that contributes new knowledge to interdisciplinary knowledge, both within and outside design. Communication design educators who opt to do research for their scholarship are integrating qualitative and quantitative research methodologies into their creative problem solving process – defined here as the conceptualization of innovative solutions that take form in either new or existing communication design conventions. These researchers are investigating the varied roles communication design expertise can play in contributing understanding of what we might call a "global visual ecosystem": the increasingly dynamic play of static and dynamic images as they communicate across social, political, and economic boundaries. This special issue examines how communication design research presented at GLIDE'12 on November 7, 2012 can offer a positive impact on the complex global food problem – by meeting its complexity with an equally complex system of solutions that facilitate interaction with visual messages both cross-culturally and across research disciplines.

Why I did it

As communication design scholars conduct research, they are in need of venues to disseminate their findings and share outcomes; and, research-based conferences provide one way to meet that need. One such conference is a biennial, virtual conference that I founded in 2007 called Global Interaction in Design Education (GLIDE). GLIDE's virtual-only format aims to bridge cultural and geographic divides in an eco-friendly way. Each GLIDE conference has a different theme, one that stems from technologically-mediated discussions between myself and design consultants from around the world concerning the current state of communication design and its role in mediating global interaction around social issues.

During consultations with communication design educators Adream Blair (United States), Dr. Gloria Gomez (Denmark), Muthoni Kimani (South Africa), and Michele Washington (United States) in 2011, I decided that GLIDE'12 would focus on food, nutrition, and health. Titled "Consumed" the most recent GLIDE conference promoted research and critical thinking on international issues surrounding the global food problem and its impact on nutrition and health.

"Today, food is no longer viewed simply for nourishment, pleasure, or an overly mass-produced product. Now, due to global industrialization, the way humans interact with food systems and production has reached a critical mass, requiring citizens of the world to consider the introduction of new methods and technological systems that will enable global cultures to remain healthy and viable in the foreseeable and unforeseeable future" (Michele Washington, December 2011, personal communication).
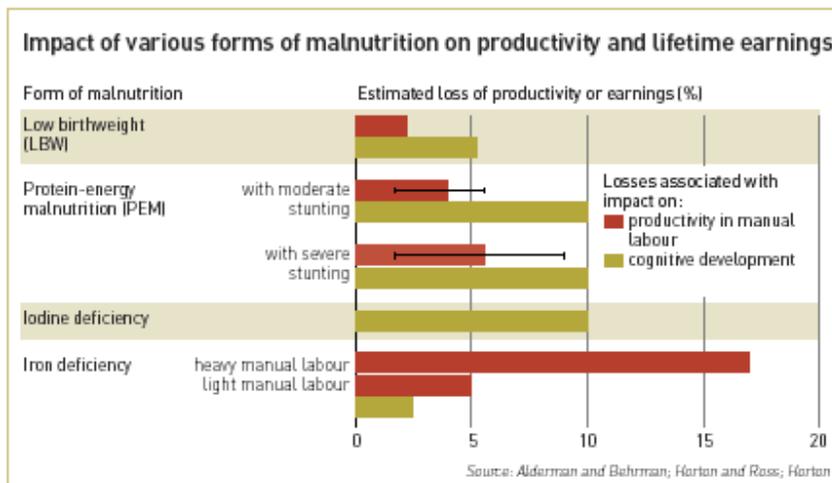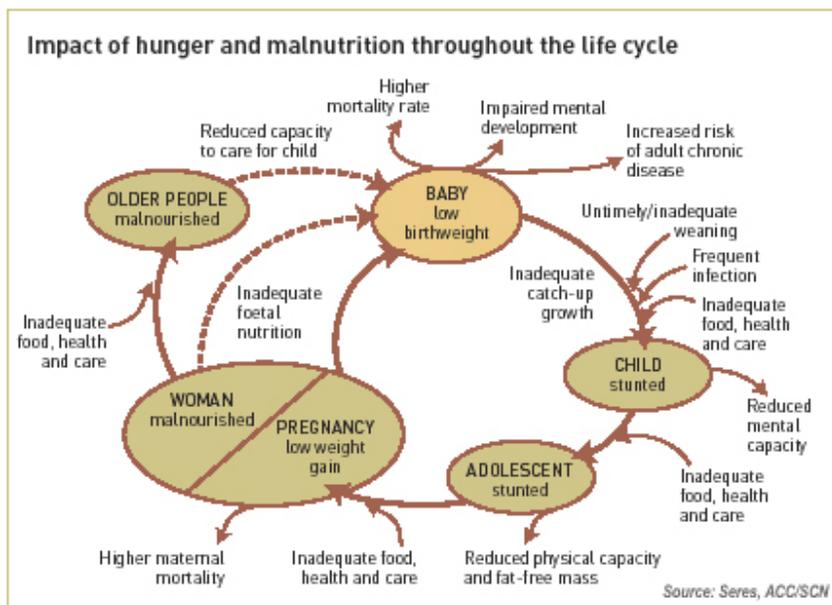
The Global Food Problem

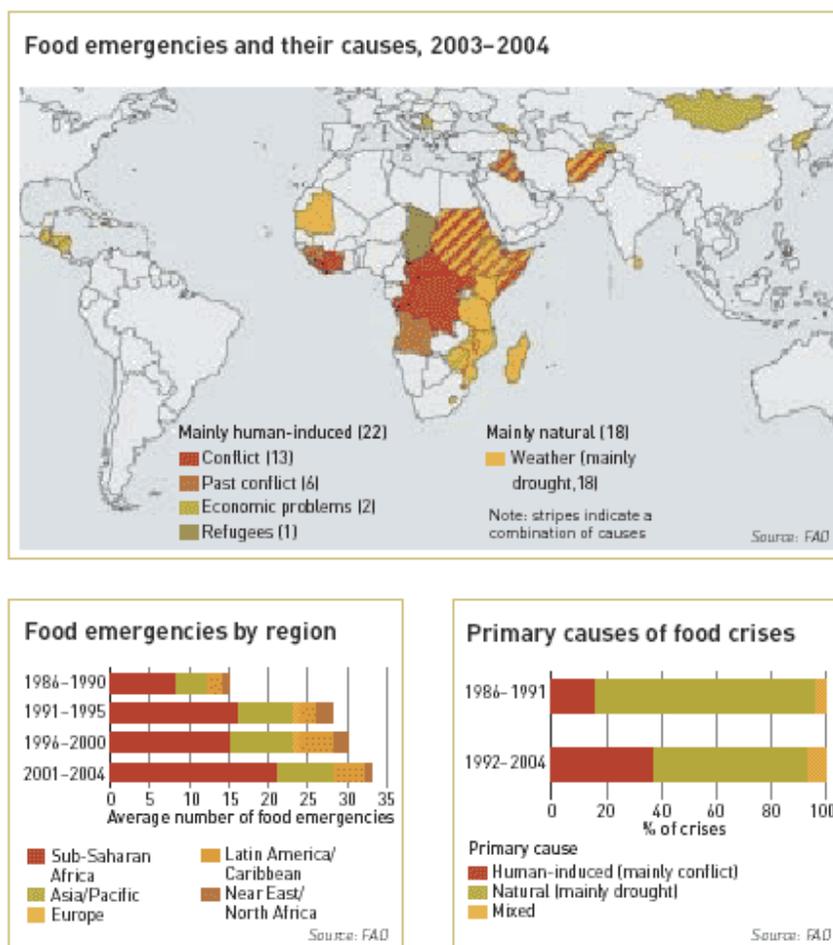Figure 1 Changes in numbers of undernourished in developing subregions, © FAO 2004
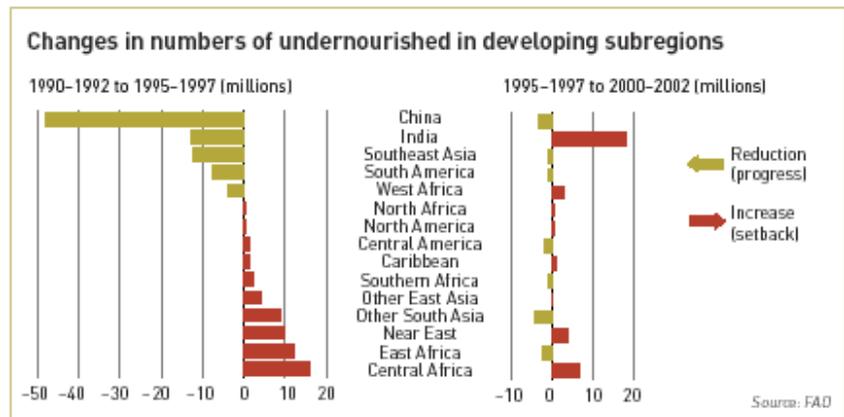
While some parts of the world have made progress in reducing undernourishment, most of the world has seen a setback over the past few decades (See Figure 1), even in economically developed nations. According to the United States Department of Agriculture, in 2008, 14.6% of U.S. households struggled to put enough food on the table; and, more than 49 million Americans – including 16.7 million children – live in these households (2009). Acute lack of access to food can cause wasting, a severe form of malnutrition, from which the World Health Organization (WHO) estimates 20 million children suffer and 1 million children die annually – primarily in South Asia and Sub-Saharan Africa (2007); and Figure 2 shows alarming consequences for the individual and consequently society at large.

Figure 2 Impact of hunger and malnutrition © FAO 2004

Impact of hunger and malnutrition throughout the life cycle

Source: Seres, ACC/SCN

Impact of various forms of malnutrition on productivity and lifetime earnings

Source: Alderman and Behrman; Horton and Ross; Horton

Regarding the global food problem, Foster (1992) and subsequently Leathers and Foster (2009) focus their attention on under-nutrition in the third world. However, the problem with global food today has another side: excess consumption – in particular the high calorie, low nutrition junk food made increasingly accessible – because it leads to obesity and related health problems. As the United States Department of Health and Human Services notes, obesity is linked to a multitude of health problems including diabetes, cancer, and heart disease (2013); and, according to WHO, there are more than 1 billion overweight adults globally and at least 300 million of them are obese (2003). The global food problem now includes both over-consumption among the wealthy, as well as lack of access to good nutrition among the poor.

Food emergencies and their causes, 2003–2004

Mainly human-induced (22)
- Conflict (13)
- Past conflict (6)
- Economic problems (2)
- Refugees (1)

Mainly natural (18)
- Weather (mainly drought, 18)

Note: stripes indicate a combination of causes

Source: FAO

Food emergencies by region

1986–1990
1991–1995
1996–2000
2001–2004

0   5   10   15   20   25   30   35
Average number of food emergencies

- Sub-Saharan Africa
- Asia/Pacific
- Europe
- Latin America/ Caribbean
- Near East/ North Africa

Source: FAO

Primary causes of food crises

1986–1991
1992–2004

0   20   40   60   80   100
% of crises

Primary cause
- Human-induced (mainly conflict)
- Natural (mainly drought)
- Mixed

Source: FAO

A common myth about hunger is that it is a sort of unstoppable natural disaster: empty shelves due to third world droughts or floods. In reality though, as Figure 3 shows, the proportion of food crises that are linked to human causes such as warfare have more than doubled since 1992 (The Food and Agriculture Organization of the United Nations, 2004). In some cases there are full shelves and not enough money. Then, there is the replacement of small-scale farmers by large-scale agribusiness that has resulted in more food shipped globally, but less access locally, as high nutrition plants for local consumption are replaced with export cash crops. As a result, people living in regions with abundant commercial food production may still experience hunger, malnutrition, or related health issues.

There are people whose high level of access has also allowed an unhealthy diet. Food producers investing in the growing technological, and economic resources that enable heightened levels of global food development, production, and management also invest in what we might call 'technologies of malnutrition' – the fast food restaurant, the slick advertising campaign for sugary cereals that targets children, 'convenience foods', soda vending machines and the like. As a result, people living in regions where there is excess food grapple with choice of quantity and quality in the food that they consume. Poor choices like too much high-fat and over-processed food choices can lead to a plethora

of health issues including eating disorders. For instance, Lee, et al. (2002) found that in wealthy communities or rapidly developing ones, particularly high-income Asian societies, with excess food resources, reports are on the rise for anorexia nervosa and bulimia. Solving the problem of global food requires an understanding of its complex causes and consequences that vary by culture and geographic region.

A Wicked Solution: A Theory of Communication Design
The global food problem epitomizes a "wicked problem" (Buchanan, 1992; Rowe, 1991; Rittel & Weber, 1973; Churchman, 1967) that is ill-defined because it exists within an evolving and complex system of smaller, context-specific problems. For instance, understanding how food production leads to a diabetic adult in a developed region of the world would involve the analysis of many different contributing factors including: government subsidies to the sugar industry; advertising schemes that link junk foods with athletics or meat consumption with manhood; the collusion of political and business forces that made fast-food outlets more common than grocery stores, and so on. A wicked problem like the global food problem is also hard to solve because one solution may disrupt the system, lead to other problems, or only address a small part of the whole problem. For instance, helping adults to avoid diabetes by eating well might be aided by a top-down policy like New York's recent attempt to ban oversized, sugar-sweetened drinks. However, the political backlash for such a nanny-state approach can backfire, winning political power for movements that dispute the validity of the very health problems it seeks to address. Due to the emergent properties of wicked problems, bottom-up approaches may stand a better chance. For example, a study by researchers at the University of Leeds recently showed that overweight dieters using a free smartphone app averaged 3 times the weight loss of those using a paper diary (Carter, 2013). Better communication design really does matter.

Yet we cannot lose sight of the real complexity at stake: a wicked problem like the global food problem, I posit, cannot be solved with one simple approach. That is to say: a wicked problem requires a wicked solution that is a synergy of top-down and bottom-up, memetic and localized approaches. Figure 4 illustrates how design outcomes can be conceptualized as evolving across a field of possibilities mapped by two sets of dimensions.

Along the vertical I map top-down versus bottom up approaches. A bottom-up design solution starts with the agency of lay people; whereas as a top-down design solution stems from a position of power within a governing hierarchy--like the local, state, or federal government--that implements a policy to bring about change. Along the horizontal I map the opposing poles of localized versus memetic or viral propogation. Building on evolutionary biologist Richard Dawkin's theory of memes as ideas that function like genes and permeate culture through replication (1976:192), a memetic design solution, or a design meme, is one that replicates – often cross-culturally – to many populations and locations. In contrast, a localized design solution is a singular to limited production of an outcome for a smaller audience. Cyr and Trevor-Smith (2004) define localization as customization of aesthetic features; alternatively Almeida

and Kolgut (1997) define it in terms of geographic context. Here, I define localization as a 'short-run' production for a small group of people that incorporates both of these features while emphasizing its contrast with the self-propagating nature of memetic designs.

A WICKED SOLUTION

Figure 4 A wicked solution to a wicked problem derives from a creative problem solving process and has multiple forms or sub-solutions that are a synergy of top-down, bottom-up, memetic, and localized approaches.

Top-down

Memetic

Localized

Bottom-up
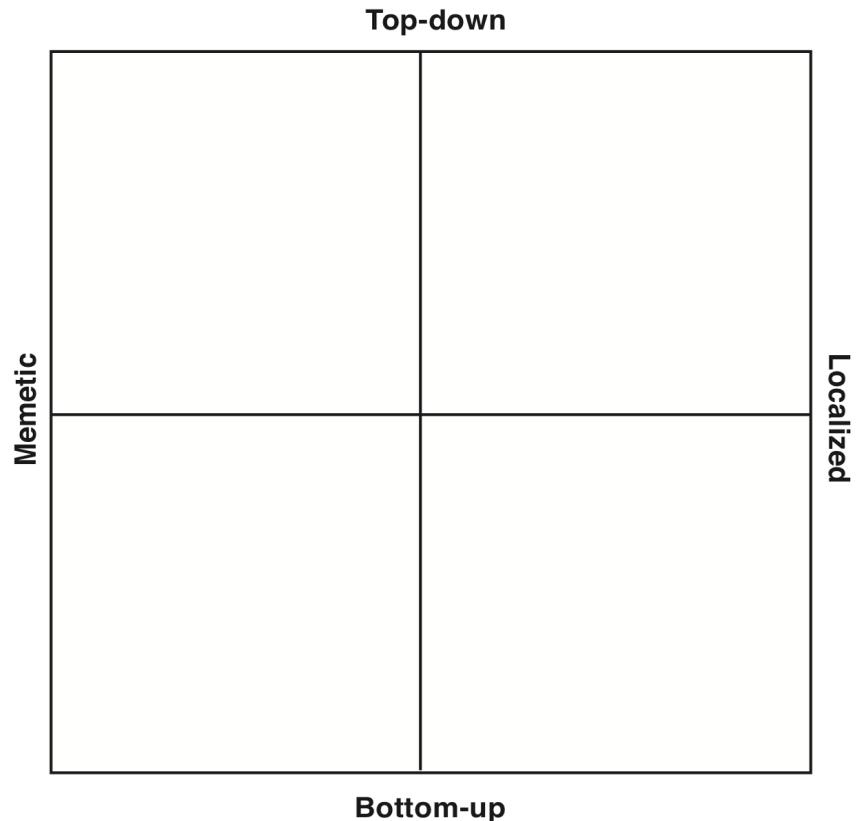
Communication designers who submitted proposals to the GLIDE'12/ Iridescent Call for Proposals (CFP) helped us to see how a wicked solution to the global food problem needs to include the entire range of this space of design possibilities.

What came out of it
In order to attract communication design and food research taking place in both industry and academia, I kept the same acronym GLIDE but renamed the conference 'Global Interaction in Design' (from 'Global Interaction in Design Education'). As our CFP states, we welcomed submissions from:

> "...researchers [(i.e.] research practitioners, educators and doctoral students from all disciplines[)] that study communication design or integrate a communication design perspective in their collaborative research or projects on the global state of food production and consumption and its impact on nutrition and health... [including projects that address questions of]: 1) the role of communication

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design in addressing the issues of hunger and nutrition or the pursuit of good health; 2) the role of communication design in effecting good health or engendering healthy nutritional habits for disease prevention or management; 3) collaborative research and practices between communication designers and other stakeholders on the creation of more eco-friendly and sustainable food systems and public policy regarding food displacement; 4) the visual or design culture of food or health systems globally; and 5) the effectiveness of social media to manage food consumption, nutrition, or health…" (GLIDE12)

We received twenty-six abstract proposals to the CFP; and, after a multi-round, peer review process, we accepted three full papers (published in this special issue) alongside three poster paper presentations published separately in the GLIDE'12 proceedings (Baohouse). The poster papers disseminated research in early stages of exploration and experimentation; whereas, the full papers presented completed research or a completed step in a longer research methodology. The following three papers published in this special issue contribute varying research-informed perspectives on how communication design can contribute to a wicked solution to the wicked problem of global food:

1. In "Rethinking Food Recall Communications for Consumers," which won the Best Paper Award at GLIDE'12, Clinton Carlson and Whitney Peake describe how they used a qualitative, user-centered research approach to understand consumer preferences for notification of recall information.

2. In "Designing Food Cultures: Propagating the Consumption of Seaweed in the Azores Islands through Recipes" Sonia Matos presents an ethnographic study to propagate the food ritual of foraging seaweed locally in the Azores Islands through locally-produced recipes derived in collaboration with lay people and potentially across cultures globally through the future design of a cookbook.

3. In "Mapping Edible Aroids," Karin Vaneker and Erwin Slaats posit that mapping can be appropriated to effect global cognizance of the health benefits and geographic locations of edible aroids.

Figure 5 A wicked solution to the wicked problem of global food shows a synergy of top-down, bottom-up, memetic, and localized approaches: Carlson and Peake's food recall information notification (top-down, memetic); Matos' cookbook of recipes (bottom-up, localized and potentially memetic); and Vaneker and Slaats' edible aroid maps (bottom-up and potentially top-down, memetic)

Top-down

food recall information
edible aroid maps

Memetic

Localized

cookbook
edible aroid maps

cookbook

Bottom-up
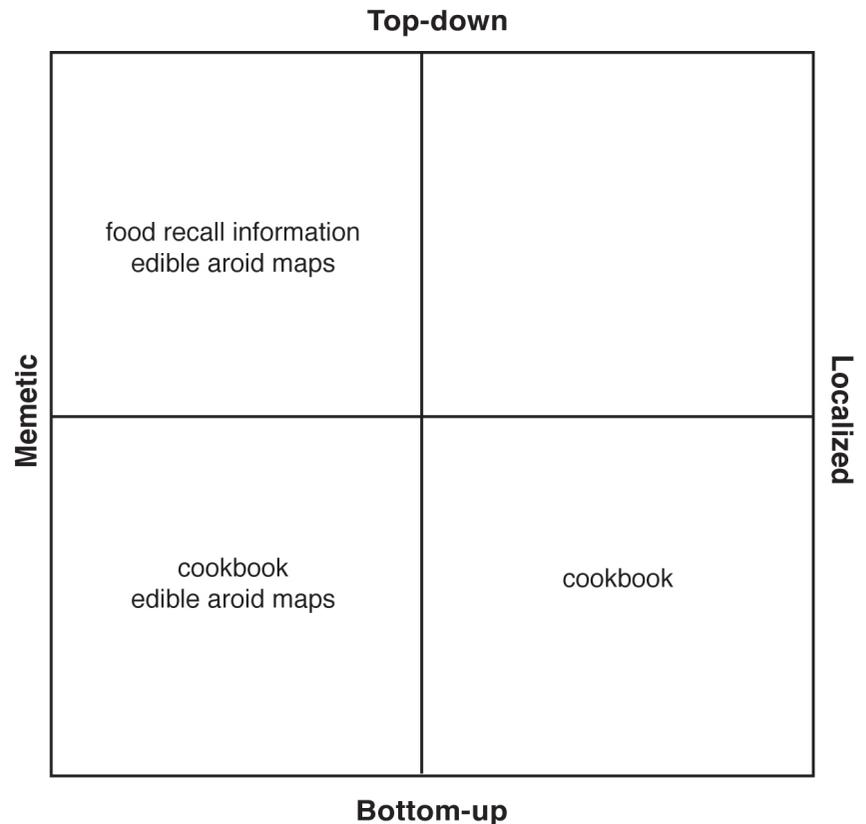
The design outcomes proposed by the authors in this special issue contribute to the wicked solution. As Figure 5 indicates, more solutions are needed in order to realize fully a wicked solution to the wicked global food problem.

Conclusion

As food is a new system of communication (Barthes, 2012), food is now a new medium for creative problem solving by communication designers. This affirms what is suggested by the ICOGRADA Design Education Manifesto 2011 that the disciplinary boundary of communication design is at present permeated with ample opportunities for interaction between different types of professional and lay stakeholders (Bennett and Vulpinari, 2011). On the one hand, professional and lay stakeholders can interact with designers and/or design theories and resources. On the other hand, design experts can move away from the traditional printed or digital page to new communication turf – even the dinner plate.

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