

Editorial

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~~Editorial:~~ Perspectives on food packaging design

Nicolas P. Maffei and Hendrik N. J. Schifferstein

Introduction

This special issue seeks to provide a snapshot of current scholarship on food packaging design across a range of disciplines (history, linguistics, perception, marketing and design), engaging in a variety of methodologies. A special issue of this nature is particularly needed as packaging has been widely under-represented as a subject of serious attention, whether in national libraries, major design surveys or much academic scholarship, particularly in the humanities. Beyond introducing the collected articles of the special issue, this editorial article reviews existing studies of packaging across a range of disciplines. These studies have contributed to our understanding of food packaging design and provide a useful analytical tool box. The final section will introduce the articles that make up the special issue and discuss their contribution to the nascent scholarship of food packaging.

Establishing the gap in scholarship

In Thomas Hine's history of packaging, *The Total Package* (1995), he writes of the paradox of packaging's simultaneous centrality and neglect in contemporary life. He observes that despite its pervasiveness, 'it flies beneath nearly everyone's analytical

radar'. Noting that people only pay attention to it when there is a problem: when a container will not open or when it pollutes. In Hine's useful bibliographic essay, 'Sources and Further Reading', he observes a similar lacuna in the nontechnical scholarship on the subject. Although Hine made this point more than two decades ago, this lack persists and is borne out by searches across scholarship from the social sciences, humanities and design history. While one would expect to find packaging prominently featured in design and graphic design history surveys, its inclusion is sparse and sometimes non-existent, while other design practices, including advertising, book and poster design, are extensively addressed ([Table 1](#)).

In an article evidencing the neglect of packaging in academic scholarship, 'Packaging of identity and identifiable packages' (Chatterjee 2007), the author outlines an exhaustive range of scholarly investigations of consumer-commodity relations in which a 'nuanced analysis of product packaging is largely missing', including those on retailing (Cook and Crang 1996), race, class and gender (Thomas and Treiber 2000; Johnson 1986; McRobbie 1997), kinship (Miller 1987, 1998), advertising and self-hood (Mort 2000) and mass consumption (De Grazia and Furlough 1996; Solomon-Godeau 1996; Peiss 1996, 1998). Chatterjee finds similar gaps in her review of behavioral sciences, Marxist and post-structuralist analysis, empirical sociological studies of advertisement stereotypes and feminist analysis of identity construction.

Chatterjee is left wondering if the 'fleeting' and 'utilitarian' qualities of packaging have led to its neglect (Chatterjee 2007). Could its ephemerality and functionality also have contributed to its limited appearance in national library collections and its diminished appearance in many leading design history texts? Could it be that a

wider cultural bias in academia against the ubiquitous and the cheap has discouraged its study? Or perhaps package design has not developed the educational and scholarly infrastructure – the post-graduate degree courses, the academic journals and conferences – of its allied disciplines: graphic design, architecture and industrial design? Or is it because those who study design often apply an art historical method, and are thus drawn to the poster which is more akin to painting? The omission is curious as packaging is so prevalent in daily life. It is hidden in plain sight: present but consistently ignored. Arguably there is a greater need for its discussion than other forms of design, which are more widely preserved and analysed, e.g. books, advertising and posters.

Historical significance of packaging

The neglect of packaging in design history surveys is surprising. Studies have shown that packaging has been key in the development of consumer capitalism, the industrialization of food systems and significant in the global establishment of major brands and mass consumerism. The business historian Porter (1999) argues that by the early 1930s, packaging had become established as a major industry in the United States and as an object central to an emerging consumer society. Using archival sources from the Hagley Museum and Library, Delaware, Porter explores the forces that shaped packaging design, including the role of market research, gendered and class-based perceptions about products and consumers and business aims that often constrained the aesthetic preferences of designers.

Porter has observed that packaging occupies a unique position in the promotional sequence of consumption, noting that a product's 'success or failure was the final act in a long chain of efforts to create, package, advertise, distribute and sell goods' (Porter

1999). In studies of packaging, it is almost impossible to avoid its description as the 'silent salesman', a term normally associated with a historical transformation within capitalism from traditional to modern social interactions, from face-to-face relationships to depersonalized ones where consumers are persuaded by packaging design and aesthetics and their associated manufactured personae. While this transformation has resulted in cost savings, it has, arguably, eroded communal contacts. This historical development from traditional to modern consumerism is associated with an important cultural evolution where design – and packaging in particular – has played a significant role. Historians have claimed that the alienation engendered by packaging is not just social but has diminished people's relationship with the natural world. Packaging found in supermarkets has removed consumers from the 'life and death matter of eating' so apparent in the traditional marketplace where unwashed vegetables and bloodied animal carcasses were the norm (Hine 1995).

Existing packaging research: Humanities studies

The historical and sociocultural importance of packaging is also recognized in a number of studies from the humanities (from the social sciences to literary theory). In such studies, packaging has often been understood as having a social role, replacing that of the traditional market seller. Similarly, design consultants have discussed the need for faceless corporations to have a more human personality (Baker 1989; Olins 1978), something packaging can provide as a canvas for the expressive qualities of a brand (Aaker 1997; Blackston 1993). Those who speak of the power of packaging often humanize it (see Hine, for example), recognizing its personality, tone of voice and agency

and describing its power to seduce, persuade and speak through type-face, words, colour, form and materials.

The recognition of these communicative qualities normally associated with humans suggests that it is the social sciences that have the most potential to successfully analyse packaging. Some recent scholarship appears to have addressed this lack. Alworth (2010) focuses largely on packaging as a social artefact, mixing Bruno Latour's actor-network-theory (ANT) (2005) – an analytical perspective that recognizes the social agency of interconnected 'actors' (e.g. people, things and ideas) – literary studies and art history to discuss the possibility of a sociology of the grocery store. Alworth's article investigates how humans (shoppers) have interacted with non-human actors (e.g. packaging), asking if the supermarket as social microcosm 'could constitute something like a new sociology'.

Focusing on beverage packaging, Jørgensen (2013) examines the social and cultural construction of the technological system of recycling – made up of 'environmentalist sentiment', an 'everyday habit' and 'social expectation' as well as 'disposal stations, legal frameworks, transportation systems and the recycling technologies themselves'. Providing a history of package recycling in Norway in the twentieth century, he uses ANT while adapting Cowan's (1987) consumer focused concept of the 'consumption junction' to discuss the concept of a 'recycling junction', 'the time and place at which the consumer chooses to recycle or discard something'.

Others have used literary theory as a contextual lens in order to better understand food packaging. For instance, Jacobs (2015) provides a rich analysis of potato chip packaging (or crisps, as they are known in the United Kingdom) to review existing

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analytical approaches while introducing new ones, such as the analysis of 'parafoods'.

Jacobs borrows **Gennette's (1997)** notion of 'paratexts', which are the artefacts and messages that influence the meaning of the primary text, such as a book's foreword, cover, a review, and so on, and applies this notion to the food realm. Hence, packaging can be considered a paratext that gives meaning to food, and the concept of parafood is developed to explore how condiments impact the meaning of foods. Like a foreword to a book, the functional and aesthetic elements of packaging contextualize and introduce the food. Its tone of voice and materials set a mood and manage consumer expectations.

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The functions of food packaging

In the previous sections, we discussed the meaning that packaging may obtain for people, as it often constitutes their first layer of contact with food. However, when designers are given the assignment to create a new package, they are more likely to approach the topic from the angle of the food producer, for whom packages fulfill multiple functions. One could say that the primary function of food packaging is to protect, stabilize and preserve its contents during handling, trading, transportation and storage (e.g. **Dekker 2011**). This implies that the packaging should function as a container that makes sure that none of the food product leaks out, that any changes in the product are kept to a minimum and that nothing unwanted (e.g. oxygen, water, light, bacteria, insects) can enter the package. In order to perform this function optimally, packaging technologists can choose from many different packaging materials in combination with various types of treatments that prepare and help stabilize the food (e.g. heating or cooling, adding acid, salt, sugar or gas) and may add storage advice (e.g. keep cool, in the dark) in order to prolong shelf

life. In addition, the material should be strong and flexible enough, so that it does not open unintentionally during transportation and handling.

In addition, packaging design may offer options that facilitate product usage, for instance by providing ways to open or close the package easily, by suggesting and supporting a way in which the product can be poured from the package or by supporting consumption directly from the package. Design choices can directly affect product consumption. The shape and size of a container (Wansink 1996; Wansink and Van Ittersum 2003; Raghurir and Krishna 1999) and the magnitude of its opening (Farleigh et al. 1990; Greenfield et al. 1984) influence the amount of product consumed. The physical properties of the package may have a direct effect on the way its contents are perceived. For instance, the migration of compounds from packaging material may produce off-flavours in the food (Halek and Levinson 1988), and a container's shape has an effect on flavour release (Hummel et al. 2003; Spence and Wan 2015), which affects consumption directly from the package.

Another important function of packaging is to communicate the nature of its contents. The package identifies the name of the product and its quantity, it reveals the brand and provides information about producer, country of origin, food ingredients, nutritional value and so on. Besides providing such information through text, the exact packaging design characteristics are critical, because they may either facilitate or obstruct the product's identification and can change its evaluation (Cardello et al. 1985). Pictures can be used in an informative way, to display the food ingredients, the way in which the product can be prepared or consumed, or for which type of user the product is intended. However, in many cases, graphic and stylistic elements are used to create some kind of

desirable product image that does not necessarily agree with reality and that mainly serves to seduce potential customers to buy the product. For instance, although a product may be extensively and industrially processed, its packaging may display a nostalgic landscape (Wagner 2012), hence suggesting that the product has been prepared in a traditional and hand-crafted manner (e.g. Orth and Gal 2014). What is interesting to mention here is that governments tend to be very strict in terms of the language that may be used to describe products, but not in terms of the visuals that may be used to enhance packaging appeal. Although this provides a lot of opportunities for graphic design to generate desirable product expectations, it might also explain why many consumers feel that the food industry is not reliable or trustworthy, as consumers may feel misled (see Schifferstein 2016). Possibly, the use of transparent packaging may help reduce any feelings of mistrust, because it allows consumers to see directly what they buy. Besides increasing the willingness to purchase the product, transparent packaging has been shown to improve expectations for the freshness, quality, tastiness and innovativeness of the product (Simmonds et al. 2018forthcoming).

Consumer tests typically show that just by providing information on a product, consumers will already like the product more and will be more likely to buy it (Anderson 1973; Cardozo 1965). Hence, branding usually adds value to a product. For many food products, the brand will be a major determinant of the characteristics of the package design. Besides the depiction of a brand name and logo, it will usually also partly determine the colours and fonts used and the shapes of packaging and labels. In this way, different packaging elements together contribute to the brand image and communicate the values the brand stands for (Aaker 1995).

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Packaging can communicate powerful messages, whether through its function or aesthetics (Prendergast and Pitt 1996). In fact, Silayoi and Speece (2007) argue that the visual and informational characteristics of packaging are the primary influencers on consumers. Stylistic graphic design elements (e.g. form, colour, imagery, typography and materials) can conjure narratives that may repel or attract, while supposedly neutral information (e.g. nutrition, price and weight) can be equally affective – alarming or alluring. While packaging may simultaneously distance the consumer and the consumable, this obstruction may actually increase desire.

However, the communication of product properties, brand values and meaningful narratives is not exclusively confined to verbal or visual communication. Messages may be transmitted through all sensory channels and thus contribute to how people perceive, experience and evaluate a packaged food product (Lindstrom 2005; Schmitt 1999; Orth and Malkewitz 2008; Spence and Piqueras-Fiszman 2012). Besides visual packaging cues (Becker et al. 2011; Mizutani et al. 2010), consumer behaviour can be affected by tactual (Krishna and Morrin 2007; McDaniel and Baker 1977), auditory (Brown 1958), olfactory and gustatory properties (Schifferstein et al. 2013) that are all perceived while consumers inspect a closed package or start to open it. Consumers may be less aware of inputs received through the non-visual senses, which can make product interactions more intuitive and emotionally engaging (Schifferstein and Cleiren 2005; Schifferstein and Desmet 2007).

In a design process, the sensory aspects can be specifically fine-tuned in order to communicate a specific message in a way that all sensory properties enhance each other (Schifferstein 2011). Whether this message implies the enhancement of certain food

properties, the communication of brand values, or the support of a particular narrative, is for the food-producing company to decide. For instance, [Nikolaidou \(2011\)](#) created a concept for a soup package that conveyed naturalness through multiple sensory channels, while remaining in line with the principal values of the company brand. She developed an interaction scenario describing how the sensory modalities were stimulated during purchase, storing, cooking and consumption. Similar to products from nature, the package had a rich texture and allowed consumers to smell the contents of the soup. Furthermore, the crispy sounds from the packaging material enhanced the sensory richness of the experience. Such a multisensory design process ([Schifferstein 2011](#)) can be supported by consumer research that investigates how consumers perceive the target quality (i.e. naturalness) through multiple sensory modalities ([Labbe et al. 2013](#)).

In addition to the packaging functions discussed above, it is important for food packages to stand out on the retailers' shelves enabling consumers to spot them. The way in which retailers present products on their shelves in order to maximize their profits is a discipline of its own. Consumer buying behaviour has been studied by testing different packaging designs in a virtual display or on the shelf (e.g. [Burke et al. 1992](#); [Garber et al. 2008](#)). Food companies require designers to create packages that attract attention and are easily recognized in a display filled with competitors' products. Packaging shape and colour play an important role on retail shelves, because consumers who move down long store aisles first see the fronts of packages from a distance and at an angle and start processing the larger visual elements well before they can process finer details or read text (e.g. [Garber et al. 2008](#)). The position on the shelf and the lighting can bring a product to the shopper's attention, and the type of lighting directly influences the

perceived qualities of the product (Suk et al. 2012; Barbut 2001). In addition, the character of the buying outlet itself creates a context for product selection, which partly determines how the food is experienced during consumption (Wheatley and Chiu 1977).

Besides the functions a package is required to fulfill during its lifetime, designers should keep an eye for what happens after it has served its primary purposes. Many food packages are disposed of immediately after a food product has been consumed. Hence, an important topic related to packaging is sustainability: what happens to the waste? And what can designers do to decrease the amount of package waste? But on the other hand, packaging is instrumental in reducing the amount of food waste: it helps preserve the food, which is often a fragile and very perishable product, and the amount of food waste during production, transportation, storage and consumption is enormous (Gustavsson et al. 2011). Hence, with respect to sustainability options, stakeholders in the food chain need to make a careful consideration that optimizes the quality and amount of food consumed, while minimizing the environmental impact of both the food and the package waste. This trade-off leads to interesting research questions regarding the best packaging materials and preservation treatments but also to questions regarding the optimum package quantities to serve consumer households (Williams et al. 2012). Like most topics in this issue, sustainability issues can be studied from multiple viewpoints, including technical (Marsh and Bugusu 2007; Williams and Wikström 2011), business (Henningsson et al. 2004) or societal and historical aspects (Jørgensen 2013).

Special issue articles

This special issue's call for papers asked authors to expand the definition of food packaging design; to explore how the design of food communicates individual and group

identity; how cultural meaning is shaped by food packaging design and how the design of food packaging affects the eating experience. The list of questions was intended to encourage authors to address the sociocultural aspects of the special issue's subject. The articles we received met and surpassed these trigger questions, providing intellectually stimulating surprises while evidencing a rich and active body of scholarship on food packaging design.

With its emphasis on a food wrapping material, Ai Hisano's article 'Selling food in clear packages: The development of cellophane and the expansion of self-service merchandising in the United States, 1920s–1950s' challenges the conventional understanding of food packaging design, which typically focuses on more familiar materials such as glass, plastic, paper (e.g. card and card board) and metal (e.g. tin and aluminium cans) or neglects materials altogether. Equally refreshing is Hisano's discussion of transparency in packaging materials and its accommodation to wider cultural tendencies and consumption practices that prized vision. Hisano observes that the dominance of male executives in the food and cellophane industries of the 1930s resulted in gendered biases including an assumption that women 'bought with their eyes' thus leading to an increased emphasis on visibility in the retail environment and in packaging, resulting in promotion and use of cellophane in food display. The marketing of cellophane communicated a particular kind of modernity that emphasized the hygienic, protective and scientific. Its glittering appearance further associated it with modernity (Maffei and Fisher 2013). At the same time, Hisano discusses the way in which transparency was also seen as problematic: impeding the 'gratification of curiosity and surprise', e.g. analogous to the surprise provided by unwrapping a gift.

Combining a historical and contemporary perspective Michael C. Brose's article 'Permitted and pure: Packaged halal snack food from Southwest China' explores the ways in which packaging design can communicate nostalgia and religious and national identity in a country undergoing intense economic and social change. Focussing on halal beef jerky produced by the Muslim Hui people, Brose examines not only the historical and cultural contexts of his subject, but the design challenges of communicating ethnic identity in China's expanding online commercial environment.

Brose's research joins a handful of other scholars who have previously explored the religious and spiritual in packaging. In 2004, Jacob Weiss combined cultural history with semiotic analysis to investigate the labels of kosher food packages as a discourse of nostalgia and the 'commodification of tradition'. More recently, Maria Kniazeva²⁵ (2015) has researched Western food and drink packaging that uses the imagery and language of Eastern religions, in particular Buddhism and Hinduism. The aim of her research was to discover the way in which Western secular and Eastern spiritual traditions might coexist in the marketplace. However, Kniazeva concluded that authentic Eastern spirituality is nearly impossible to achieve in commercial Western packaging. In contrast to Kniazeva's conclusion, Brose's research suggests that specific religious and spiritual codes are more authentically communicated within national and ethnic groups than outside them.

While Brose explores packaging that communicates both religious and national (e.g. Hui and Chinese) identity conforming to halal purity requirements, Barnes investigates fruit, vegetable and meat packaging labels designed to suggest a different kind of authenticity – Britishness and wholesomeness of farm produce. Barnes' article

‘Telling stories: The role of graphic design and branding in the creation of “authenticity” within food packaging’ focuses on the design imagery of a group of fictional farms designed for the UK-based grocery store Tesco. Using social semiotics (van Leeuwen 2005), the investigation of communicative codes (e.g. text and image) in social context, the article explores how ‘authenticity’ is co-produced by shoppers and designers in the consumption of the design elements of food packaging. Using recent writing on the concept of ‘authenticity’ (Beverland et al. 2008; Gilmore and Pine 2007; Maffei 2016), Barnes’s study provides a useful investigation of the ways this highly popular marketing buzzword is socially constructed and variously defined.

Nina Janich’s “‘Nothing added, nothing taken away” – or laboratory-made naturalness? The semiotics of food product packaging in Germany in the 1990s and today’ explores the way in which societal discourses of nature and nutrition have found their way onto probiotic yogurt pots. The author provides a deep analysis of the use of ‘scientific’ imagery and language in the marketing of a ‘natural’ product – yogurt. The article makes use of semiotic analysis to unpick the paradoxical notion of scientifically produced nature and the scientific-sounding rhetoric of terms such as probiotic, which as Janich notes simply means ‘for life’ rather than referring to any specific scientific process. Janich’s detailed attention to the deeper meanings of promotional language, and her probing analysis of market-speak, provides a useful model for critically engaging with the texts that accompany packaging design.

In the last article of this issue ‘Nudging food into a healthy direction: The effects of front-of-pack implicit visual cues on food choice’, Coulthard, Hooge, Smeets and Zandstra present an empirical study on the visual and cognitive processing of the shapes

and orientation of specific graphic elements of food packages. They investigate the effect of subtle messages that are communicated by seemingly irrelevant details on the packaging design on product evaluations and choice. In today's oversaturated markets where consumers can often choose from many comparable product variants, such subtle cues that may enhance preference or elicit beneficial associations may form the final elements that persuade a buyer to choose a particular option. Hence, empirical studies on design elements may provide insights that designers can use to develop attractive and successful food packages. This type of study reveals the kind of information that is conveyed by design elements. In order to understand *why* consumers make certain associations, it is important to link this type of study with historic, cultural and semiotic studies as we find in the other articles in this issue, as they describe the stories that link various elements to the meanings consumers attach to them.

Conclusion: Cross-disciplinarity, materiality and context

Our call for papers resulted in a selection of investigations of food packaging design ranging from cellophane, halal meat and label and package design, situating packaging historically, culturally and providing technical design analysis. The articles engage in varied methodological approaches including quantitative and linguistic analysis, historical method and design interpretation. The articles fill gaps in both the consumer behaviour literature and studies in the humanities, where packaging design has received limited attention, despite playing a major role in many daily interactions in current industrialized societies. The importance of packaging may have been overlooked in the past, possibly because of its ubiquitous presence. Nonetheless, the various articles included here indicate that packages bear witness to many societal processes with

economic, historical and cultural relevance. Designers are often aware that minor changes in packaging labels, graphics, colour, package shape, material or texture may impact whether shoppers will notice the package, how consumers interpret the package information and whether they will purchase the product or not. However, a comparison of multiple packages from different brands, product variants or time periods may provide interesting insights regarding the evolution of societies' values as well as those of people from different cultures or demographic segments.

This conclusion makes a case for three potentially fruitful paths in packaging design studies: cross-disciplinarity, an increased focus on materials and attention to context. As a cross-disciplinary project, this special issue has encouraged articles from across academic disciplines and is the product of an editorial collaboration between a design historian and a behavioural scientist. A project that considers both technical and nontechnical perspectives encourages a broader understanding of packaging design. This approach may be particularly appropriate for packaging as it is a design practice that requires understanding of production technologies, insights in the technical and perceptual properties of materials, an aesthetic sensitivity for product, brand and market demands, expertise in the use of design tools and much more. Packaging designers would also benefit from an understanding of the historical and cultural contexts of their practice, as well as approaches that explore the symbolic meaning of materials and design elements.

Materials whether glass, cardboard, steel, aluminium or paper have been and still are central to packaging. All these materials have unique symbolic meanings that can complement and enhance the communicative power of food packages. The impermeable

and shiny qualities of stainless steel, e.g., have been associated with twentieth-century modernity, hygiene and cleanliness (Maffei 2013). It is the designer's job to understand these meanings. Yet, the number of visually focused studies of packaging, at least in the humanities, far out-numbers those exploring its very substance. A reorientation towards the meaning of materials and a multisensory approach to its experiential qualities would help counter this strongly visual bias and provide an essential tool box for packaging designers and scholars, whether historians or semioticians, linguists or design researchers.

Besides the impact of materials from an aesthetic or marketing point of view, the choice for particular materials has a large impact on the effect that the product waste will have on the environment: Can the material be reused or recycled? To what extent will its waste pollute the environment? And what is the impact on society at large? These are all topics that have not been addressed in the current special issue but surely require attention in future publications.

While the special issue has expanded and extended the contexts and discourses around food packaging, the call for papers also asked authors to question the conventions of the package. It encouraged researchers to broaden the definition of packaging: can baby bottles, transport vehicles, restaurants and factories or even animal skins be considered ~~to be~~ kinds of food packaging? This expanded definition of food packaging could redefine the foundations of future research. The call for papers also sought to contextualize packaging, posing the question: how do social, cultural and technological systems in which food design is embedded (e.g. education, management, marketing, distribution, manufacturing, etc.) determine food packaging? This holistic perspective

was intended to encourage scholars and designers to consider packaging in connection to the designed contexts in which it operates, such as its role in product advertising, wholesale storage, various modes of transport, supermarkets with display shelves, domestic spaces with kitchen cupboards and recycling infrastructure. By evaluating packages as part of multiple specific infrastructures, we can obtain more insights into the trade-offs packaging designers need to make.

With this special issue, we hope that we have made a start in filling the gap in the literature investigating food packaging design and in outlining some interesting topics for future research. Moreover, we hope that the *International Journal of Food Design* can continue to play a role in filling this gap by hosting many more issues on this fascinating topic.

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NM: Done.

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NM: ok.

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Table 1: Frequency of index entries on 'packaging', 'advertising', 'poster' and 'book' in design and graphic design history surveys (2010–15).

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NM: this is fine.

	Packaging	Advertising	Poster	Book
Eskilson (2012)	0	20	131	21
Meggs and Purvis (2012)	2	12	32	15
Raizman (2010)	0	17	46	0
Margolin (2015a, 2015b)	4	61	51	20

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