

ADVERTISING AS ORCHESTRATION:

PAPERS ON ATTUNING COGNITION AND HISTORY

IN THE STUDY OF PERSUASION

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ABSTRACT

Title: Advertising as Orchestration: Papers on attuning cognition and history in the study of persuasion

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The understanding of the brain that has emerged in the past two decades of research posits cognition as the orchestration of multiple processes that are shaped through the accumulation of material experience. Key cognitive skills such as theory of mind and conceptual blending can now illuminate how the processing of advertising is the result of the consumer's material knowledge. This dissertation explores how these advances can be incorporated in the study of persuasion, and in particular in historical contexts. To demonstrate, I revisit the iconic 1949-1969 "I dreamed I … in my Maidenform bra" campaign. This proposal is developed over three papers.

In Paper I, I detail how Maidenform orchestrated its efforts to keep abreast of developments in the advertising industry, in the fashion and undergarment sector, and in the media and cultural landscapes. Recovering this historical backdrop is crucial to the study of cognition in the wild, because it formed the material environment that the campaign thrived in.

In Paper II, I introduce cognitive cultural theory and argue that it has the potential to revive empirical work that pulls together consumer cognition and the rhetorical intent of the text. I exemplify this by analysing the mental processes that underpin the interpretation of a LEGO ad, focusing in particular on conceptual blending and theory of mind.

In Paper III, I take a cognitive cultural perspective to humoristic consumer responses to the Maidenform campaign. I delineate how humour enables audiences to mentally elaborate on the implications of novel ideas, and show how a set of artefacts articulated, unravelled, mimicked, materialised, bowdlerised, and hijacked the original premises of the campaign.

Together, these papers demonstrate how advertising texts should not only to be understood as a vehicle for symbolic thought in consumer culture, but also as its instrument.

In memoriam

Patricia Murillo

Guayaquil, 15 November 1955 – Maastricht, 21 March 2018

Piet Van den Bossche

Borgerhout, 18 September 1931 – Mortsel, 19 September 2017

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INTRODUCTION

I once dreamed that I went to a 3-alarm fire
In my Maidenform bra chic and cute;
I ran up the ladder so high and then higher
As the fire laddies yelled, What a beaut!
The building caved in so I jumped in the net,
And I landed quite flat on my face;
But I handed those firemen a fooling, I bet,
For my Maidenform stayed in its place!
Now I always put on my new Maidenform
When to bed I so gracefully leap;
If, dreaming, I deviate far from the norm
I feel perfectly safe in my sleep.

— Carl Victor Little on 23 March 1951 for the *Houston Press*, reprinted in the *Maidenform Mirror*, August 1951

The muse for this poem was not a person, but an ad: variations on the tagline "I dreamed… in my Maidenform bra," had run in the United States since 1949, and would continue to do so until 1969, inspiring countless parodies, spoofs, poetic odes, contests, window displays, and of course sales. Carl Victor Little of the *Houston Press* was only one of the many columnists who would feel compelled to comment on what had become a fixture in national magazines and local newspapers. Declaring himself an old gentleman not accustomed to "the brash ways of this Atomic Age," he claims to be discomfited by this "Bra Girl" jumping out from the printed page (*Maidenform Mirror* 1951). He adds that he is a good sport, so he joins the fun with his own refrain, where he imagines a fanciful tableau: flaunting her figure and neatly dodging potential humiliation, the Maidenform woman is nevertheless quite safe in her sleep.

Amusingly, this poetic outburst predicted a Dream execution that appeared just two years later: "I dreamed I was a fireman in my Maidenform bra," had a model perching high up on a ladder, a wide skirt billowing around her legs and a helmet balancing on her coifed head. The clou that had shocked her audience was that she wore nothing else above the waist besides her Maidenform bra, a conical affair that so characterised the feminine figure of 1950s. More than 170 executions ran in this campaign, which I will refer to as "the Dreams" (see Appendix 1 for a

chronological list). An audacious step in the company's post-WWII reboot of its marketing strategy, little did Maidenform know that the campaign would run for two decades and involve some of the most famous photographers, models, and advertising executives of the time.

Cases such as these are often remembered as paragons of creative strategy, and indeed the Dreams campaign has been included in the *Encyclopaedia of Major Marketing Campaigns* (Coryell 2000), has been the subject of a Harvard Business School case study (Nicholas 2007), and has featured in no less than ten book-length studies of post-WWII American culture and women's histories (Burns-Ardolino 2007; Evans, Buckland, and Lefer 2004; Farrell-Beck and Gau 2002; Fields 2007; Levine 2007; Moog 1990; Reichert 2003; Rutherford 2007; Sivulka 1998; Synycia 2016). Besides being one of the longest running campaigns in modern advertising history, the Dreams are cited as the first to publicly depict women in their underwear (e.g., Coryell 2000). This exposure was supposed to have found a deep connection to the 1950s housewife's repressed psyche (e.g., Odom 2016; Packard 1957), and to have propelled women to purchase goods that reinforced their subjugation (e.g., Coleman 1995; Rutherford 2007). A little bit of clever imagery and a suggestive tagline was all that was needed to drive millions of women to the stores.

As I will show, however, this interpretation is based on a series of theoretical assumptions about cognition, unreasonable inferences about consumers, and mischaracterisations of the historical advertising landscape that distort the power that the Dreams likely did have. A careful historiography—especially from a marketing point of view—could redress these oversights, but it is currently non-existent. Many studies fail to support their accounts with a good understanding of the campaign's historical background, let alone primary sources, and I have been able to find contradictory evidence to many of the literature's claims. In part, this is because the stock explanation that "sex sells" is so easily applied to the Dreams that any further interrogation seems pointless.

This is compounded by the fact that we are yet to theorise how advertisements come to mean something from a cognitive perspective. Much has been written on the subject in consumer psychology and behaviour, but none of these theories can quite explain the whimsy of examples

such as "I dreamed I was an eskimo in my Maidenform bra." By often focusing on single-variable outcomes, they miss out on much of what characterised the Dreams, which were fantastical yet informative, repetitive yet binge-worthy. The Dreams might have led to purchase, but very often they also led to other outcomes—spoofs, parodies, fancy dress, window displays, moral outrage—that were also the result of consumer attention. The ads were widely re-purposed and consumers could be faced with the campaign entirely outside the context Maidenform had intended for it. Although theoretically nebulous and unaccounted for, this prolificacy granted the Dreams their charm. But current theories of persuasion tend to dismiss these ads as simply offering fantasies for women to escape into, with the use of humour allegedly reducing the reader's ability to be critical.

That said, rejecting cognitivist insights because they overlook the contextual embeddings of cultural artefacts, is merely to point out that other cognitive processes should be investigated instead (Mercier 2014). The element that is missing in this picture is further elaboration on how cognition itself is necessarily historically and contingently situated. Advertising, as I will argue in this dissertation, consists of the orchestration of material experiences at the level of cognition, and these experiences are drawn from the orchestration of artefacts at the level of cultural history. Borrowing the words of a prominent cognitive cultural theorist, my position is that advertising is "both an instrument and a vehicle of thought" that "thinks in its own ways" and is therefore a "special object of… knowledge" (Cave 2016, 12). That advertising is capable of special knowledge and that it is a vehicle for thought was first proposed by Grant McCracken (1986) and driven home by Linda Scott: "As the artifacts of attempts to 'textualize' exchange, ads are clearly the literature of consumption" (1994b, 477). That advertising is also an instrument of thought, however, has seen much less articulation. We would require a different understanding of cognition than is currently available in the literature to explicate how this is the case.

BROADENING THE LITERATURE

Taking a close look at Maidenform's 1949-1969 campaign reveals how prevailing advertising theories can obscure the wider activities and ramifications that accompanied the company's efforts. Understanding the campaign's impact beyond its perceived effect on sales allows us to move away from the stimulus-effect framework, and to take into account that the Dreams not only resulted in increased sales but also became a cultural icon of which the reach cannot be overstated. Between the 1950s and 1960s, the United States were in the throes of several upheavals: the nation's post-war production capacity had brought on an unprecedented consumer goods boom, gender roles were being renegotiated as family and class structures sought stability, and the American public was coming to grips with newly emergent sexual and moral codes. As a result, the fashion and the undergarment industries were experiencing tremendous transformation along with the introduction of new production materials and processes, an increase in demand as well as competition, and rapidly changing consumer tastes. It is in the midst of this turmoil that Maidenform made its mark. Somehow embodying these seismic shifts, Maidenform has attracted ample contemporary as well as retrospective commentary that attempted to come to grips with its pull on the public.

Vance Packard's *The Hidden Persuaders* (1957) is a useful case-in-point: a tirade against the proliferation of advertising in general, and Ernest Dichter's school of motivational research in particular, Packard's account of a Dream ad clearly reflected the opinions of the advertisers he chose to interview, rather than the women who kept Maidenform's production lines well-oiled. He describes—not without a touch of moral panic at the sight of a lady in her undergarments—how the admen he interviewed explained the campaign's impact:

> The theory was that since she was dreaming, her undressed state was permissible. The ad men themselves argued about the wisdom of this ad and the deep-down effect it had on women seeing it. Some were convinced, after talking with their psychological consultants, that the scene depicted would simply produce an anxiety state in women since it represented a common oneiric, or dream, expression of the neurotic anxieties experienced by many women. Others in the trade, however, became convinced after checking their psychologists that the ad was sound because the wish to appear naked or scantily clad in a crowd is "present in most of us" and "represents a beautiful example of wish fulfilment" (Packard 1957, 76).

Packard's experts thus believed that the depiction of a "naked dream" could dredge up deep-seated desires or anxieties for the average housewife. No mention is made of the numerous (and highly visible) other activities orchestrated by the Maidenform company to keep the interest of trade partners and consumers piqued. The focus on the power of the single-shot ad is absolute. Given the popularity of motivation research at the time, this remarkable Freudian account was not an uncommon mode of explanation, but it has also carried over into recent analyses with little interrogation as to its soundness. For example, Odom's (2016) and Coleman's (1995) analyses equally adopt psychoanalytic lenses, shrouding the advertisements in implausible and presentist interpretations. The result of these lenses is that they overpower the experiences of the consumers because the psychoanalytic processes that they assume necessarily bypass the audience's conscious awareness.

Non-Freudian accounts equally display the tendency to privilege the text over the reader. Burns-Ardolino (2007) and Synycia (2016), for example, shroud the Maidenform advertisements in the historical arguments that are the focus of their theses: respectively the paradox of freedom and restraint in women's shapewear, and the woman-to-woman business philosophy of the Maidenform company. In general, the literature on women's consumer culture in the 1950s-1960s has still to see a revision of the images that Sivulka (1998) and Fox (1984) crafted on the basis of directed grand narratives of advertising history (Schwarzkopf 2011), or the battle for agency and identity that Williamson (1978) and Moog (1990) describe. These analyses—often hybrids between semiotic and content analyses—attempt to characterise an advertising landscape and thereby illuminate consumer history, but by focusing mainly on representation, they come at the expense of understanding the intent of the advertiser or the reactions of the reader (Schwarzkopf 2011; Scott 1994a). These studies thus often lack the sensitivity that Janice Radway brought to the seminal *Reading the Romance* (1991), which Scott has called for consumer researchers to emulate (1994b). The Maidenform Dreams all too easily slot into the "duped housewives" narratives and demotivates further questioning, thus losing much of what differentiated the Dreams from other undergarment campaigns, and overlooking what might have attracted readers to it in the first place.

The superficiality of our knowledge of the campaign is especially surprising considering the ready availability of archival data. In 1997, Maidenform donated its archives to the Archives Center at the National Museum of American History in Washington, D.C. Amongst others, this archive consists of numerous market survey reports, boxes of retailer materials and sales kits, press clippings, drafts of press releases, company photography, and substantial runs of the corporation's employee and retailer magazines (the *Maiden-forum* and the *Maidenform Mirror*—unfortunately, the archive is missing *Maiden-forum* issues between 1955 and 1961, as well as *Maidenform Mirror* issues from 1966 onwards). What this archive does not include are strategy documents related to the campaign, which probably would have been held by advertising agency Weintraub and its successor Norman, Craig, and Kummel. Some of this can be found in the Ernest Dichter papers, held by the Hagley Museum and digitised in the Andrew Matthews databases, which include reports written by Dichter's Institute for Motivational Research for Norman, Craig, and Kummel.

Many of the publications that Maidenform advertised in are also accessible—whether through the Library of Congress, the British Library, or digital sources such as the ProQuest databases, Google Books, the Media Lantern Archive, and the Internet Archive (see Appendix 2 for a full list of sources). I collected a total of 9211 advertisements, of which 1198 were about Maidenform and 520 were Dream executions. The dataset was gathered from 21 magazine and newspaper publications, and covers approximately 375 undergarment brands and 88 store names. These magazines and newspapers provide insights both into the general advertising practices of the time, as well as the context in which they were read. Fashion features, for example, often blended editorial curation and product placement to show readers how the latest trends in undergarments complemented the look and mood of the time.

Finally, to understand what the products looked and felt like, second-hand Maidenform bras from the period are still available for purchase from platforms such as Etsy. I own two of them: a pre-1950 Maidenette Strapless in white satin and lace, and a post-1957 Chansonette in black nylon lace. They are intricate but surprisingly inelastic and (considering that most aimed

for a conical shape) unstructured; no wonder innovations in design and textile had a real pull on the consumer.

Together, these sources allow for a more detailed account of the campaign than is conveyed in the literature (see Schwarzkopf 2011, 2015). When first setting out the research agenda for reader-response theory, Scott indicated the need to "formulate interpretive concepts with a historical base" (1990, 233), because advertisements are the vehicle and repository of commercial culture (1994b). Attending to their historical trajectories would capture the continuous enculturation of consumers into a textual form that evolves through their responses (Scott and Vargas 2007). In other words, advertising research needs to look both synchronically (across media and events that constitute the pool of cultural language at one point in time) as well as diachronically (across historical time). Only this would allow for the demystification of how consumers pulled from their previous experiences, learned from convention, and in general lived and breathed what we characterise as the Zeitgeist.

A number of works have broached their research subjects with this intent, developing different methodological approaches along the way. Reader-response studies have been applied insightfully in a variety of consumer culture contexts, and especially on the readership of women's magazines (Stevens, Maclaran, and Brown 2003; Stevens, Maclaran, and Catterall 2007) and "trash" literature (Knudsen 2014) by interrogating readers on their experiences. But when reader-response interviewing is impracticable or ineffective (because, for example, too much time has passed since the campaign ran), scholars have drawn on cultural studies to supplement the traditional literary toolbox. Together with Elizabeth Hirschman and William Wells, Scott tried to sketch a more inclusive landscape of cultural texts that shaped the meaning of coffee consumption, showing how advertising as a genre had its own particular flavour of connotations (1998). Some notable works on advertising history, including Thomas Frank's *The Conquest of Cool* (1997) and Roland Marchand's *Advertising the American Dream* (1986) combine cultural criticism and economic historiography to theorise consumer response. On a more granular level, John Pracejus, Douglas Olsen, and Thomas O'Guinn's study of white space

is a particularly striking—and as far I can tell, unique—example of work that shows how this usually unnoticed stylistic choice is historically constructed and full of meaning (2006).

This dissertation will take a similar approach to unpacking the Maidenform Dreams, but will also introduce a literary lens that opens a conversation with the psychological sciences. As some scholars have argued, literary theory can supplement the historical toolbox while unpacking consumer phenomena (Brown, Hirschman, and Maclaran 2001). With the notable exception of Stephen Brown's brief foray into biopoetics (2002) and Annamma Joy and John Sherry's paper on conceptual blending (2009), this dissertation is therefore the first to explore a cognitive cultural approach to the field in detail.

OVERVIEW OF THE DISSERTATION

Beyond this introduction, this dissertation consists of five parts: a general literature review, three stand-alone papers, and a concluding chapter.

The General Literature Review traverses the main streams in consumer research that study the persuasive power of advertisements, and it situates the three papers in this dissertation by highlighting how and where competing theories stop short of explaining a phenomenon such as the Maidenform Dreams. I focus in particular on the assumptions that these theories make on the workings of cognition. Examining, first, the computational metaphor that underlies information processing models, dual-system theories, and the Persuasion Knowledge Model, I then turn to these theories' main critics: the scholars who innovated in formal, semiotic, reader-response, and narrative approaches to the advertising text. But as I discuss, they still leave many questions in their wake. These questions especially involve the role and nature of cognition, which tends to be overlooked. But they also involve the nature of the ad execution as a part of an overarching campaign: analysing one ad cannot reveal why the campaign persisted for so long. I therefore end with an overview of cognitive cultural theory, which I believe provides a promising avenue of research that can follow up on the historical study of advertising and consumer response.

In Paper I, "Dreamatic Undergarments: Recovering the material orchestrations of the Maidenform 'I dreamed…' campaign," I unpack the history of the campaign at the hand of archival research. Having captured the landscape of bra and girdle advertisements from 1947 to 1970 as appeared in *Mademoiselle, Harper's Bazaar,* and *Vogue*, I reconstruct the context in which the Maidenform campaign developed. I superimpose this on findings from research in the Maidenform Collection at the Smithsonian National Museum of American History. This allows me to address the extant literature, and critique it on three aspects: its reliance on historical information that is inaccurate, its insensitivity to the continuous change evident in the course of the campaign, and its predisposition to adopt a Freudian explanation without considering counter-factuals. Instead, I detail how not only agency and corporate perspectives shaped the strategy that underwrote the campaign during its two decades of existence, but also how the media and cultural climates as well as the fashion and undergarment industries changed the material environment in which the Dreams were read by consumers. I begin to illustrate how the campaign generated and kept their audience's attention by responding nimbly to cultural events as well as the reactions it provoked. This paper is paired with a web appendix that allows the reader to explore the data that I collected from the newspapers and magazines (https://astrid.shinyapps.io/MaidenformDreams/).

In Paper II, "The Cultured Brain: Understanding cognition as the orchestration of material experience," I argue that cognitive cultural theory has the potential to revive empirical work that pulls together consumer cognition and the rhetorical effects of the text. Rhetorical advertising studies conducted in the 1980s and 1990s showed strong empirical results in their efforts to bridge the gap between the psychological and cultural literatures on persuasion. In doing so, they demonstrated that the computational model of cognition that underpins the information processing literature was not well equipped to handle the cultural variance observed in consumer response. This research stream, however, fell dormant because the main paradigm in consumer studies was unable to adopt and evolve these different perspectives into an interdisciplinary research programme. In addition, the scholars who spearheaded rhetorical studies faced difficulties in building a community that would be competitive on the job market, especially given

the extensive training that students needed in both humanistic and social disciplines. In other words, there was no clear career and research path for students to pick up and push forward. Compared to other streams of research that are generally lumped under "Consumer Culture Theory" or "interpretivist consumer research," literary studies are hardly ever recognised as a bountiful source of theory for the culturally-oriented (Askegaard and Scott 2013). With hindsight, I would argue that a key reason for this general lack of development is that the cognitive processes that underpinned rhetorical variation had remained a black box, and thereby curtailed interdisciplinary collaboration.

In the last two decades, however, technological advances in brain imaging have propelled a new understanding of the brain in cognitive neuroscience, evolutionary psychology, and philosophy of mind. Together, these fields are demonstrating how thought is the orchestration of multiple cognitive processes that are shaped through the accumulation of material experience, and characterised by the ability to extrapolate familiar information to new conceptual domains. Drawing from these insights, I put forward cognitive cultural theory to fill the explanatory gap left by the rhetorical studies, and point to specific cognitive mechanisms that explain how consumers read advertisements. I argue that cognitive skills such as theory of mind and conceptual blending, introduced in detail in this paper, are particularly useful in bridging textual analysis and consumer response.

In Paper III, "Born Exhibitionists: Examining humoristic responses as evidence of mental elaboration", I show how the application of cognitive cultural theory to the Maidenform Dreams yields a more explanatory reasoning of its success. I argue that these humoristic responses are windows on the mental elaborations that the campaign elicited. Humour is the debugging mechanism of a mind that creates mental spaces on the fly (i.e., through just-in-time spreading activation): it finds tacitly held mistaken assumptions and attracts attention to them. To illustrate this with empirical evidence, I discuss the mental elaborations that gave rise to a cartoon, a parodic satire, an invitation, a college prank, a window display and a postcard. Each is evidence of a different kind of error-seeking cognitive process: articulating, unravelling, mimicking,

materialising, bowdlerising, and hijacking. Together, these artefacts are evidence of the rich life that the campaign led in the minds of its audience.

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GENERAL LITERATURE REVIEW

This literature review traverses the main streams in consumer research that study the persuasive power of advertisements. It situates the three papers in this dissertation by highlighting how and where competing theories stop short of explaining the compound cultural effect of an advertisement. I begin by discussing the early consumer cognition models and two persistent assumptions that underlie their experimental methodologies: that advertising is information, and that cognition is best understood through a computational metaphor. As I discuss, approaches inspired by literary theory—specifically formalism, semiotics, reader-response, and narrative transportation—begin to unpack these simplifications, but they still leave many questions in their wake. These questions involve the role and nature of cognition (which tends to be overlooked) and the power of an ad (i.e., the analysis of one ad cannot explain the impact of a campaign, which is composed of multiple executions). I end with an overview of cognitive cultural theory, which I believe provides a promising avenue to redress these issues.

BEGINNINGS: CONSUMER COGNITION MODELS

In 1963, Leo Burnett's Manager of Research Development addressed the readers of the *Journal of Marketing* to reassure them that the believability of an advertisement "is not a mystic something that some advertisements have and others do not have. Believability depends upon the interaction of each advertisement with the consumer's attitudes and memories accumulated from prior experience" (Maloney 1963, 1). His summary of the research that supported his argument is familiar: attention, perception, recall, influence, attitude, and belief formation were all already present in the literature as key cognitive elements in the equation of persuasion. Six decades later, the psychological approaches to response are still dominated by these concepts (see Fennis and Stroebe 2016), but have not operationalised Maloney's recommendation to…

> ...forget about the 'believability' of single advertisements and to turn attention to the individual advertisement's potential for contributing to a cumulative influence upon consumers' beliefs: *There is an important difference between the expectation that a single*

> *advertisement should be believed in an absolute sense and the expectation that it should contribute to a gradual, eventual belief* (Maloney 1963, 7).

Maloney wanted to bring a degree of nuance to the notion that advertisements were singly capable of eliciting responses such as lasting attitudinal change, and pointed instead to their incremental nature. Such increments are difficult to study: not only does it require the passage of time, it also needs to take into account all the other reasons why attitudes and beliefs might change.

The reason for the literature's sidestepping of this question is fairly straightforward: the ambition of psychological approaches to persuasion was to "relate specific advertising stimuli to specific and individual consumer responses," as well as to "articulate the interpersonal or group-level psychological processes that are responsible for the relationship between ad stimuli and consumer responses" (Fennis and Stroebe 2016, 13). As a result, the mode of inquiry that this goal suggested was the laboratory experiment, which would allow for the atomisation of specific stimuli and the isolation of corresponding effects (Weiskopf and Adams 2015). So the literature forged ahead with the constructs that fit into this equation: on the one hand, it consistently relied on a computational metaphor for the reader's cognition, and on the other, advertisements were sliced into a taxonomy of claims and features that could be manipulated in experimental settings.

Although not technically a part of the consumer behaviour tradition, the commodity school of marketing (Shaw and Jones 2005) played a role in motivating the taxonomy of advertising claims because it offered a ready framework based on the type of good that was being sold. The clearest example that is still in use today is the Economics of Information literature, based on George Stigler's work (1961) but popularised in marketing by Philip Nelson (1970, 1974). This school of thought suggests that the primary function of advertising was to inform consumers, but that its potential for manipulation had engendered scepticism. In order to stem that scepticism, the theory was that different types of commodities needed to be accompanied by different sorts of claims (see Note 1 below) in order to lead to positive consumer responses (Darby and Karni 1973). In general terms, Economics of Information established that consumers were most sceptical when they could not verify claims prior to a purchase (Ford, Smith, and Swasy 1990).

This perspective assumes a particular sort of consumer: someone who calculates—objectively, reliably, and rationally—the pros and cons, the costs and profits, of each purchase decision, and who uses advertising as a tool in this endeavour. Consumer behaviour researchers

> Note 1. One of the prevailing explanations for the rise of scepticism resides in establishing a slippery difference between the effects of "objective" and "subjective" advertising claims—the distinction being that objective claims can be verified, whereas subjective claims cannot. Objective claims should, overall, be more believable. But determining this difference in practice is not easy: Tan's "objective" example describes a fictional leather wallet as having "rich natural colours, intricate grains, distinctive markings" (2002, 51). This description, however, overlooks that there is no common nor straightforward measure for richness of colour, naturalness of colour, intricacy of the grain, distinctiveness of marking, or even, to the untrained eye, what counts as a marking and what counts as grain. Incidentally, this illustrates how the objective/subjective distinction may not mean much to the consumer herself. Claim typologies that draw from Economic of Information theories are often too vague to have much meaning in practice; but more damnably, it assumes an agent who will 'rationally' respond to the typologies put forward.

objected to this picture; early figures such as George Katona (the Survey Research Centre in Michigan), Carl Hovland (the Yale Communication and Attitude Change Program), and Paul Lazarsfeld (Bureau of Applied Social Research at Columbia), for example, critiqued the economic conception of consumers as "rational calculating machines" (Kassarjian and Goodstein 2009, 61; Hackley 2013) and opened the doors to studying their mental activity instead. This was paralleled by practitioner developments such as Ernest Dichter's motivation research (Schwarzkopf and Gries 2010), and the popularisation of hierarchy-of-effect models such as AIDA (Attention-Interest-Desire-Action), which found many expressions and variations over time (Fennis and Stroebe 2016). But significantly, all of these developments—perhaps with the exception of motivation research—left the advertising-as-information postulate untouched: they investigated the consumer's mental operations without questioning the nature of the information that they were processing.

With this informational perspective in mind, cognitive models of persuasion began to develop in a specific direction: cognitive learning. Developing on the Yale School of

Reinforcement, William McGuire put forward a paradigm that dominated the field until the 1980s (Fennis and Stroebe 2016). Briefly, one of McGuire's lasting contributions was to distinguish different stages in the path to persuasion: attention lead to comprehension, which lead to acceptance, then retention, and eventually behaviour. This step-wise model explained why behavioural change was so difficult: the process could be interrupted at any time. But its insistence on comprehension did not explain enough. For example, there was a frequent failure in correlating recall and attitude change; remembering an advertisement well did not necessarily predict purchase. So Anthony Greenwald, amongst others, developed the cognitive response model: persuasion was, in part, also a function of the thoughts that consumers formulated as a result of comprehension (1968).

An enduring example of the cognitive response model is Peter Wright's identification of three potential 'modes of response' that mediated information processing (1973). First, counterarguments could be 'activated' when an ad claim conflicted with the respondent's pre-existing belief system. Second, source derogation could occur when the source of advertising information was perceived as biased. And third, support arguments could be called up in the same fashion as counterarguments when ad claims concurred with pre-existing beliefs or positive associations. Advertising could therefore be more or less persuasive depending on the degree of counter-arguing, support-arguing, or source derogation that it elicited—a position that meshed well with the formulation of advertising taxonomies.

Cognitive response models thus answered some of the gaps left by the information processing models, but they also began to explain the counterintuitive finding that extraneous distraction sometimes resulted in more persuasion: distraction must be preventing consumers from formulating critical thoughts. This hypothesis lead to the development of dual process theories, which would hold that not all processing was overt; motivation and capacity determined its mode. The Elaboration Likelihood Model (Petty and Cacioppo 1986) posits a system in which some acts of persuasion are the result of the reader's thoughtful consideration of the message (the central route to persuasion), while others are the result of cues that are processed with little or no conscious attention to them (the peripheral route). The Heuristic-Systematic Model follows the

same structure but uses different terminology to differentiate between systematic attention and heuristic decision making (e.g., Chaiken 1980). Different types of stimuli, and different circumstances of viewing, would be processed along these different routes, explaining why the full comprehension of a message was not always necessary for attitudinal change.

Dual-systems theories reinforced a categorisation of stimuli that had only been implicit before: between the "effortful," such as text, and the "effortless," such as sensory perception. Advertising was no longer conceptualised as just information, but was also construed as a set of cues—stereotypes, jingles, the spokesperson's appearance—that did not require the consumer's full or concentrated attention. Imagery is perhaps the stimulus that has received the most scrutiny in this regard, and Deborah MacInnis and Linda Price's (1987) review of its role in information processing betrays the focus on imagery as the opposite of discursive (symbolic, language-like) input. As I will describe below, rhetoric scholars took particular issue with this simplification (Scott 1990, 1994a; Scott and Vargas 2007).

The Information Processing Model put forward by MacInnis and Bernard Jaworski (1989) aptly summarises this domain as a whole, because it was a monumental synthesis of consumer research since the 1950s. It was an attempt to bring all these strands into one framework: from the early hierarchy of effect models (e.g., AIDA) and the later attitude formation and cognitive response models, to non-cognitive research such as classical conditioning, mere exposure, and attitude-toward-the-ad measures. Persuasion was—and is still—understood as a cumulative and sequential process of attention, comprehension, acceptance, retention, and eventually behaviour. But with its focus on single-shot exposure, this model still felt very distant from what consumers were actually experiencing: fit-for-purpose advertisements viewed over elongated periods of time.

Marian Friestad and Wright's breakthrough paper on the Persuasion Knowledge Model calls attention to the abstraction of behaviours, traits, and attributes of the context in which they generally occur, as well as the temporal influence under which they develop and change (1994). Arguing that information processing models failed to capture the full picture, they formulated the Persuasion Knowledge Model as an alternative. This model conceptualises a dyadic relationship

between a target (i.e., the consumer) and an agent (i.e., the marketer) in which both target and agent have a level of knowledge of the other, the topic, and persuasion itself. Once a persuasion attempt is recognised by the target, she begins an evaluative process that changes the essence of the interaction. Future research would need to take into account both the clearly persuasive intention of advertising materials (i.e., not pretend everyone just reads ads as informational), as well as the temporal and interactive effects of learning across a wide range of persuasion episodes.

Although helpful, the Persuasion Knowledge Model did not have a clear notion of how intent is recognised and reworked into responses over time. Friestad and Wright did emphasise, however, that culture had a bigger role to play than had previously been acknowledged, but they limited their observation to: "The basic conceptualization of persuasion that Mother Culture whispers in our ear shapes our thinking about this phenomenon without our conscious awareness" (1994, 7). Culture was something intangible, a subconscious force working on the mind; something separate from a-cultural information. Though moving in the right direction, Friestad and Wright would continue to have difficulties engaging in these other dimensions of persuasion, because they were too firmly rooted in the informational paradigm.

As philosophers of psychology Daniel Weiskopf and Fred Adams describe, the cognitive sciences were heavily influenced by the information engineering theory known as the "Shannon-Weaver" communication model (Figure 1; Weiskopf and Adams 2015). In their seminal book *Relevance Theory*, cognitive linguists Dan Sperber and Deirdre Wilson (1995) argued conclusively that the Shannon-Weaver model was paralyzingly naïve: it assumed that unless noise (broadly construed) interfered in the proceedings, the communication channel was guaranteed to be successful in transmitting a message from A to B. The repetitiveness and redundancy that researchers observed in communication settings were construed as ensuring the eventual success in the message's transmission (Danesi 2015). While these were all perfectly reasonable assumptions for the controlled systems that engineers wanted to improve, they break down when applied to human communication (Sperber and Wilson 1995).

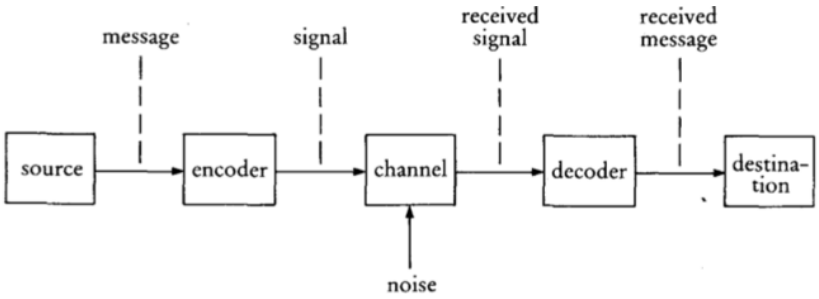

Figure 1. Adapted Shannon-Weaver model from Sperber and Wilson's *Relevancy Theory* (1995), which bears similarities to the Schramm model of communication (Blythe 2009). In the mid 20th century, communication theorists adopted variants of a model developed in engineering to explain communication as the process of encoding and decoding messages between a sender and a receiver (Blythe 2009; Danesi 2015). This rudimentary template is critically referred to as the "bull's eye" model, the Magic Bullet theory, or the Hypodermic Needle model.

Still, the model was so influential that it changed the way scholars conceptualised cognition. This is mostly clearly demonstrated in the linearity of the Information Processing Model: "information was conceived as an abstract commodity that could flow through communication channels such as telephone wires or neurons," outputted by one cognitive system and absorbed by another (Weiskopf and Adams 2015, 190). The field thus relies fundamentally on a computational metaphor that imagines mental processes as the result of biological structures that resemble computational machines (Uttal 2011). The Information Processing Model introduces the many antecedents and mediators that might intervene in this perfect flow of communication channels, but these are, as Sperber and Wilson characterised, considered tantamount to noise in an otherwise reliable system.

With this brief introduction, I outlined some of the major episodes in the study of cognition and persuasion: the cognitive response model, dual-systems theories, the Information Processing Model, and the Persuasion Knowledge Model. These models were formulated in response to each other, each highlighting what the previous model was missing; but ultimately, none extricate themselves from the advertising-as-information postulate, which continuously throws a wrench in the works. I argued that this is because they adhered strictly to the

computational communication models that gave rise to their frameworks in the first place. Challenging these was the task of humanistically-minded researchers.

THEORISING THE READER: LITERARY APPROACHES TO COGNITION

Taking stock of insights from well-established humanistic disciplines—literary studies in particular, but also cultural studies, linguistics, anthropology, and art history—a handful of scholars united in the agreement that the relationship between the reader and the text as posited in the models above failed to capture crucial aspects of the advertising phenomenon. The unilateral source-message-recipient model oversimplified the constructed nature of the text and overlooked the interpretive activities of the reader (Stern 1994a). It also failed to account for the experiential dimensions of consumption (Holbrook and Hirschman 1982; Thompson, Locander and Pollio, 1989), including the use of signs and symbolism (Mick 1986). These models encouraged the view of advertising texts as an "architectonic of arguments" (Scott 1991, 68) that built up a case piecemeal. Finally, experiments tended to be conducted in settings and on stimuli that should have precluded generalisation to advertising in the first place (McQuarrie and Phillips 2012).

Instead, these scholars argued, ad effectiveness needed to be understood as issuing from "an imaginative kind of rhetoric [… and the ad's] own internal logic" (Scott 1991, 68). The way that this statement was unpacked depended on the theory that these scholars drew on, which lead to a number of new avenues of research. Eric Arnould and Craig Thompson characterised this stream as a "family of CCT studies [that] conceptualized [consumers] as interpretive agents rather than as passive dupes" (2005, 875), but it also distinguished itself from other humanistically-minded works through its constant engagement with the psychological insights and methodologies that underpinned persuasion research. The aim was to demonstrate empirically how the Shannon-Weaver model could be dropped in favour of more sophisticated theories of communication.

In the section that follows, I will delineate the contributions that the literary study of advertising—formalism, semiotics, reader-response, and narrative transportation— have made to the understanding of consumer response. In the process, I will also point to the gaps and black boxes that were left in their wake—especially those that alluded to cognition.

Advertising as culture: The turn to meaning

Grant McCracken opened the floodgates for cultural approaches to advertising in his seminal essays on the cultural meaning of consumer goods (1986, 1988). Drawing on anthropology (Note 2), McCracken explained how humans have used goods not just for their function (a utilitarian view), or as currency in the economic system (a commercial view), but as carriers of meaning. He describes a system in which the "culturally constituted world" that is experienced by an individual (1986, 71) is transferred to a good that is subsequently circulated between consumers, and that leads back to the transfer of meaning from the good to the individual.

> Note 2. McCracken began his academic career in historical anthropology, specialising in the customs and mores of the Tudor era and the court of Queen Elizabeth I. Given than these early works are referred to in his book (1988), they seem to have inspired him to think more broadly about the cultural function of consumption. Besides establishing the Elizabethan reign as the first consumer revolution, McCracken delineated how the monarch astutely manipulated this new system to ensure the loyalty of her courtiers. What looked like wasteful expense was in fact an instrument of government that imbued the practices of the court with symbolism (McCracken 1988). Colour of dress, McCracken argued, was one such symbol that distinguished two factions within Elizabeth's court: white was worn by 'young' males who were considered hot-tempered but brave, while black was worn by the 'aged' who were thought timid but adept at governing. The meaning of both colours were derived from their metaphoric connotations (e.g., white to reflect the Queen's light; black to suggest the constancy of the earth; 1985). This painting may be indicative of the 101 portraits McCracken based his study on, though he did not list them (this portrait features in one of his sources, Mercer 1962). In a way that

> he had yet to articulate, McCracken was as interested in the material aspects of representation as he was in fashion.

McCracken positioned advertising alongside the fashion system as one of the instruments of this meaning transfer from the world to the good. Advertising works by bringing the good and a representation of the world into the same frame in such a way that the reader establishes a "symbolic equivalence" (1988, 77). It is worth quoting two passages where he explains this transfer in full:

> When this symbolic equivalence is successfully established, the viewer/reader attributes certain properties he or she knows to exist in the culturally constituted world to the consumer good. The known properties of the world thus come to be resident in the unknown properties of the consumer good (1988, 77–79).
>
> World and good must be seen to enjoy a special harmony. They must be seen to "go together." When this sameness is glimpsed, through one or many exposures to the stimuli, the process of transfer has taken place. Meaning has shifted from the culturally constituted world to the consumer good. This good now "stands for" cultural meaning of which it was previously innocent (1988, 77–79).

"Special harmony" is an admittedly casual description of a complex phenomenon and would in time be developed further (e.g., Otnes and Lowrey 2003; Otnes and Scott 1996), but it should be noted that McCracken was explicitly addressing an audience that saw advertising as a vehicle for information. Information processing, he pointed out, overlooked not only the (cultural, intersubjective) context of advertising, but also the role that texts played in projects of consumption such as self-expression, thereby emphasising their cognitive and material ramifications. He encouraged the study of advertising as a dictionary for new cultural significations and as a repository for the "small meanings" consumers liberally draw on (1987).

Exemplifying his theory, he detailed in his study on celebrity endorsements how the source credibility and source attractiveness hypotheses in information processing theories are insufficient to capture the fundamental process of meaning transfer between the celebrity and the promoted good (McCracken 1989). Celebrities are imbued with cultural meanings that draw on the celebrity's age, gender, social class, lifestyle, personality, and so forth. But unlike models, celebrities are not only an example of each of these dimensions—they embody the whole in familiar personas that gained their potency from the portfolio of appearances (e.g., in films or tabloids) that celebrities have amassed over time. Because of this, "celebrities have particular

configurations of meaning that cannot be found elsewhere" (1989, 325) and the meaning transfer from celebrity to product is therefore both highly specific, and necessarily holistic. What they transfer to the good is a "self," expertly constructed and conveniently packaged in an object that consumers may consume if they like—or that consumers could at least admire for the celebrity's adroit harmonisation of their inner selves with the material world.

We can find in McCracken's works echoes of all the literary research streams that emerged after his 1986 article. His thesis was after all so expansive that many aspects are still to be unpacked and explained. One of them is how the transfer of meaning from an advertisement to the individual occurs at the level of cognition. McCracken never dives into the nitty gritty of how meaning is construed by the culturally-situated consumer; like information, it is absorbed "just so" (Note 3). Another was to unpack further how advertising did it, as opposed to fashion or other representational media. McCracken's belief that the transfer work was done mainly through the visuals—with text playing a subordinate, instructive, or guiding role to gleaning the meaning from imagery (cf. McCracken 1988, 79)—is particularly telling of the limits of his theory in dealing with textual interpretation. This opened the doors for more sophisticated theories—mostly drawn from literary studies—to redress this simplification.

Literary beginnings: Formalism

Stern is considered a pioneer of literary criticism in consumer research (Brown 2015), first having conceptualised the ad-as-text (1988a) in opposition to the ad-as-speech or ad-as-word-of-mouth (1994a), and second having catalogued the various streams of literary criticism that could illuminate advertising research accordingly (1989). Stern highlighted that the connection between the content of an ad and its form was more fundamental and more significant

> Note 3. In a 2006 blogpost, McCracken shed some light on his interpretation of advertising when he described how Volvo's "Rosie" commercial is emblematic of effective advertising. In the commercial, a father picks up his daughter, the eponymous Rosie, from school. Rosie is in the middle of relating a seemingly never-ending but tremendously exciting story; her father listens while he fastens her seatbelt, hesitates to close the door while she is talking, hurries around the car, and smirks affectionately while driving. The commercial ends—with Rosie still talking—on the question "Who would you

> give a Volvo to?" and a cut to Volvo's logo and tagline "Volvo. for life." McCracken, characterising the scene as one that parents can fondly relate to, offers one possibility for the meaning transfer that is at work here: "Rosie's story > (augments) Rosie's charm > Rosie's vulnerability > Dad's responsibility and solicitude > Volvo's safety" (2006, par. 15).
>
> The readers' comments on McCracken's interpretation both give it credence and undermines it: some wholeheartedly agree with him, while others indicate that the commercial irritates them. In other words, interpretation and persuasion are never universal, and it is incumbent on advertising theorists to unpack why and how this is the case. Notably, McCracken is also silent on the role played by the actual world that is home to this heartening relationship: the father-daughter duo live in an idyllic place where luscious and hilly pine forests line well-maintained roads, and the school looks like a prototypical American little white church. Though this oversight might be due to the brevity that comes with the blog post format, I would say that it also indicates a lack of theorisation on how the careful construction of the image contributes to the creation of meaning.

than just the relationship between information and its vehicle: the one shapes and draws from the other (1988a, 1989). She held that advertisements were meant to animate the objects they promoted, thus stirring emotion within the consumer just as poetry seeks to "inspire vivid dramatic experiences" (1988a, 4). Such experiences were induced through specific properties in the text, of which Stern studied point of view (1991), filmic form (1994b), myth (1995), allegory (1988b), company personae (1988a), nostalgia (1992), and poetic metrics (1999).

Stern's modus operandi drew heavily from the New Critical school of literary theory (Scott 1994b). Although the New Critics innovated the close reading method that is still an important mode of inquiry in literary studies today, they did not develop a theory as much as dictated the fallacies and heresies that critics should not fall prey to (Richter 2007). The most important of these dictates included the separation of the poem from authorial intent (the intentional fallacy, see Wimsatt and Beardsley 1954b), the poem's separation from the reader's affective response (the affective fallacy, Wimsatt and Beardsley 1954a), and the stipulation that poems should never be summarised because that would amount to destroying them (the heresy of paraphrase, Brooks 2007). Poems were seen as perfectly organic entities, with elements that

are related to each other as "blossoms are related to the other parts of a growing plant" (Brooks 2007, 799). Bringing external knowledge to it, summarizing it, or taking it apart would kill the organism.

While this approach professionalised and systematised English studies (Gallop 2007), its applicability to advertising was necessarily limited because of its insistence on cutting the text loose from its context, its audience, and its creator. Many of Stern's contributions acknowledge how all three of these elements are important to advertising, but her approach nevertheless tends to circumvent them in favour of unpacking the formal features of the text (Scott 1994b). Like her New Critical forefathers, this not only "encouraged the illusion that any piece of language… can be adequately studied or even understood in isolation" (Eagleton 1983, 38) but also encouraged critics to put forward implausible interpretations on the basis that they were better equipped to unlock a text's true meaning than the everyday reader (Note 4). As a result, the consumer's response was usually entirely overlooked. Stern began to unpack the stimulus end of the Shannon-Weaver equation, but otherwise left the model intact.

> Note 4. Stern conducted a feminist close reading of this advertisement for Dakota cigarettes, juxtaposing the "Dakota Woman" to the Marlboro Man. Illustrating how a New Critical approach can yield implausible readings, she argues that the keys dangling from the Dakota Woman's hip belt serve as an "allusive reference to invisible pubic hair" (Stern 1993, 559) and thereby indicate her sexual availability. While it is very well possible that readers would have described the woman in question as sexually liberated based on the image overall, attributing this interpretation to the presence of specific symbols remains unexplained. At best, a critic could argue that the shiny objects draw attention to her pelvis, but to privilege this above context and usage assumes an ideal reader in the image of the critic, or naïve readers who are unaware of how specific elements whisper an interpretation in their ears. Stern also overlooked how this image related to other executions in the same campaign that challenged her claims that the Dakota Woman was always depicted as dependent on men (one execution shows her enjoying a cigarette by herself), and that men are always depicted in isolation (another execution

shows three men huddled around an open hood, chatting, smoking, and tinkering with the car).

A taxonomy of signs: Semiotic systematisation

What formalism lacked was a systematic theory of how form could generate meaning. Taking inspiration from Charles Peirce, David Mick proposed in his explosive 1986 article that "cognition is a process of knowledge and meaning generation through signs" (1986, 199). Semiotics—the study of meaning-making through signs and symbols—was a natural candidate as a theory, method, and ethos to fruitfully bridge the gap between cultural and psychological perspectives in consumer research. The works that followed from Mick's seminal paper opened up the study of the text as equal—and directly related to—mental processes.

Semiotics is a linguistic theory: it posits that language is a relational, arbitrary, and systematic closed system, and that its elements can therefore only be studied in relation to each other (Hawkes 2003). What this means is that meaning emerges from the structure that these elements create. Unlike many of its other incarnations—say Barthes' pivotal *Rhétorique de l'Image (1964)* or Williamson's equally influential *Decoding Advertisements* (1978)—semiotic theory in consumer research did not halt at conceptualizing a linguistic model based on an ideal reader. It strove to capture the "real meaning effects on real groups of readers," including a comprehensive understanding of how the generation of such meaning is possible (Umiker-Sebeok 1987, x). Thus pushing semiotics beyond the boundaries of linguistics, the great challenge "for the future," as Donna Umiker-Sebeok noted in the 1980s, was to reconcile insights from cognitive science and artificial intelligence to the complex theories of meaning-making that semiotics was putting forward (1987).

One of the most productive streams of advertising research that tackled this challenge was Mick and Edward McQuarrie's work on visual rhetoric. Their studies focused on unravelling the combined use of imagery and text by triangulating semiotic analysis with experiments and phenomenological interviews (1992, 1996, 1999, 2003). The authors formulated measurable hypotheses about the way variations in advertising texts resulted in different consumer responses,

often drawing links to established psychological concepts such as incongruence, resource-matching, memorability (1996), and elaboration (1999). Finally, they demonstrated empirically that rhetorical variation had an impact on classic dependent variables such as brand attitude, attitude-towards-the-ad, and message recall (1992). Overall, the differences in response effected by subtle modifications in their experimental stimuli highlighted the "acute sensitivity" that consumers displayed towards advertising imagery (1999, 44).

In their first joint article, McQuarrie and Mick define and explore "resonance" as the synergy between word and image, when their union opens the possibility for multiple meanings (polysemy) through a visual pun (1992). Although the definition seems to point only to the ad, it is clear that resonance actually occurs in the reader's thought processes: it is the result of formal elements signifying more to the reader than would appear at face value (see Figure 2). Two experiments demonstrated conclusively that resonance enhanced ad liking, positive brand attitude and headline recall, and that it reduced counter-arguing (1992).

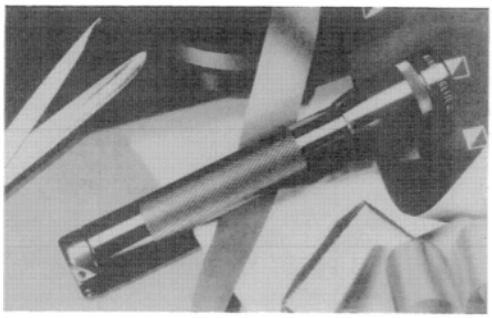

Figure 2. Experiment stimulus, "Mini Lite," McQuarrie and Mick 1992.

McQuarrie and Mick used this advertisement as a stimulus in their first study, varying the copy to reflect different types of resonance (1992). This example features "consistent-resonant" copy: beaming resonates with the torch, which is the product promoted, as well as the joy of gifting. The 'echo' or 'multiplication' of meaning through the conjunction of image and text implies that the reader is able to make inferences beyond the literal meaning or the direct referentiality of the image. Interestingly, the inconsistent-resonant copy, "The gift idea that makes everybody light up," was liked just

> as much as the consistent version, even though there was the possibility that the line might be interpreted negatively. This shed some doubt on the robustness of the construct of resonance. McQuarrie and Mick drew on Scott (1990) to hypothesise that sophisticated knowledge of promotional texts allowed readers to discount negatively-charged interpretations, but they also theorised that the very pleasure of decoding the image erased the copy's negative connotations. This two-pronged explanation is indicative of the cognitive black box that persisted throughout their studies.

The way that McQuarrie and Mick operationalised resonance, however, yielded some intriguing results: resonant imagery was effective even when resonance opened the doors for negative connotations. At the time, this was a bit of a puzzle: readers seemed to be able to discriminate between different potential meanings, and this additional interpretive activity did not harm the text's persuasive potential. A new perspective that could explain this readerly ability was needed, and McQuarrie and Mick found it in the rhetorical theory that had been put forward by Scott (1990, 1994a) and John Deighton (1985). Subsuming resonance into the wider category of "rhetorical figures," McQuarrie and Mick's second and third seminal papers thus focused on developing a taxonomy of the structure of these figures, defined as 'artful deviations' from expected meaning, and testing their effects on response (1996, 1999). Together, taxonomy and experiments began to substantiate the claim that there was a structured, manipulable way in which figurative language generated meaning.

The most basic distinction in their taxonomy was that between a scheme and a trope: whereas the first deviates from expected grammatical patterns either through repetition or reversal (such as rhyme or antithesis), the latter deviates from the expected meanings of a word through substitution or destabilisation (such as hyperbole or irony). This distinction became particularly significant because their effectiveness depended on one important reader characteristic: cultural background (McQuarrie and Mick 1999). Tropes worked best with American-born respondents, who supposedly had the requisite cultural knowledge to make sense of them. Schemes, on the other hand, were less effective but were appreciated by Americans and non-Americans alike (see Figure 3). In other words, McQuarrie and Mick had established experimentally that cognition was culture-dependent; but also that some textual features might transcend this.



Figure 3. Experiment stimulus, "Sable Mascara," McQuarrie and Mick 1999.

The Sable Mascara experiment (McQuarrie and Mick 1999) demonstrated how the manipulation of a scheme changed consumer response regardless of cultural background. In the image on the left, the eyelashes are visually echoed by the contour of the fur coat; in the control on the right, the hairy edges of the coat have been smoothed out, removing the visual repetition. Not only did respondents consistently indicate a preference for the ad with the visual repetition, their elaboration levels were also higher. Cultural background did not seem to matter. The divergence seemed to be of a sensory, rather than a cultural or linguistic, nature; McQuarrie and Mick took this to show that the eyelash echo is the visual equivalent of a rhyme, and was therefore a structural feature of the ad. However, I would argue in line with the rhetorical theorists discussed below that these jagged outlines cannot be understood separately from what they end up signifying: fur. Fur is a good with material and cultural connotations, and the increased levels of elaboration could simply be attributed to the additional information that the fur brings to the image.

McQuarrie and Mick had disentangled content from form and shown how they could be studied separately. Doing this was interesting in experimental settings because it allowed the researcher to tweak a form and measure its effects, without needing to attend to questions of meaning. McQuarrie and Mick are explicit on this point: "text structure functions reliably as a *causal agent* [… and] tends to shape or direct consumer response" (emphasis added, 1999, 38). Elsewhere, they emphasised again that "when persuasion is the overriding goal, the rhetorical perspective suggests that the manner in which a statement is expressed may be more important than its propositional content" (McQuarrie and Mick 1996, 424).

This taxonomic approach thus implied that textual structure gave direct access to the cognitive underpinnings of persuasion. Understand the text, and you understand the reader. However, as Scott pointed out, the straightforwardness of such causality was questionable: surely mental processes were too complex to warrant the "simply [posed] hypotheses that certain formal features will produce *consistent* effects" (emphasis added, 1994b, 461–62). McQuarrie and Mick later conceded that their approach made "relatively simple and straightforward assumptions about the human system" (2003, 192). But the issue was deeper than an oversimplification of cognition; the taxonomy at the very least necessitated a structuralist view of language that was by no means universally accepted. Indeed, both semiotics and New Criticism had sprung forth from formalist and structuralist lenses that implied a theory of signs that was "axiomatically removed from the circumstances of use" (such as authorial intent and reader reception; Scott 1994b, 462), and argued for the existence of a "deep structure" hidden beneath the everyday messiness of language. In adopting this ontology, the balance seemed to have tipped too much in favour of a theory of form that neglected advertising's persuasive purpose—and indeed those messy details that characterise these texts.

The artful reader: Rhetoric and reader-response

In three seminal articles focusing on music (1990), imagery (1994a), and text (1994b), Scott established reader-response theory as a major challenge to the mainstream psychological paradigm. Throughout her work, she did this in three steps: First, she reviewed the extant literature on each type of stimulus and highlighted the assumptions that they made about cognition. Second, she redressed these assumptions with an up-to-date review of new sources of evidence, either from the psychological sciences themselves, or from anthropology and history. And third, she demonstrated how attending to the stimuli more carefully revealed them as complex constructs that needed context, convention, and the active participation of the reader in order to signify something. As a consequence, music, text, or imagery could no longer be mistaken as direct representations of the world, nor be mistaken as emotional levers that clever advertisers could pull at will. Genre, trope, narrator reliability, implied readership, irony,

playfulness, and so forth, were all literary terms that needed to be learned by advertising researchers before they could move forward in theorising advertising, because they are the building blocks of persuasive artefacts.

Reader-response theory drew a sharper distinction between the 'decoding' assumed in the traditional communication model and what reading actually felt and looked like: creative, expansive, messy, stubborn, disengaging, pleasurable, crafted, unsettling, personal, social, directed, open-ended (see Note 5). It highlighted that readers constantly read between the lines—thus upsetting the order of pure information—and that even though readers might empathise deeply with an advertising text, this empathy did not automatically imply an uncritical adoption of the text's commercial claims. Mick and Buhl's meaning-based model of advertising experiences (1992), Mick's levels of comprehension (1992), and Stern's study on feminist readings (1993) had begun to approximate such an understanding of the interpretive process, but importantly, reader-response critics explicitly rejected "overriding formal or structural systems" and took, instead, "a sociological, historical, or anthropological stance […] on the psychology of the reader" (Scott 1994b, 463–64). The reader's psychology could—by definition—not be studied in laboratory settings because these settings missed most of what constituted that psychology.

> Note 5. Scott's reading of Apple's "1984" Super Bowl commercial and her recent re-assessment of that reading provide an instructive dive into a reader-oriented explanation of persuasive power (1991, 2012). As she describes, this "sixty-second metaphor" introducing the Macintosh was broadcast only once on national television, and yet it lit Apple's sales on fire. The ad diverged so strongly from convention that it not only left audiences guessing, until the last moment, what the commercial was selling, but also left pundits debating whether it was a commercial at all. Scott traces how its imagery, music, and narration materialised an Orwellian world, rendered in director Ridley Scott's distinctive dystopian style, that allegorised "big blue" IBM's takeover of the world. A woman running in red shorts breaks up the shots, her sprint setting a stark contrast to the awkward march of the clones. Flouting the riot police that pursues her, she makes her statement: she swings a sledgehammer—the bluntest of tools—into the image of Big Brother, hollowing out his avowal of domination. Scott's reading draws carefully on the contextual knowledge that viewers brought to the screen—knowledge that she now

> needs to spell out to her students who possess vastly different interpretive frames—to indicate why this commercial was so surprising, and thereby effective: Not just because it was novel, but because it fashioned the counter-myth of Apple to challenge the myth of IBM—and offered consumers the potential for revolution in the form of the Macintosh.

To demonstrate the power that consumers had over their own interpretations, Barbara Phillips introduced the term "implicature" to encapsulate the "problem-solving strategies" readers used to "examine the message context and draw on relevant stored knowledge," including knowledge of the product, brand, and the advertising genre (1997, 78). Phillips drew strongly from Sperber and Wilson's relevance theory, which put forward that communication was driven by inference-making, rather than information-decoding (1995). As Phillips' interviews would indeed show, respondents generated implicatures that could be either 'strong' (intended by the advertiser), or 'weak' (unintended by the advertiser), without making a distinction between the two. Readers who generated weak implicatures did not "perceive them as lesser meanings, but rather seem[ed] satisfied with their interpretations and [felt that] they are correct" (1997, 80). This posed a problem for any taxonomy of ad believability, truthfulness, or argumentative strength—it is the reader, and no one else, who determines what counts as informative, believable, or truthful.

This work resonated strongly with the uses and gratifications research that Stephanie O'Donohoe (1994) and Mark Ritson and Richard Elliot (1999) put on the map, bringing the study of advertisements in dialogue with ethnographic accounts of consumer culture. In particular, they indicated how readers re-purposed advertisements to communicate with each other, and how reading them was a fundamentally social activity. The reader's creative and intense involvement with the reading and production of advertisements had been recognised at last, and this made room for a number of avenues where the complexity of advertising culture could be unpacked through literary lenses (e.g., Bjerrisgaard, Kjeldgaard, and Bengtsson 2013; Brown 2015; Brown, Stevens, and Maclaran 1999; O'Donohoe 1997, 2001; Schroeder and Zwick 2004). But the key question of cognitive workings—the mental underpinnings of intertextuality, figuration,

unreliable narration, irony, stylistic inference, etc.—were not the focus of these studies. In addition, most research posited a relatively straightforward relationship between advertising and symbolic consumption: "none [of the textual theories] examine the way material moving from one realm of culture (e.g., ritual) to another (e.g., consumption) can be transformed through textual means" (Otnes and Scott 1996, 40). Otnes and Scott sought to redress this gap by suggesting that the relationship between advertising and rituals as "powerful institutions that create and modify culture" is bi-directional, that the boundaries between interpretive and ritual contexts are fluid, and that advertising itself can perform ritualistic functions (1996, 48).

A decade later, it became clear that the psychological and literary research streams in advertising were still siloed from each other, despite the potential that had been opened up by cognition-friendly theories in semiotics and reader-response. Scott and Vargas (2007) suggested that perhaps cognitive streams had not picked up on cultural work because their insights had not been demonstrated to be absolutely fundamental—that they affected every type of stimulus, simple or complex. To demonstrate how even a 'straightforward' stimulus such as imagery is the product of enculturation, the authors set out to prove that images are a form of writing. Through logos, styles, tropes, layouts, and so forth, images used in advertising have developed a specific language that consumers used to understand their meaning. This language also resists translation into written description: my summary of Apple's "1984" commercial in **Error! Reference source not found.** does little to reflect where the ad derived its power. Imagery is not a representation of the world as much as it is a *translation* affected by circumstance, convention, and intention. The authors thus showed that different images of cats, sunsets, and abstract paintings, even though these objects are unrelated to facial tissue, were effortlessly interpreted by respondents as indicative of the tissue's brand attributes. Inference was not only the domain of McQuarrie & Mick's figurations, but ruled all of commercial communication. This system of signification had developed over time, on the back of the evolution of writing systems; and it was up to the consumer researcher to uncover how these systems had developed, why, and how they worked.

Unfortunately, this article is the last study to push reader-response deeper into an empirical explanation of the cognitive processes that underpin it. This need not have been the case: as I will argue in Paper II, concomitant developments in cognitive sciences were offering routes of inquiry that encompassed the insights detailed above. George Lakoff and Mark Johnson's proposal that all language is figurative (1980) is one particularly well-known example, and was tested in a consumer context by Leif Nelson and Joseph Simmons (2009). Researchers have also increasingly looked at embodiment—a feature patently overlooked in literary studies as well—to understand how it interacts with thought (Elder et al. 2017; Elder and Krishna 2010). But the advertising research that combines these theories with reader response is notably silent.

A recent revival: Narrative transportation

There is one strand of work that is the exception to this silence: narrative transportation theory. Emerging from Deighton et al.'s early studies on drama (1989), its assumptions about cognition and signification make it less of an heir to reader-response theory than a continuation of the computational models surveyed at the beginning of this review. In their first article on the topic, Stern and Jennifer Escalas pointed out that it was the way narratives elicited emotions—specifically empathy with the protagonists—that made them more persuasive than argumentation (2003). In their view, consumers are transported into a narrative world when viewing an advertising drama and "completely forget their own personal existence by sharing the feelings of the characters" (2003, 566), thus closing the door to counter-arguing (cf. Wright 1973).

The key premise of "narrative transportation" is derived from psycholinguist Richard J. Gerrig's work, who initially meant for the term to be understood metaphorically, though he was not unsympathetic to the idea that the transportation reflected a cognitive reality. Gerrig specifically argued against "simple 'toggle' theories of fiction" that posits readers willingly suspend their disbelief when engaging with fiction—a view widely held in literary theory—and that this mental bracketing "eviscerates the effects of fiction" (1998, 17)—a view that he caricatures. He maintained that the separation between fiction and non-fiction was so porous that beliefs pertaining to the fictional context would have an effect on non-fictional contexts. The

widespread fear of oceans following the screening of Steven Spielberg's *Jaws* (1975) is presented as a case in point. As his followers put it: "the reader loses access to some real-world facts in favour of accepting the narrative world that the author has created" (Green and Brock 2000, 702).

Communication psychologists Melanie Green and Timothy Brock operationalised transportation through the development of a scale consisting of two parts, in which the first distinguishes between cognitive (e.g., "I was mentally involved"), affective (e.g., "The events in the narrative have changed my life"), and "other" components of transportation (e.g., suspense and lack of awareness of surroundings). The second asks questions specific to the story that was read by the participants (e.g., "I had a vivid image of [story character]") (Green 2004; Green and Brock 2000; Green, Brock, and Kaufman 2004). The scale was then applied in experiments alongside other measures that captured persuasion such as specific and general belief testing, story character evaluations, thought listings, and the identification of "false notes" (requiring participants to circle any story features that ring false, an activity considered analogous to counter-arguing). Overall, Green & Brock determined that most experiments lead to a change in beliefs, and that the effect became more visible as the magnitude of transportation increased.

Various consumer researchers have taken this work further by attempting to determine the moderators, mediators, and motivational determinants of transportation. Escalas (2007) showed that narrative self-referencing lead to more positive product evaluations regardless of argument strength (see Figure 4). McFerran, Dahl, Gorn, and Honea (2010) tested participants at the hand of lottery video ads that varied in pot size. Those who were primed to feel lucky were more likely to be transported and to subsequently say that they wanted to purchase a ticket. Van Laer, de Ruyter, Visconti, and Wetzels' meta-analysis of 76 narrative transportation studies listed the characters, plot, verisimilitude, transportability, the reader's familiarity with the topic or genre, the reader's attention, and reader demographics (age, gender, and level of education) as significant antecedents to transportation. Story-consistent affective responses, a lower incidence of critical thoughts, a higher incidence of narrative thoughts, belief change, attitude change, and intention change were listed as its consequences, though a number of these remain hypothesised only (2014).



Figure 4. Reconstruction of experimental stimulus, "Running shoes", Escalas 2007.

Escalas deepened the transport proposition by examining narrative self-referencing: a type of mental simulation of past or speculative events related to our own person (2007). In this figure, I reconstruct one of the Escalas' ad stimuli based on her description in the paper. The image was accompanied by copy that prompted no self-referencing ("Introducing Westerly running shoes"), prompted analytical self-referencing ("We'd like to introduce you to Westerly running shoes") or prompted narrative self-referencing ("Imagine yourself running through this park…with Westerly shoes on your feet") in relation to either 'weak' or 'strong' arguments (e.g., respectively the strength of shoe laces and the weight of the shoe). Thought listings, a feelings scale, an adapted transportation scale, brand attitude items, and behavioural intention items served as dependent variables. The narrative self-referencing ad yielded the highest brand evaluations regardless of the strength of the argument, while analytical self-referencing only persuaded when advertising arguments were strong. A further experiment added instructions for one group of participants to imagine themselves as ad critics who were reviewing the ad for journalistic purposes, which seemed to impede transport and engage analytical processing instead. What is striking in this study is how every effect could have been explained through reader-response theory and need not imply persuasion: for example, her respondents might have seen the weak arguments in the narrative version as a joke, and in the argumentative version as just another bad ad.

There are several key issues with this stream of research, which can be summarised by the general objection that the operationalisation of the metaphor (and indeed, the interpretation and coining of the metaphor itself) assumes a unitary approach to the reading experience that is too simplistic, excluding relevant features and including underdetermined ones (Bortolussi and

Dixon 2015). The cognitive structure that is assumed by narrative transportation is not fine-tuned enough to provide a holistic explanation for the power of storytelling and account for its varieties. This includes the failure to agree on some fundamentals: what counts as a narrative (Van Laer et al. 2018), what happens when a text is designed to disrupt transportation ("Much good literature deliberately thwarts facile reactions to protagonists," Bortolussi and Dixon 2015, 532), and whether it is the text, or the consumer's interpretation thereof, that leads to persuasion (Van Laer et al.'s account, which envisions the text as a rented apartment that the reader steps into and makes his own, stands in stark opposition to Green and Brock's conviction that the text does all the work and respondents are like sponges). Overall, much remains to be unpacked in narrative transportation theory, and I suggest that the place to start is a fresh consideration of cognition.

COGNITIVE CULTURAL CRITICISM: A PERSPECTIVE THAT BRIDGES THE DIVIDE

This General Literature Review began with a survey of key models of ad comprehension in consumer research and detailed how these models each rely on a computational analogy for cognition. The analogy has often been critiqued as too simplistic to capture advertising phenomena in enough detail, spurring literary-minded researchers to jump in and fill the gaps left in its wake. Stern was amongst the first to go into some detail on literary variation, but it was not until the rhetorical researchers came on the scene that this research gained an empirical—and increasingly cognitive—grounding.

McQuarrie and Mick in particular explicitly place the process of meaning-making in a cognitive framework: "semantic chains (mental concepts) are activated in memory by the signs in a text [… which is] directly in line with network models of memory in cognitive psychology" (1992, 182–83). Their innovation, by applying semiotic theory, was to avoid casting textual variation narrowly as a peripheral cue. Yet their approach stopped short from indicating how cognition was enabling such complexity, and thereby also explain the divergence in implicatures that Phillips had documented (1997). Reader-response theorists were not surprised: formalist and

structuralist approaches systematically wrote the cognizing reader out of the picture, even though it is on this cognition that textual detail depends (Scott 1994b).

Scott elaborated in great detail why advertisements could not be segmented, isolated, and atomised into a stimulus-reaction model (Scott 1990, 1994b, 1994a; Scott and Vargas 2007). She argued that we learn persuasive communication just like we learn to use the alphabet. Any successful account of persuasion would need to explain the historical, cultural, and social forces that would have led to the advertising artefact—including the product that was promoted, the medium that was used, the tropes that were drawn on, and so forth—taking the form that it did, and to readers reading it the way that they do.

In summary, there has been a sustained interest in advertising research to bridge the gap between interpretive agency and its cognitive underpinnings. Yet studies to date have had the tendency to a) universalise, formalise, or essentialise aesthetics in a way that has been repeatedly and consistently debunked by literary, cultural, and social scholarship at large; b) focus on response rather than the processes of meaning-making themselves; and/or c) radicalise complex cognitive processes in the hopes of demonstrating causal relationships between aesthetic form and reader response. Over-reliance on a formalised taxonomy of textual or visual properties may not—at least if one subscribes to a contingency theory of meaning—withstand the passing of time, while studies that did root interpretation in practice and acknowledged the importance of context, history, and material reality have not yet begun to unpack the role of cognition.

In what follows, I delineate a stream of research that has guided the selection of theory and methodology underpinning the three papers in this dissertation, and that is capable of bridging between cognitive, cultural, and historical perspectives: cognitive cultural theory. Though a cognitive approach to the humanities has been on the horizon since at least Williams' seminal *The Long Revolution* (1965) and is even at its "second generation" of dedicated scholars (Abbott 2006), it is only in the last decade that its literary incarnation has gained enough momentum to vie as a body of knowledge in its own right. At its foundation is the acknowledgement that a text is optimally constructed to engage, appeal, inform, affect, or move the reader in a variety of ways, and the acknowledgement that every reader possesses a cognitive apparatus that enables her to

meaningfully interact with that text. As such, studies in cognition must be able to shed a revealing light on human culture, further the debate on the existence of human universals (e.g., Hogan 2010), and deepen the conversation on the surprising uniqueness of aesthetic artefacts.

Differently put, cognitive cultural analysis is concerned with how the architecture of the mind structures the creation of meaning (Hart 2001), and thus how some universal features of the mind may underlie and even explain historical specificities (Note 6). It turns the field's attention from the product of interpretation to the interpretive capacity itself—how it works, how we acquire it, and how it informs the very act of reading (Bizup and Kintgen 1994). It is effectively an extension of reader-response theory (Abbott 2006), and can either work "upstream" (developing prototypical knowledge of literary texts as structuralists have attempted), or "downstream," attempting to establish "even if provisional[ly,…] what one might call the specific cognitive positioning of the work as a unique artefact, its place in a network of historical and cultural coordinates—history and culture being themselves, once again, a function of cognitive capacities and constraints" (Cave 2016, 20).

> Note 6. Spolsky wrote the earliest work that can be characterised as cognitive cultural criticism: her treatise on scepticism in art (2001). To give an example, Spolsky argues that 17th century ordinary Dutch landscapes were a response to the cognitive violence suffered by the illiterate masses at the hand of protestant iconoclasts during the Reformation. These masses, who had previously practiced their Christianity through the visual and sensual veneration of iconic imagery and sculpture, were now deprived of this sensory form of knowledge, being told that such knowing was idolatry and thereby false, and evil. In a bid to soothe the resulting anxieties of scepticism, Dutch landscapists turned to depicting ostensibly unremarkable sceneries with remarkable commercial success. In this painting, the eye is allowed to wander wherever it pleases, the colour palette doing little to distinguish or give precedence to any detail. The only reminder of religion, the church tower, is dwarfed by the clouds in the sky, and is hardly more important than the shrubs or the horse carriage; all elements are equal in this natural world. The image tells the viewer: "relax. You are in a familiar environment, and nobody is trying to control your thoughts" (Spolsky 2001, 144). You can enjoy the peace that this image affords you. This interpretation, which had not yet been explored by art historians nor literary critics, focused singularly on theorising the cognitive response that these

> artworks would have elicited from contemporaneous audiences, and thereby even hinted at the function that they played at the time.

Cognitive approaches should not be seen as a school that breaks with all tradition, but rather as a lens that overlays and enriches existing rubrics such as (new) historicism, narratology, eco-criticism and aesthetics (Zunshine 2010). It advocates trialling foreign concepts on old subjects, with the purpose of either breathing new life into traditional ways of understanding, or challenging them (Abbott 2006). This also means that as with any incipient field, cognitive cultural theory currently houses a variety of epistemic inflections, be they congruent or not. Indeed, Boyd's Darwinian theory of fiction (2009) may carry implications that differ radically from Spolsky's project to ground post-structuralist epistemology in a cognitive ontology (2002). In this diversity, there is certainly plenty for researchers of any conviction to explore.

These pioneers are, however, very careful not to provoke an uncritical conversion to psychologism, or to reduce and force-fit culture to mental schemas (Jackson 2002; Turner 2002). Rather, they advocate to "add a new dimension of caution and awareness" in the study of cultural artefacts (Bloch 2012, 9), as well as to offer the cognitive sciences a careful testing of their theories on real-world exemplars. Finally, cognitive cultural theory also introduces to literary inquiry what most other methodologies lack: analysis at the level of the (human) species, which do a better job at marrying cognitive universals (if indeed they exist) with cultural and historical particulars of the texts in question (Richardson and Steen 2002). Importantly, the best examples of cognitive criticism address…

> … a specific text with an awareness both of its situatedness in a given sociocultural moment and of how invariant features of embodied experience and human meaning-making activity may facilitate acculturation or provide a basis for resisting a dominant ideology or discourse (Richardson and Steen 2002 p. 5).

Cognitive criticism is not without its fundamental problems: post-structuralism and positivistic science are uneasy bedfellows (Jackson 2002). Those who value singularity as a key characteristic of cultural artefacts tend to be fundamentally at odds with those who aim to formulate universal truths (Cave 2016). Yet the first key step in the resolution of this divide, according to Cave, is to stop considering 'nature' and 'culture' as diametrically opposed, and

recognise how each flows from the other: "the hominin brain has certainly evolved through feedback from techno-cultural activities (tool-making, for example), and, conversely, culturally acquired skills draw on the evolved flexibility of the human brain, its cognitive fluidity" (2016, 20). A perquisite of the cognitive turn is to disrupt this dichotomisation between nature and nurture (Zunshine 2010).

To this point, the recent interest in 'embodied' cognition has opened the door for a better interface with literary study: instead of metaphorically conceiving the mind as a machine, embodiment acknowledges "the mind's substantive indebtedness to its bodily, social, and cultural contexts" (Hart 2001, 315). When embracing the insights cognitive science affords, the age-old dichotomy of relativism versus realism becomes a continuum, with various degrees of synthesizing and blending positions that do not commit fully to either extreme. Instead, drawing on Hilary Putnam's 'experientialist' epistemology, Hart sees knowledge as a "state of 'understanding', [… putting] emphasis not on ultimate knowledge but on possible knowledge, the only kind of knowledge available to human beings" (2001, 321).

Modularity hypotheses in cognition, adds Spolsky, underpin this epistemology. Modularity theory explores how we possess fairly insular modules to capture information in the world (e.g., sight and hearing). Although modules are not perfect by themselves, they complement each other well enough and create a system that is both flexible and resilient. Of course, this evolutionary advantage comes at the cost of occasional intermodular conflict, as well as gaps in information, but we learn to cognise with both (Spolsky 2002). In other words, human beings are experts in cognizing with imperfect information: "[u]nderspecification and inference are constantly present as the fundamental conditions of human cognition itself" (Cave 2016, 2).

Spolsky further argues that these gaps are then filled with inferences from one's experiences, memories, and other contextual knowledge, explaining why a cognitive underpinning (e.g., a modular mind) does not automatically lead to cultural universality. Yet instead of completely negating the possibility of knowledge, the plurality of meaning should be recognised as a cognitive given (Spolsky 2002). A modular understanding of the brain is therefore not at odds with the deconstructionist post-structuralist's agenda: it is a compelling account that

marries deep thought from both cognitive and post-structuralist conceptions of identity (Jackson 2000). In the papers that follow, I elaborate on how such a perspective could also be achieved in the study of persuasion.

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PAPER I – DREAMATIC UNDERGARMENTS:

RECOVERING THE MATERIAL ORCHESTRATIONS OF THE MAIDENFORM "I DREAMED…" CAMPAIGN

From 1949 to 1969, Maidenform ran an advertising campaign that became notable not only for its longevity, but also for the ripples it sent through the fabric of cultured society. A manufacturer of underwear primarily known for its bras, Maidenform lead the 20th century undergarment industry alongside other giants such as Playtex, Formfit, Warner, and Jantzen. The 1950s and 1960s saw an explosion of undergarment advertising in mainstream publications (e.g., *LIFE* and the *New York Times*); but even though many major brands vied for the consumer's attention, it is Maidenform's print advertisements that are recalled to this day. Orchestrating its marketing efforts to the tune of the "I dreamed I … in my Maidenform bra" tagline, Maidenform gained stature as a cultural icon, and stood symbol for femininity as well as anti-feminism, emancipation as well as confinement, economic empowerment as well as needless consumerism.

From its inception to today, academic commentators have emphasised how the Dreams were evidential of larger patterns in the socio-cultural landscape of the United States in the long 1950s, and have used this argumentation to position Maidenform as a key text in the oppression of women. Maidenform's Dreams have thus been made to stand in for the glorification of domestic femininity (Mills 2006), understood as derailing women with escapist, unattainable fantasies (Burns-Ardolino 2007; Molholt 2008; Simington 2003), or as reinforcing her representation (and implied identification) as a sex object (Fields 2007; Rutherford 2007). In a circular fashion, these observations are then used to deduce consumer response as impulses of wish-fulfilment and expressions of anxiety; for example, one scholar writes that Maidenform "us[ed] images of sex and power (or the illusion of power) to sell directly to the fantasies, the presumed unconscious, of millions of American women" (Rutherford 2007, 99).

These readings are arrived at by examining individual advertisements, without contextualizing them with recorded traces of consumer response, corporate intention, or indeed the other marketing efforts that framed, accompanied, and competed with them. While such scholarship can be valuable in demonstrating how inequitable these times were for women, they do not offer a comprehensive understanding of why consumers bought into Maidenform's messaging. In other words, current scholarship on Maidenform deforms the industry's history by disregarding corporate strategy and consumer voices (Schwarzkopf 2011). This narrow view on the Dreams constructs an oppressive narrative that dismisses consumer agency. Rectifying Maidenform's history by paying attention to the dynamics between the corporation, the industry, and the consumer would lift the veil on this mythical campaign: it would force the acknowledgement that no campaign can survive for twenty tumultuous years without fundamental change, and that scholars need to dig deeper than psychological single-stimuli theories of response.

In this paper, I follow Scott's three-pronged approach to studying the social effects of imagery—studying their production, the "visual strategies invoked," and how the images are present in everyday life (2006, 123)—to reconstruct the material environment that formed the context in which the Dreams were read. I dig into the Maidenform corporate archives, which are housed at the Smithsonian National Museum of American History. This archive comprises of substantial runs of the company's trade and employee magazines, as well as dealer aids, posters, research reports, packaging, correspondence, photographs, press clippings, and other ephemera. The two publications, the *Maiden-forum* and the *Maidenform Mirror,* are especially insightful. The *Maiden-forum* evolved from the employee newsletter first issued on October 2, 1944, to a full-fledged monthly magazine in its heyday in the late 1940s and 1950s, compiling company announcements, employee news, various articles related to life at the different Maidenform factories, articles relating to civic life, retailer stories, poetry, cartoon jokes, children's drawings, and so on. The *Maidenform Mirror*, on the other hand, was distributed to retailers and trade dealers every two months; it focused on communicating both the successes of the company and its partners, on announcing upcoming or ongoing promotions, and on introducing new products

and tying them in with current fashions. The Dreams frequently featured on the cover of the *Maidenform Mirror*, providing just one example of how the campaign was recycled for purposes that went beyond consumer advertising.

This primary material is supplemented with a reconstruction of the industry's advertising activities in *Vogue*, *Harper's Bazaar*, and *Mademoiselle*, in which every bra and girdle ad published between 1947 and 1970 was collected. Further advertisements and relevant articles were collected from *Cosmopolitan*, *Glamour*, *Good Housekeeping*, *Ladies' Home Journal*, *LIFE*, *McCall's*, *Modern Screen*, *New York Times*, *Times Magazine*, *Seventeen*, *Redbook*, *Parents*, *Radio TV Mirror*, *Washington Post*, *Woman's Day*, *Woman's Home Companion*, *Telecasting/Broadcasting*, *Business Screen*, and *Sponsor*. Finally, Ernest Dichter's papers held at the Hagley Library and digitised by Adam Matthews revealed insightful research reports and strategy documents. Readers are invited to examine the data summarised in an interactive Web Appendix (https://astrid.shinyapps.io/MaidenformDreams/).

Together, these sources indicate the concerted effort that the company made to keep the campaign in the public eye over the course of twenty years of tumultuous cultural and commercial change. At least 173 different executions following the same tagline and imagery formula were created during the campaign's lifetime, first mostly in the half-page black-and-white format which was as friendly to newspapers as it was to magazines (1947-1955), and then in spectacularly rendered full-page colour ads primarily published in magazines (1956-1969). By this time, the Dreams had already outlived and outdone every other competitor campaign that would run alongside it, but it now also faced a mature market with drastically changing tastes: the fashion shows, window displays, and media plugs that characterised the campaign in the earlier years gave way to the company's product line diversification. As the frequency and number of Dream ads declined, executions from the early 1960s graduated to colourful spectacles characterised by confident cheekiness, before heading into brief periods of romance (1964-1966) and disco (1967-1969). These shifts correspond to changes in advertising patterns and industry trends: the cultural distinctiveness of these indeterminate years can be discerned in the aesthetic trajectory of the ads, with each change indicating a new strategic direction.

Focusing on the campaign's strategy, media, and industry history will clarify the diversity of forces that changed the material landscape in which Maidenform operated: their own and their agencies' assumptions and intentions, the transformation of advertising media, and the trajectory of the undergarment business each resulted in distinct changes to the campaign. In what follows, I therefore detail the strategic thinking that shaped every twist and turn of the campaign and its material spawn. I then proceed to complement this history with an account of how the cultural and media environment provided a specific breeding ground for the campaign, and how the undergarment industry needed to follow the fashion industry closely in order to survive. Both of these forces considerably directed Maidenform's nimble orchestrations and the way in which consumers would have responded to them.

KEEPING UP WITH THE PLAYTEXES: CORPORATE STRATEGY AND AGENCY PERSPECTIVES

The first execution of the Maidenform Dreams, "I dreamed I went shopping in my Maiden Form bra" appeared in August 1949 in *Mademoiselle* and *Vogue,* followed by *Harper's Bazaar, Good Housekeeping*, *Ladies Home Journal*, *Parents* and the *New York Times* in September—thus clearly targeting a wide range of audiences: college-bound young women, professionals, high fashion enthusiasts, and housewives of all ages. In the half-page sized black-and-white ad, a smiling model swirls a string of cartoon sausages in one hand and holds a shopping bag in the other, showing off her bosom in a torpedo-shaped brassiere; her waist-accentuating cummerbund, opulent skirt, and a double string of pearls denied intimations of war-time austerity. The surprise factor was not that she was partially in her underwear, but that she was dreaming she was unclothed in a public space: the copy and her naked feet emphasised, "Asleep… but it all seemed so real!" The line-drawn background constructed a dreamscape of grocery abundance: bread, dairy, oil flasks, and canned goods sit on shelves and tumble around a tree. A slip of paper that looks like a receipt carries a checkmark next to every line item. In 1949, the image might as well have been a synecdoche for the country's consumer boom.

Undergarment advertising has always contented with the tricky business of selling what could ostensibly not be shown in polite company. The late 1940s, however, heralded a newly buoyant competitive landscape, and the need to stay abreast was palpable. Unlike the scarcity that characterised wartime supply, the consumer's rocketing purchasing power translated into an unprecedented demand for more luxury and choice (Farrell-Beck and Gau 2002). In what became the coming of age of commercial undergarment manufacturing, merchants needed to remain vigilant and stock according to the latest trends: it is a "buyer's market," warned the *Maidenform Mirror* in March 1949, the consumer "wants what she wants when she wants it" (*Maidenform Mirror* 1949a). In announcing the new Dream campaign, then conceptualised as a five-month run centring on an acclaimed variation on the Shopping theme, Maidenform warned retailers to prepare for an inflow of customers: "From August through December, potential customers will see these arresting advertisements more than 90,000,000 times. Make sure you have adequate stock on hand of every brassiere pictured and every brassiere mentioned" (*Maidenform Mirror* 1949d). To facilitate this, Maidenform always made a point out of listing which bras would be advertised when.

The Dreams were thus Maidenform's response to the post-war affluence, and formed the centrepiece of a renewed strategic impetus driven by the Rosenthal's son-in-law, Dr Joseph Coleman. Freshly accredited with a course from the Advertising Club in New York, he became the first Advertising Manager of the company in 1949. Before this, Maidenform had been advertising in the same style for some years: functional, quarter-sized magazine ads focused on the apparel version of a hero shot (a bra-wearing model, arms lifted towards her head) and highlighted technical features such as the materials and construction. Faced with turmoil at their advertising agency Rosenberg, Coleman's first move was to give the account to William Weintraub—the agency that kept the Maidenform account until 1969, surviving its reorganisation as Norman, Craig and Kummel in 1955 (Lee 1960). This led to a radical break with previous advertising practices, including the intent to occupy more print space and a launch into broadcast television. At the same time, a reorganisation of the salesforce ensured a continuous presence of

Maidenform agents in each of its territories, which personalised business customers' interactions with the firm just as the Dreams were corralling attention.

Before the first Dream appeared, Weintraub made a few changes that were introduced to retailers as an effort to gradually acquaint audiences to Maidenform's makeover (*Maidenform Mirror* 1949b), but might in fact have been Weintraub's early—and according to one account of Dr Coleman's recollections, "not inspired" (Lee 1960, 54)—attempts at finding a suitable voice for their client. The first Weintraub ad kept the core idea of a line-drawing accompanied by a hard sell (Figure 5), but expanded Maidenform's reach by appearing in the local newspapers of 27 major cities. A much more decisive break with the company's prudent practices followed shortly thereafter in *Harper's Bazaar*. Using photography instead of illustration, two models were depicted wearing the Maidenette Strapless and the Dec-la-tay, but only their torsos were clearly visible. The rest of their bodies, including their faces, were blurred behind opaque glass; counterbalancing this exposure with an expression of genteel femininity, one model is holding a single rose. This partial reveal is a variant on the peeping-tom trope that was common in underwear advertising, but with one important difference: the models are wearing hats, which are usually worn outside the home. This explicitly took them away from the boudoir setting that was the 'safe space' for such advertising, and placed them into the public domain. The ad heralded the company's willingness to be audacious: the *Maidenform Mirror* sold the ad to retailers as "typical of the kind you'll see more and more of in the months to come,—provocative, hard-selling, and clean" (*Maidenform Mirror* 1949c).



Figure 5. The first break with previous advertising, as reported in the *Maidenform Mirror*, June 1949. Maidenform Collection, Archives Center, National Museum of American History, Smithsonian Institution.

Yet the Dreams were not the first to place lingerie in the public sphere; the industry had been exploring an escape from the dressing room for some time. Jantzen's Vargas-style models had been frolicking in living rooms, forests, and above skyscraper skylines since at least 1947. Lovable profiled a "Girl-of-the-month" as its flagship bra-wearer, and Gossard used rippled glass to hint at the figures of the fashionable women standing behind them. Even the reference to dreaming as an expression of desire has been used before: "I'm dreaming of a Flexnit figure…" featured a slumbering model clad in only a girdle—her nipples concealed by a tuft of clouds—dreaming of social successes *(Mademoiselle* 1947, 252). And in 1946, the industry's influential trade magazine, the *Corset and Underwear Review*, reported on an ad for the Joseph Magnin department store that ran with the tagline "Last night I dreamed I had nothing on but my black Gossard" (Farrell-Beck and Gau 2002, 129). The dream theme itself was therefore not novel, but it was Maidenform's persistent sense of humour, style, timeliness, and ubiquity that earned the campaign its fame.

Maidenform worked hard to retain the public's interest by cultivating a "look out for the next one" appeal, and to bring the campaign in the public eye as often as possible (d'Alessio 1990; Lee 1960). Like any good serial show, every successful execution bolstered the chances of the next; Maidenform did not shy away from allowing the Dreams to spawn. At least seventy-four Dreams following the same tagline and imagery formula ran from 1949 to 1955; in 1953, Maidenform vastly outpaced any other bra manufacturer in its advertising expenditures,

especially in newspapers outlets (*Maidenform Mirror* 1954b). Even when the frequency of new executions slowed down, they maintained a rate of six new ads per year until 1963. Unlike other bra ads, the Dreams were meant to be taken in jest—from the "naked dream" trope down to the punny copy, the sell was tongue-in-cheek. The core creative team at the advertising agency would regularly brainstorm on themes that tied into current fashions and events, write them on 3x5 inch cards, and present them to Maidenform executives for a further winnowing out. In just 1952 and 1953, the World Series, the Presidential Elections, the first televised Academy Awards, and Queen Elizabeth's coronation were all reimagined with the Maidenform dreamer stealing the show. Halloween and Valentine's Day regularly made appearances, and Maidenform often made a point out of celebrating winter, which was an unconventional but clever way to pick up sales in the post-Christmas slump. In 1952, the model dreamed of leading the Easter Parade, just as the real-life Fifth Avenue incarnation had stirred some controversy because its national broadcast had been sponsored by hat and blouse manufacturers, and thus would have been the subject of some discussion because of the "inappropriate coupling of public and private interests" (Samuel 2001, 37). Tying the Dreams into these contemporary events had the effect of setting an expiry date on each execution, so that the next one could be looked forward to.

The serial nature of the Dreams also encouraged retailers to frequently refresh their own promotional efforts, which contributed to Maidenform's ubiquitous presence. Numerous newspaper "co-op" retailer ads cropped up in the earlier years such as department store Woodward & Lothrop's 1952 "I dreamed I went shopping at 'Woodies'," and Hecht's various reimaginations the Dreams. It was not uncommon for department stores to promote their stock of popular brands by referring to well-known campaigns; knowing this, Maidenform offered mock templates for stores to customise at will. The same was true for counter cards, which were common fixtures in department stores, but other devices that were introduced over the years included the "bra bar" and "self-service" counters (Figure 6) (*Maidenform Mirror* 1952a; *Maidenform Mirror* 1954c). This invited customers not only to browse and compare product ranges at leisure, but also reduced the time sales personnel needed to tend to them, including the

need to fit every customer. The Dream ads soon appeared on the product's packaging, and the packaging itself was promoted as an innovation to look out for.



Figure 6. Photograph of counter promotion materials, circa 1957, Maidenform Collection, Archives Center, National Museum of American History, Smithsonian Institution. Maidenform also promoted its display aids that could be ordered by interested retail partners; this photograph shows bust forms, counter cards, and a Dream poster.

The ability to remain wittily on-point was also emphasised through Maidenform's encouragement of creative window dressing. Dreaming mannequins adorned the street fronts of department stores and undergarment retailers from British Guiana to Singapore until at least the mid 1960s. In the U.S., the *Maidenform Mirror* never tired of pointing out how easily window displays could riff on the latest Dream, current affairs, or buzzing cultural phenomena—and usually accompanied these pitches with a few photographic examples. A renewed interest in Cleopatra, for example, not only inspired the entire industry to promote Cleopatra-inspired looks, but resulted in two Dream executions and a number of window displays: "Cash in with Cleo!" extolled the *Maidenform Mirror* (1952a). Anything that was currently holding the public's attention could be transformed into a Dream opportunity: in the build-up to the 1952 Presidential election, Maidenform assured its partners that "nation-wide election fever has been turned to advantage" (*Maidenform Mirror* 1952b). An ongoing promotion involved the Ringley Bros. and Barnum & Bailey circus, for which Maidenform provided circus-themed Dream posters to

display in time for their arrival. Contests encouraged display designers to push the envelope with their constructions, which often reinterpreted the Dreams altogether (*Maidenform Mirror* 1950a). The disconcerting "I dreamed I was sawed in half" contest of 1954 was judged by editors from *Vogue, Mademoiselle*, *Woman's Home Companion,* and *True Story*, and therefore not only reached retail but drew in Maidenform's press connections as well. First-prize winning stores won an enticing 9-day vacation in Hawaii or the Caribbean, while display managers pocketed $100 (*Maidenform Mirror* 1954a). Specialty shop "The Vogue" in California was one of the lucky winners: the team had reimagined the Maidenform mannequin being sawed in half by a swordfish at the bottom of the ocean.

Whether in the name of the public good or for commercial exploitation, executives and social commentators began theorizing what underwrote the campaign. Advertising agency Leo Burnett, for example, contended that the Dreams were a risky source of consternation among their respondents ("housewives"): "'It goes too far,' the ladies kept saying. […] It combines dress and undress. She would be decenter if she were entirely in her underwear" (Mayer 1958, 65). To explain the Dreams' success in spite of this opprobrium, commentators believed that the campaign influenced the subconscious through Freudian means. Vance Packard, author of the widely read *The Hidden Persuaders* (1957), notably illustrates this by accusing Maidenform of leveraging "the sexual sell:" tapping into women's repressed desires to stimulate consumption. The book was a lengthy attack on Motivation Research; its thinly veiled main target, Ernest Dichter, was a man publicly known as the master of "the world of repressed symbolism" (Schwarzkopf and Gries 2010, 9).

Dichter was indeed a key inspiration to Norman B. Norman, head of Norman, Craig, and Kummel. When interviewed by Martin Mayer for the seminal *Madison Avenue, U.S.A.*, Norman referred to the Dreams as a prime example of the agency's psychoanalytical creative process, "the emotional reason-why" (1957):

> A lot depends on the copywriter's intuition. Self analysis. Ernest Jones says somewhere that Freud had this enormous ability to generalize from the particular. That's what we want in copywriters. Everybody dreams, many people dream of running around naked; but they can't talk about it. We make our copywriters talk about it. […] The theory of it is, the manufacturer is saying to the customer, "I know all about you." And the customer

> thinks, *subconsciously*, "What a nice guy, he understands me; what a nice product…" (emphasis added, Mayer 1958, 44).

Thus Norman seemed to believe that the best way to be spending advertising dollars was through Freudian "unconscious suggestion" (Mayer 1958, 44). But even though Norman did work closely with Kitty d'Alessio on the creative (d'Alessio 1990), he was not the creator of the campaign. Instead, fellow adman Joe Sacco credited art director Herman Davis as well as copy writer Mary Fillius, who is most commonly cited as the campaign's originator (1977). Davis and Fillius, then employed at Lester Harrison, would have worked together on the original ad that was presented, and turned down the very same day, by Seamprufe: Fillius wrote the copy for Davis' sketch. When Fillius moved to Weintraub, she thrived until she was given the Maidenform account; in a moment of desperation, Sacco encouraged her to adapt Davis' idea, and to ask for his forgiveness later. Sacco's story leaves much to the imagination and was written with the intent to entertain, but his story is consistent with Weintraub's need to impress Maidenform in those early days. He is also clear on one account: if psychoanalytical considerations were ever part of the campaign, it was post-fact—the Dream was the result of inspired creative, not motivation research. Based on Sacco's sketch and description of the original idea, Fillius made some crucial changes to Davis' design that might have helped sell the idea the second time around: where the Seamprufe woman is self-conscious and bends down to pick up some unruly oranges that escaped her grocery bag, the Maidenform woman went about her activities unfazed by her state of undress. The absence of embarrassment was both unsettling and refreshing.

Norman, Craig, and Kummel did, however, commission reports from Dichter's Institute for Motivational Research in January and March 1958—*after* the publication of Packard's book and after Maidenform turned to another agency for advice during the 1957-1958 recession. Surveying reactions to one print ad (the unusually erotic "I dreamed I had Spring Fever") and two television commercials ("Two Women" and "Sales"), the reports found that a balance needed to be struck between eliciting "emotional" (read: sexual) response and providing practical information in order to address the "bi-polar problem:" "women do not like to admit, even to themselves, the extent to which [forbidden phantasy materials of a romantic nature] influence

them. [They seek] reassurance through some rational vehicle which helps make purchase 'sensible'" (*Institute for Motivational Research* 1958, 34). The proposed solution was to run different commercials alongside each other, to limit the broadcast of more eroticised commercials to afternoon (when women were home alone) or late-night television (when wife and husband would be unperturbed by children or guests), and to ensure that even "romantic" commercials always included some form of "guilt remover" (*Institute for Motivational Research* 1958). Unlike the privacy afforded by women's magazines, commercials viewed in mixed company allegedly caused embarrassment and prevented women from indulging in their sexual fantasies. These reports reveal a key bias that coloured the motivation researcher's perception of the campaign's efficacy: they insisted on seeing the model's semi-nudity as imbued in sexual connotations, thereby raising a question of morality that overshadowed the humour that would have been apparent to the everyday audience.

Maidenform's leadership was simply too pragmatically-minded to be taken in by wish-fulfilment theories, but they did heed the advice to diversify their messaging—it concurred with the strategic direction suggested by marketing consultancy Alderson & Sessions, whose outlook was much more aligned with Maidenform's managerial inclinations. Headed by marketing guru Wroe Alderson, the agency was driven by the founder's functionalism, which considered the environment of the consumer to be just as important as their mind (S. Brown 2002; Wooliscroft, Tamilia, and Shapiro 2006). The agency thus recommended that Maidenform abandon its reliance on the 'pull' factor of its previous activities (understood, inter alia, to include the Dreams), and focus on 'push' strategies that would ensure better representation across retail outlets (Alderson & Sessions 1957). The implied critique was that the company was too complacent: it was good at retaining its loyal customers, but bad at seeking out new markets that would ensure their long-term viability. Playtex, in particular, posed a problem: they were ahead in retail and on television. To continue growing, Maidenform needed to diversify its offer and tackle Playtex head-on. In a manner that was typical to Alderson's managerial ethos, the report acknowledged that many of the changes suggested—which included the need for "better control" and more streamlined procedures—might alienate workers in the process, but that they would ensure the company's

health in the long run (Alderson & Sessions 1957, 3). Slowly but surely, both the *Maidenform Mirror* and the *Maiden-Forum* became noticeably shorter and formulaic; running these publications required employee resources and engagement, which the company no longer prioritised.

1958 was therefore a significant year for Maidenform's strategy, as the company began running campaigns alongside the Dreams to promote its other product lines: girdles at first, and later sleepwear, daywear, and swimsuits, including the "Day Dreams" lounging bra and the lacy "Sea Dreams" collection. These additional campaigns were usually a series of straightforward sells—hero-shots of products and packaging with concrete selling points, clear price points, and fashion ties—mostly intended for newspapers. Kitty d'Alessio remembers how this impacted the Dreams: overall running costs had increased and the budget needed to be split between these efforts, so the number of executions dropped (1990). But instead of ending the Dreams for fear of alienating customers, Maidenform forged ahead because they had created a campaign that transcended the product: the same respondents who had found Spring Fever to be too erotic said that the bra disappeared amidst the glamour of the models, the costumes, and the background. As long as the Dreams did not attract more negative publicity than positive recollection, Maidenform was not going to forfeit what had become the cornerstone of their brand image. "Our business keeps going up, up, up," volunteered Joseph Coleman for a press release in 1962, "Obviously, therefore, we're planning to stick with our dreaming until we're sure everyone's tired of it. In advertising, you've got to keep repeating and repeating" (Bell & Stanton 1962).

The recommendation to heed Playtex continued to haunt Maidenform as the brand showed up as its main competitor in research report after research report. If Maidenform had been America's bra, then Playtex was America's girdle; the rivalry has even resurfaced recently in the fictitious form of a popular *Mad Men* episode (Abraham 2009). When the Dreams were finally dropped in 1969, Beatrice Coleman, daughter of Ida Rosenthal and then president of Maidenform, recollected in a *Time* interview that it was because "we felt that the ads no longer appealed to younger women" (*Time* 1983). On the agency side, the recollection was that it was Maidenform's desire to challenge Playtex that was to blame. This decision was understandably painful; Kitty

d'Alessio, who had in the meantime become a senior executive, recollects she did not have a say and the whole situation "was little bit touchy" (1990, 6). Yet overall, the campaign might simply have been dropped because bras were no longer noteworthy: while the early Dreams benefited from a desire to stay fashionable, in the late 1960s "bra-lessness was on the scene and fashion found that it couldn't dictate to women any longer" ("A History of the Company (Draft)" 1972). Outside forces—culture, and what it did to the industry—thus had a key role to play in the long transformation of the campaign.

BROADCASTING THE BODY: THE MEDIA AND CULTURE LANDSCAPES

The success of the Dreams was in part due to the cultural climate that was unfolding during the post-war boom of the 1950s, and the counter-culture tremors of the 1960s. Both waves had roots and repercussions in the media landscape, shaping the material environment in which the Dreams were received: not only had the tone, content, and frequency of commercial messaging tangibly shifted during the economic boom, but the associations that the Dreams hooked into extended deeply into popular culture. By the time the 1958 motivational research reports—themselves splendid examples of the reigning Zeitgeist—were presented to Maidenform, the ripples that the campaign had been sending out since 1949 were becoming waves as they collided with other events that exposed the disquiet of the early 1950s: a reckoning with a new moral and societal order was afoot. The question of sexuality in particular, from challenging gender roles to reassessing biological knowledge of sex, kept the American public on its toes and pushed the undergarment industry into the uncharted territory of the public, sexualised body. Doomsayers of the mid 1950s who perceived a moral decline amongst the American public needed only look at the bra and girdle advertising scene for damning exemplars: these no longer refrained from treating the female body as capable of sex. Exquisite Form plainly promised women "x*appeal!," Playtex purported to know "the naked truth about the girl…," and Formfit promised an "Undercover Strategy" in flirtation. But the Dreams formed the centrepiece of concern because they were associated with techniques for manipulating the subconscious. If

moral change was the result of unbridled consumerism meeting rampant sexuality, then these techniques had far-reaching subversive potential.

It is worth noting that the studies that helped forge Maidenform's reputation as a Freudian persuader all drew on the Dream executions that were notable outliers in the series. Out of all the Dreams Packard could have chosen to analyse, the 1952 "I dreamed I stopped traffic" differed from other executions because it explicitly addressed the commotion it created: "Talk about dangerous curves!" touts the model in stylish evening wear, "You'll pardon if I toot my horn, but aren't I the loveliest view that ever jammed traffic!" The Motivation Research report commissioned by Norman, Craig, and Kummel, in turn, focused on the 1956 "I dreamed I had Spring Fever," which respondents deemed too erotic. This ad warrants a closer look, because it is the only Dream that suggests an interiority that is not shadowed by a knowing wink to the reader. Lying in a grassy meadow and caressed by the sun, the model's head is adorned by a crown of colourful flowers, and her legs are covered by a draping light blue garment wrapped around her waist. Her eyes are closed, and her lips are parted in a small, content smile: "For the figure of your fondest day-dreams." If the reference to sensual daydreaming was not clear enough, contemporary audiences would not have missed the ad's similarities to the infamous "Fire and Ice" campaign, which Kay Daly had created for Revlon in 1952, and which owned female sexuality as a pleasure to be revelled in (Peiss 2011; Scott 2006). Both models reach their scarlet fingertips to scarlet lips—one to emphasise her glamour, the other to emphasise the bra—sultry, confident, and content in the experience of their own bodies.

The very selection of "housewives" as the primary occupation of respondents reflected the marketers' assumptions about the most significant group of Maidenform customers, but it also biased responses towards a specific attitude towards sex. The identity of a housewife was rooted in the institution of marriage and the household economy, such that publicly discussing sexual desire—especially one that had the potential of extending further than the marital bed—was a no-no, and probably influenced the responses women gave when questioned about the campaign in a market research setting. That said, a sea change in sexual attitudes was simmering beneath the surface. The publication of the second Kinsey report, *Sexual Behaviour in the Human*

Female (1953), had not only revealed that women orgasmed and masturbated, but that these sexual pleasures could take place outside the confines of marital relations. Alfred Kinsey's assertions took like wildfire, but they were also heavily parsed to conform to previous understandings of sexuality (Bullough 1998; Scully and Bart 1973). Suggesting no woman was going to be surprised by its insights, *McCall's* believed this "new book on sexual behaviour may startle your husband—and improve your understanding of each other" (Miller 1953, 29). *LIFE*'s coverage focused on the claim of natural frigidity—"long-awaited study shows [women] are not very interested in sex"—though they also reported 50% of women had premarital sexual experiences, and 40% of married women had been or would be unfaithful in their lifetime (Havemann 1953). In the same breath, the media's treatment of the Kinsey report postulated female sexuality as libidinous but disinterested, and as transgressive but frigid.

It was a conundrum that the public unpacked by devouring a variety of (for the times) salacious best-sellers. Grace Metalious' *Peyton Place* (1956), for example, shocked audiences with its exposure of small-town hypocrisy and candid recount of extramarital relations, incest, rape, abortion, and patricide—the story was all the more intriguing because it was based on a case in 1946 New Hampshire, and because it challenged the illusion of the picket-fenced village as a morally pure utopia (Pomerance 2005). Where Nabokov's 1955 *Lolita* had the literary intelligentsia gushing about his sardonic satire but studiously ignoring Humbert's paedophilia (Glazer 2005), *Peyton Place* unapologetically put the spotlight on women and their sexual experiences, willing and unwilling. Despite being banned in Canada and libraries refusing to stock it, *Peyton Place* sold 12 million copies, vastly outpacing other best-sellers such as *Gone with the Wind*. Many rejected the book as smut, but many more read it in secret, passing it on to friends, recognising their own towns in it, and sympathising with its protagonists: the book "was not a call to social action, but it did confirm that a collective nerve had been touched" (Cameron 2015, 14). Sex—pleasurable, secretive, illicit, violent—was the subject *du jour*, even if some advertising executives continued to tread carefully.

Maidenform would never overtly reference these publications because any whiff of indecency was enough to plunge a brand into disrepute; companies were then, as they are now,

unwilling to ruffle the public's feathers. But opening up these topics for broader conversation benefited undergarment producers as the advertising media climate, which itself was undergoing a revolutionary transition from radio and print to television, swung between permissiveness and censure, shaping and shifting messaging opportunities. In the early 1950s, it was common for big brands to sponsor television shows, a practice that had been carried over wholesale from radio (Samuel 2001). In 1949, Maidenform sponsored TV host Dorothy Doan to promote the bras on the talk show *Vanity Fair* (*Maidenform Mirror* 1949e), before switching to the short-lived *Faith Baldwin Theatre of Romance* (*Maidenform Mirror* 1951)—a live adaptation of the novelist's radio dramas—in 1951. Part of the show was dedicated to dramatisations of the Dreams: the première featured a "young lady who dreamed she did a slalom in very little" (Gould 1951) and was lauded by *Variety* as "one of video's best brassiere plugs" (1951). To avoid unseemly bodily movement, the model was "shown discreetly," which meant that she remained standing while a fan blew into her hair and a "cloud loop" moved in the opposite direction (*Sponsor* 1951). Such tricks also helped manage production costs, which clocked up easily; live broadcasting was an error-prone business, and advertising agencies, who produced the entirety of the programme, were barely finding their feet with the medium (Samuel 2001). Together with a few other shows produced by Weintraub, *Theatre of Romance* was quietly cancelled after only one season. Maidenform may not have pursued a new broadcasting relationship precisely because of the costs involved. (A two-minute commercial for *Exquisite Form* cost $25,000 to produce in 1954; *Sponsor* 1954.)

When Maidenform returned to television in 1959, the name of the game had changed: companies no longer sponsored entire fifteen-minute airtime slots, but bought advertising time instead, which allowed broadcasters to consolidate their programming to appeal to specific target audiences, and for advertising agencies to focus on producing crafty, targeted commercials (Samuel 2001). The strategic advice Maidenform received from its consultants, which was to advertise bras in the afternoon and late evenings only, therefore came at a time when this had just been made possible as well as affordable. For its first commercial, Maidenform took advantage of a new projection technique to film a model spectacularly swinging over a city from a crane in

a dramatisation of the "I dreamed I got a lift" ad (*Sponsor* 1959). Yet the maturation of commercial broadcasting also came with increasingly stringent industry rules, which prevented any further filmed re-enactments of the Dreams. Amongst a set of other reforms, the National Association of Broadcasters banned the live demonstration of bras on television that same year. Bra advertisements had previously been considered so common that they were not deemed a danger to public morals; now, the National Association of Broadcasters judged that foundation garments belonged under the rubric of "personal products" such as haemorrhoids treatments, feminine hygiene products (tampons, douches), body odour products, laxatives, and toilet paper, which were restricted on TV "because of the real or implied associations with sex" (National Association of Broadcasters cited in Levine 2007, 61). The code also directed advertisers to minimise close-ups of the product, to avoid showing human hands handling it, and to emphasise style appeals rather than sexual appeals. As a result, Maidenform commercials employed a mixture of hard-sells, brief references to the Dreams, and a smattering of witticisms, animation, and obscuring techniques to circumvent these restrictions.

The National Association of Broadcasters' ban reinforced the perception of breasts as sexual objects and the female body as "the locus of shameful sexual temptation;" it remained in effect until the 1980s despite several industry attempts to have it lifted sooner (Levine 2007, 60). Yet all the while television was preserving public modesty, the advertising industry as a whole was inching towards the creative revolution of the 1960s, funnelling and shaping counter-culture stirrings (Frank 1997). Hard-sales, at least in print, were a thing of the past. Facilitated by a shift into colour and inclined towards greater creative flair, the Dream executions thus pulled word play and spectacular settings to new heights: "I dreamed I had a stylish carriage" and "I dreamed I drove them wild" riffed on popular films *Gigi* (1958) and *Ben Hur* (1959), while "I dreamed I was a trademark" poked fun at the usually bare-breasted White Rock fairy. A remarkable 1961 execution, "I dreamed I was a knockout," blended the image of Marilyn Monroe with that of boxer Gorgeous George. These executions were far more suggestive than their earlier counterparts and fully used the power of double entendre to elicit a chuckle; they worked because laughing about sex was becoming permissible.

An altogether different question that would deeply affect the way in which the Dreams were read was pushing its way to the fore: the identity, role, and place of women. While the stereotype of "Mrs Consumer"—the emotional, impulsive stay-at-home counterpart of the 1950s Organisation Man (Peiss 1998)—had ruled the 1950s, the 1960s would not continue to tolerate the snub that women did not have the ability or will to participate in the economic sphere. Armed with a new attitude towards sex, audiences picked up the best-selling *The Group* (1963) and recognised themselves in Mary McCarthy's conflicted Vassar socialites, women who were brilliantly educated only to find themselves constricted in their roles as wives and mothers. But no one crystallised these frustrations better than Betty Friedan in her 1963 book *The Feminine Mystique.* The "happy housewife heroine" narrative that had proliferated through the media, Friedan argued, had become a noxious measuring standard for female identity, limiting the opportunity for meaningful activities beyond hearth and home. The "problem that has no name," as she coined it, took on epithetic dimensions, and all aspects of femininity were put under scrutiny—including dress and consumption (1963).

Maidenform thus found itself in a climate where the public no longer knew what to think about women and women's bodies; a plethora of feminist views began to develop and inform each woman's perception of herself. Even though she was a cornerstone of the upcoming feminist movement, Friedan's rejection of consumerism overlooked and negated the ways working (and working class) women had been negotiating their identities as both producers and consumers, and taking charge of their sexual lives in ways that middle-class society was outwardly opposed to (Scott 2006). This was the audience that public figures such as Helen Gurley Brown—author of the 1962 *Sex and the Single Girl*—spoke to instead: a manifesto that doubled as a practical guide, Gurley Brown gave advice on how "to create an aura of seductive elegance about you, so no one will ever be able to feel sorry for you" (1963, 139). The single girl pursued her desires artfully and unapologetically, using consumption to carve out an image that resisted prejudice (Scanlon 2010). Importantly for Maidenform's trajectory, it was Gurley Brown's flavour of feminism that united the women who ran the company. Ida Rosenthal, Beatrice Coleman, and Kitty d'Alessio believed in femininity but rejected the societal constraints that came with it. Reflecting in 1990

on Madonna's bullet bra and garter costumes, d'Alessio, who had in the meantime become president of Chanel in the United States, opined:

> Even the women's movement has soften [sic] in a sense. In the beginning they were so militant. I think they hurt it. All of us are feminists. The point is how you do it. You also reflect leadership, the early leaders were an embarrassment to me. They were sort of losers. They were not the sort you would like to be role models. I didn't identify with them.
>
> I identify with achievers. I've always been goal oriented. There are ways to do it without irritating people. You can do a protest and can be an activist without being obnoxious. They were so unattractive to me. They were an embarrassment from my upbringing and the things I believe in (1990, 6).

From the need for role models to the hunger for action, d'Alessio's views expressed a pragmatism that differentiated "lipstick feminists" from the more intellectual grounds laid down by Simone de Beauvoir and Friedan (Scott 2006), but one that also sought legitimacy for the type of undergarment that Maidenform sold. In the words of one *Vogue* journalist, "it's one thing being liberated in a seminar, quite another at a dinner party, in the office, in bed…" (Beauman 1970). The same journalist, incidentally, ranked Mary McCarthy and Elizabeth Taylor as equally liberated, and scoring a few more points than Susan Sontag. Her take on bras, make-up and "extravagant clothes that stricter feminists disallow" was: "make sure you're doing it out of choice, not obligation" (Beauman 1970).

FROM FRENCH COUTURE TO WISPY NOTHINGS: THE FASHION AND UNDERGARMENT INDUSTRIES

As became particularly evident in the late 1960s, tracking changing attitudes towards identity and the body and keeping in step with the resulting fashion trends were key to the undergarment industry's survival. These were key material circumstances that dictated which companies were successful in anticipating demand. Perhaps due to its origins, Maidenform initially proved itself particularly adept at doing so: often cited as the first mass bra brand in the United States (Evans, Buckland, and Lefer 2004), it was founders Ida Rosenthal, a talented and hardworking dressmaker, and Enid Bissett, a former vaudeville performer and shop owner, who saw the gap that the flapper look was leaving in the market. In 1918, these two astute business women had joined forces to cater to the carriage trade—wealthy patronage—on Manhattan's

stylish 57th street (Evans, Buckland, and Lefer 2004; *Fortune Magazine* 1950; "Profile of the Company" 1987). Deeming the time's popular flat-chested flapper look to be "unnatural" (*Maidenform Mirror* 1962, 4) the pair devised a rudimentary brassiere that they gave away with their dresses as an alternative to the 1920s bandeau that pressed the breasts against the body (see Caldwell 1981). New clientele began to seek out Rosenthal and Bissett's brassiere rather than their dresses, so they set up the "Maiden Form" bra manufacturing facilities in 1922, with William Rosenthal—Ida's sculptor husband—as lead designer, and later president, of the new company. In 1929, the founders closed the dress business and forged ahead with only the brassieres; the business grew despite the hardships brought on by the Great Depression. A decade later, Maidenform ostensibly had difficulties keeping up with demand during WWII as the perceived need for brassieres grew with the entrance of women into previously male-dominated workplaces (*Fortune Magazine* 1950).

A far cry from the flat-chested 1920s that proved to be excellent breeding grounds for Maidenform, the 1940s and 1950s were allegedly particularly fixated on the breast: wartime pin-ups such as the Vargas girls had become a common representation of female sexuality, and well-endowed cinema stars such as 'Sweater Girl' Lana Turner and Jane Russell were worshipped as the eponymy of femininity. As a result, the bra-and-girdle industry was booming; corsetry, the alternative to achieving a highly stylised body shape, had long outrun its welcome (Cook 1960). Cost savings and the increasing complexity of bras also meant that women stopped making them at home, and turned to commercial options instead. Apparel in general became more available and affordable, but customers also sought to maximise the reach of their budgets by purchasing combinable pieces that served both day- and night-time occasions. Still regarded more as functional necessities rather than sensuous extras, undergarments were therefore expected to stay up to speed and provide value for money. Maidenform's promotional efforts no longer needed to be spent on educating the consumer about the product, but rather on differentiating themselves from the increasing number of competitors; this is why the *Maidenform Mirror* never failed to carefully analyse how its products fit the latest cuts and figures, so that vendors had the

information at the ready. From plunging necklines to baring shoulders and clinging sweaters, Maidenform always had a solution, with a range of colours and fabrics to match.

Dressing the Dream models in the height of fashion was therefore not an insignificant detail; it functioned as a way to signal the brand's "knowingness." But in order to convince their retail partners, Maidenform went much further: it hired Beth Fagenstrom, previously fashion show director at McCall, to supervise the national touring of the "Dreamatic Fashion Shows" amongst trendy department stores (*Maidenform Mirror* 1950b). Year after year, the part-show part-cocktail party brought upcoming Dreams to life with props, backdrops, and models parading in the original costumes (Figure 7). At the same time, other fully-clothed models would show off designer outfits to intimate that the undergarments provided a suitable foundation for the latest couture fashions. In these settings, the Dreams would often be adapted to suit the locale: allusions to Parisian chic in "I dreamed I stopped at a Sidewalk Cafe," were abandoned in Miami, for example, in favour of recreating a beachside patio (Fagenstrom 1952).



Figure 7. Assorted photographs of Maidenform fashion shows, 1952 – 1962, Maidenform Collection, Archives Center, National Museum of American History, Smithsonian Institution, Box 19 Folder 0 and Box 51 Folder 15-37.

Top left: Guests watch Cleopatra as she walks towards the stage followed by "attendants" at the annual Maidenform fashion show, Hotel Pierre, New York, January 1952. Note the crowds stretching to see from behind the pillar. Top right: Various snapshots taken at a fashion show held for Maidenform's 40th anniversary, which celebrated various past

Dream themes such as Toreador, Lawn Tennis, Knock-out, Carriage, and Stopped them in their Tracks, and Drove them Wild (1962). Bottom: Ida and William Rosenthal pose with TV actress Cherie Danton in a recreation of "I dreamed I was a social butterfly," performed for the occasion of the Rosenthals' trip to London and the relaunch of Maidenform products on the British market (*Maidenform Mirror*, Devember 1956-January 1957).

The connection between Maidenform and high fashion was further forged by the campaign's concerted effort to stay close to those who were setting its aesthetics in print media. The key creative forces on the agency side—Kay Daly and later Kitty d'Alessio—began their careers as fashion experts (Figure 8). Under their leadership, the team recruited a number of up-and-coming photographers to shoot the dreams, including Norman Parkinson, Richard Avedon, Lillian Bassman, Irving Penn, and John Rawlings (d'Alessio 1990), who were all instrumental in creating the look of fashion magazines such as *Vogue* and *Harper's Bazaar* (Saillard and Lécallier 2012). Designers such as Arnold Scaasi and John Frederics further contributed to the models' styling, and some costumes—especially the 1960s executions—were made to order. The backdrops were often created by department store display directors or theatre set designers who moonlighted in the advertising industry. A notable execution includes the 1959 "I dreamed I was a medieval maiden," for which a panel of the medieval tapestry *The Lady and the Unicorn* was meticulously reproduced to serve as a background by painter Stella Lincoln, and the costume and jewellery were custom-made by two different companies that normally supplied opera and theatre costumes (d'Alessio 1990). Alicia Mendoza, who famously had been photographed in a Warner corselet by Lillian Bassman, posed in this execution for Norman Parkinson.

Although these artists were occasionally credited at the bottom of the ads, these connections would not necessarily have been known to the public. In the 1960s, however, Maidenform launched a campaign promoting its girdles (part of the 1958 diversification effort) that spelled out its connections to high fashion more literally. The dreams of famous designers, the tagline read, "begin with a Maidenform girdle," and the demands of each "dream of a dress" were compared with the promises of "the dream of a girdle." Arnold Scaasi, Ceil Chapman, Bill

Blass, Bonnie Cashin, Anne Klein, Jeanne Campbell, Toni Owen, Donald Brooks, and Luis Estévez lent their names and portraits to the campaign. But while trends in the early 1960s were



Figure 8. Photograph of Kay Daly and Joseph Coleman, c. 1955, Maidenform Collection, Archives Center, National Museum of American History, Smithsonian Institution, Box 51 Folder 1-10.
Kay Daly and Joseph Coleman evaluate Norman Parkinson's photographs for the 1955 "I dreamed I was a social butterfly" ad.

rather bland, the girdle would soon face much tougher crowds. Even though they had compared favourably to corsets, they were still often stiff, warm, sweaty, and difficult to wash. As a result, the industry was continuously experimenting with new designs, and the options available to manufacturers changed drastically over the course of these twenty years: new fabrics such as lycra introduced stretch that had not been possible with previous weaves, and sewing innovations reduced the necessity for bulky seams and boning. The most significant change, however, was the customer's sudden impatience with these contraptions.

The "youthquake" brought on by the baby boomers embracing their teens changed dress mores virtually overnight, posing unprecedented challenges to the undergarment industry. If the 1950s ran through fashion changes in such quick succession that they frequently overlapped, the 1960s gave rise to polysemy by choice: European fashions such as the miniskirt, oversized

sweaters, and Twiggy's waifish look lived alongside a return to college "prep," ethnic influences, and spacey futurism, all in the service of counterculture cool or in opposition to it (Hill 2004). The effect of this sartorial break from previous generations was to abandon the need for figure shapers in favour of healthy dieting, fitness, and an embrace of frank sexuality: the less "artifice" there was to the naked body, the better, and any hint of undergarment was studiously avoided. The pantyhose, which had been on the market since the 1950s but now found its catalyst in the miniskirt, all but killed the market for garter belts and girdles (Deutch 2002). The bra did not have a counterpart that could provide the same support, but innovations like Exquisite Form's "No-Bra" bra started to change their purpose (Farrell-Beck and Gau 2002). The industry edged towards lighter, lacier, nude "sheer nothings" that delighted the wearer rather than constrained them: fashion writers deemed that "the newest look in lingerie is the nudest" (*Mademoiselle* 1965a). Although Maidenform—and other brands desperate to keep their girdles in circulation—still emphasised figure shaping, the effect of these "sweet nothings" was to shift the function of undergarments from providing "undercover support" to being things of beauty in themselves. In an echo of Dichterian "psycho-spiritual heights," Gossard suggested its wispy lingerie should be worn "even when you're alone. It's good for your ego" (*Harper's Bazaar* 1965, 95).

Maidenform's advertising during this time swung between reinventing the Dreams to suit the times, and pouring the associations with the dream theme into new campaigns. From 1964 to 1966, they produced four Dreams that constituted a neatly cohesive episode and banked on the fascination for continental Europe. For the first time, the creative team worked with only one model—a "Dutch girl, Antonio [sic?], a gorgeous girl and…terrific model"—and travelled to photograph her on location: Alhambra and Paestum by Richard Avedon, Paris and Venice by Mel Sokowski. Antonio embodied the classic European beauty, removed and lost in thought in these old-world settings. In the last of these executions, Venice, Antonio's skirt pants are covered in a psychedelic pastel pattern and held up to her waist by a string to reveal her hip bones—a sexy nod to 1960s "cool" (Frank 1997). These four ads were meant to be beautiful, and they certainly presaged the romanticism that characterised Maidenform's various Venusian "Sea Dreams" and "Un-Underwear" campaigns in 1970. But that was only one possible expression of the counter-

culture woman. In comparison, Playtex's last print campaign for its girdle featured a model whose breasts were covered only by her thick brown locks, staring intently at the reader (*Mademoiselle* 1965b, 101). Jantzen took "the underworld in its stride" with sunglassed models flashing their underwear from underneath glossy black raincoats (*Redbook* 1967, 119). These ads were not romantic, they were confidently sultry. As if to keep in step, Maidenform simultaneously ran the "Keep your eye on Maidenform" ads (1964-1965) that introduced the "Dream-Aire" and revamped "Day Dreams" bras by showcasing them on tousled-haired models gazing sensuously into the camera. In the subsequent "Let yourself show" ads for the "Reverie" and "Sweet Nothing" bras, Maidenform's by-line ever so briefly changed to "This is the dream you can be—with Maidenform."

The Dreams were running out of steam. After the humourless romantic episode, Maidenform made one last attempt to modernise and save the campaign, all the while developing the Sea Dreams Collection ads alongside it. From 1967 to 1969, the last Dreams turned to a world of "mod," colour and movement where the models multiplied in assorted combinations of fluorescent undergarments, and stretched in various dance poses to showcase the products' suitability for an active life. "I dreamed I made more of myself," the 1969 Dream model smiled charmingly into the camera while twisting her arms above her head in subtle parody to her forerunners. The copy's characteristic punning tried to reassure the reader that Maidenform still "got it": "Instead of pointing you out, this bra rounds you out. Naturally so" (1969). Even these puns were dropped in following executions, which were also the last: at most, any word play referred to figure shaping ("I dreamed I shaped up in an instant", September 1969). In a market where the youth was often choosing to wear no bra at all (Klemesrud 1970), figure shaping was hardly the fashionable thing to do, and the Dreams made way for the Un-Underwear line that introduced minimal triangle bras and panties.

CONCLUSION

Throughout the 1950s and into the 1960s, Maidenform caused a stir that propelled the brand into the media consciousness of post-WWII generations. The longevity and impact of the Dreams is often explained by variations on the Freudian wish-fulfilment theory: women bought Maidenform bras because they were compelled to fulfil their sexual or aspirational desires. But these explanations are limited in the sources that they draw on, and they presuppose a psychological commonality between women that the Dreams supposedly tapped into over the course of twenty years. As a result, they first overemphasise the significance of female nudity even though that particular theme was not new to the advertising industry. Second, they tend to overlook the significant details of humour, aesthetics, and timeliness—all characteristics that did distinguish the Dreams from competing campaigns. As I have shown by drawing on multiple sources as well as investigating the general industry, the Dreams' two decades of life did not pass as smoothly as most accounts seem to suggest: Maidenform changed and shifted its strategy in response to the cultural, media, and industry climates that formed the material environment of the consumer. These shifts are clearly visible in the campaign's varying aesthetics, and in the campaign's material reverberations.

An analysis of archival material and reconstruction of the competitive landscape reveal that competition was stiff in the undergarment industry of the early 1950s, and innovations were brought to the market in lockstep with the quickening fashion industry. Maidenform tackled the challenge by becoming ubiquitous: execution after execution made the Maidenform models an advertising fixture to look out for. They cropped up in window displays, on counter tops, and on broadcast television; they could be seen at costume parties and read about in newspaper columns. Models sported the latest fashions both in the ads and at fashion shows, a tactic that aimed to convince both retailers and consumers that Maidenform was "in the know." As flickers of the upcoming counter-culture revolutions heralded the turn of the decade, Maidenform amplified the Dreams' humoristic and spectacular appeal and produced some of the most memorable Dreams to date. The frequency of executions was dialled down due to budgeting constraints, but the

Dreams kept an oblique but palpable sense of cultural timeliness. Yet well into the 1960s, dress mores were changing as drastically as notions of sex, and gender roles were being overhauled into the 1970s. Because Maidenform always worked to stay in touch with the times, it responded by diversifying both its offer and its messaging. By the end of the 1960s, other campaigns that revolved around new product lines—delicate, lacy things that were eons away from the 1949 torpedo look—had overtaken the appeal of the "I dreamed…" formula, and Maidenform cut ties with both the campaign and their advertising agency. If the 1950s were a decade of growth for the Dreams, then the 1960s saw their gradual transformation from a campaign to a brand by-line.

Even with the information that can be gleaned from the sources that this paper draws on, it remains difficult to answer some key questions such as determining precisely why and when the campaign ceased to be effective. The reality of such longstanding campaigns is that they can be driven by managerial and strategic beliefs rather than a clearly laid out advertising theory, and these are dynamics that can be lost to the researcher who accesses the phenomenon retrospectively. Current theory, however, tends to focus on the psychology of the reader; this paper has shown how the company's imagination of the reader and its environment shape the direction of the campaign as much as the audience's reactions do. The injection of humour is a particularly pertinent detail to investigate further, as it implies a knowing relationship between advertiser and consumer: a critical distance on the part of the reader, and an astute intentionality on the part of the company. In conclusion, women enjoyed the Dreams not because they did not know what to do with their latent sexual desires, but because the Dreams were funny, daring, and a little bit wicked. And one day, as stand-up comedian Phyllis Diller committed to her collection, "My best Maidenform bra is now a soup ladle" ("Phyllis Diller's Gag File" 1968).

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PAPER II – THE CULTURED BRAIN:

UNDERSTANDING COGNITION AS THE

ORCHESTRATION OF MATERIAL EXPERIENCE

> We are so accustomed to the world around us that its creative foundations tend to be invisible. But everything—buildings, medications, cars, communication networks, chairs, knives, cities, appliances, trucks, eyeglasses, refrigerators—is the result of humans absorbing what was available to them, processing it and producing something new. At every moment in time, we are the inheritors of billions of our ancestors running their cognitive software. No other species puts so much effort into exploring imaginary territories. No other is so determined to turn the make-believe into the real.
>
> —Brandt and Eagleman, *The Runaway Species* (2017, 130)

With the increasing sophistication of brain imaging technologies, innovations in artificial intelligence, and advances in evolutionary and developmental theory, cognitive scientists are formulating a new understanding of cognition that illuminates how it is indebted to the environments that we inhabit. Mental processing is now recognised as the result of an elaborate network of neural connections that are built through the accumulation of material experience. The brain tames the messiness of reality, but it does so through a series of cumulative learnings and restructurings that gives rise to individual and cultural difference.

Advertising research would benefit from investigating the radical implications of this new understanding because it has the potential to elucidate how advertising texts are designed to draw on and modify the consumer's material experiences. In the search for the principles of persuasion, study upon study has demonstrated that consumer response is, paradoxically, consistently convergent and reliably divergent. On the one hand, psychological researchers have highlighted similarities in response to postulate the mechanisms, moderators, and boundary conditions of persuasion. On the other, cultural researchers have shown that cultural and environmental context drives diversity in interpretation and behaviour. In the late 1980s and early 1990s, studies in rhetoric attempted to bridge these two approaches—and thereby solve the conundrum—by bringing the observable variations in advertising into dialogue with the prevailing information processing paradigm. They suggested ways in which the recognition of

this variability might inform future experiments on consumer response. But even though this body of work showed robust empirical results, this avenue of inquiry has largely fallen dormant because it lacked a theory of cognition that could pull together the brain, the text, and their material context.

I argue that theories of advertising response should take into account the constant orchestration that the brain performs in balancing experience, knowledge, and perception. Advertisements, in their intention to sell, draw substantially on both positive and negative past experiences to convince consumers to try something new, or on the contrary, to remain loyal. In order to demonstrate how advertising researchers can leverage this insight, I begin by retracing where studies in advertising rhetoric began to uncover crucial cognitive processes but stopped short of articulating them. Our emergent knowledge on the brain, by contrast, suggests specific mechanisms that underlie symbolic and abstract thought. I survey this body of research next, and delineate its key challenges to the computational model of cognition that is typically endorsed in consumer research. Finally, I offer a tutorial to demonstrate how cognitive skills such as theory of mind and conceptual blending underpin its rhetorical power. The resulting new lens—cognitive cultural theory—enables the analysis of cognitive processes at work in cultural contexts, and I conclude by suggesting avenues for further empirical research.

LITERATURE REVIEW

Even though the information processing model (MacInnis and Price 1987) has been critiqued extensively in consumer research as too reliant on the computational metaphor (Hirschman 1986; Holbrook 1987; Mick 1986; Ritson and Elliott 1999; Stern 1994), most studies of persuasion continue to assume a static, isolated brain dealing with static, isolated advertising stimuli (see Fennis and Stroebe's comprehensive 2016 handbook as an example of the field's clearly demarcated, but siloed, objects of study). This means that while culture and context are often acknowledged as meaningful variables, they are rarely incorporated into the study as analytical components beyond the bucketing of large populations (such as American, European,

or Chinese) in cross-cultural response studies. This also means that the most interesting findings in consumer psychology are considered counter-intuitive because they defy standard theory, even when they would be perfectly reasonable if examined under the auspices of everyday experience. Some such recent findings include the insights that interruptions can lead to increased persuasion (Kupor and Tormala 2015), that too much visual information can lead to product-agnosia (Shi Jia, Shiv, and Rao 2014), or that empty space leads to decreased liking of the message (Kwan, Dai, and Wyer 2017).

Back in 1997, Zaltman's introduction to the ZMET urged researchers to seriously consider whether new theories of cognition would "have important implications for conducting research *if* [they] were true?" (1997, 424). Zaltman was specifically pointing to the emerging debates on embodied cognition, which has since indeed seen an uptake in consumer research. But similarly to my comment on counter-intuitive findings, Krishna, Lee, and Spike note in a recent call for papers that the resulting experimental insights are rarely used to question foundational assumptions or arbitrate between competing theories on the underlying mechanisms: "the cuteness and surprise value of embodiment findings has often received more attention than the findings' profound implications for how we conceptualize judgment and decision making" (2017, par. 1). From a neuroscience perspective, Plassmann, Venkatraman, Huettel, and Yoon similarly note the largely untapped potential for brain imaging insights to lay "necessary groundwork": "neuroimaging can help behavioural researchers turn 'the black box of the consumer's mind into an aquarium'" (Smidts 2005 cited by Plassmann et al. 2015, 428). We just need to be willing to reconsider currently reigning models.

The rhetorical turn in consumer research began doing just that by choosing a radically different starting point for their inquiries: advertising's paradoxical nature. Advertisements supposedly inform consumers of the latest and greatest, but rather than providing straightforward statements of fact, they are often playful in form, and more than a little fanciful. Stern, for example, called attention to the presence of metaphor and allegory (1988), as well as the frequent appearance of poetic devices such as rhyme and alliteration (1996). McQuarrie and Mick foregrounded rhetorical figuration, detailing a typology of artful deviation (1996). Scott

demystified the power of music by linking the act of perception to the symbolism that music conjures (1990). Scott also detailed how imagery is a symbolic system that requires cognitive processing (1994a), implying an active readership that begins to explain advertising's ubiquitous use of genre and irony (1994b). Whether working from the text to cognition, or from reader response to cognition, these scholars were mapping the ways in which interpreting advertising was not straightforward "information processing."

Ethnographies and interviews grounded these telling phenomena in real-life observations and yielded new theoretical avenues articulated primarily in "uses and gratifications" research (O'Donohoe 1994). For example, life experiences can frame and shape advertisement interpretations, which can in turn further fuel the construction of an identity (Mick and Buhl 1992). The consumer's life world shapes the horizon of expectations that are brought to the ad, while the ad feeds back into the consumer's identity project. Such activities are not necessarily solitary or individual: an ad can gain meaning through the social circumstances in which it was shared, perhaps even divorcing it from its promotional purpose (Ritson and Elliott 1999).

Advertisements are therefore not only read, but they are often put to use in unforeseeable ways: as a mediator of family bonds, as a form of social exclusion if someone "doesn't get it," as an injection of humour in unrelated situations by re-enacting familiar slogans, jingles, dances, or dialogues (Jayasinghe and Ritson 2013; O'Donohoe 1994; Ritson and Elliott 1999). Sometimes, such activities feed back into consumer culture by contributing to negative brand meanings, and thereby causing the exact opposite of what the brand message was intended for (Thompson, Rindfleisch, and Arsel 2006). Either way, the reader's awareness of the advertiser's communicative intent leads to creative interpretations, however nonsensical (Phillips 1997) or subversive (Thompson et al. 2006) this reading turns out to be. Reader and advertiser therefore clearly possess a common cultural frame that shapes and directs these reading experiences (Scott 1994b). Furthermore, the interplay between cultural rituals and advertising, which can be characterised by irony, playfulness, or subversion, shows how social meanings tend to presuppose differentiated interpretive communities (Otnes and Scott 1996). Overall, it became clear that advertisements fuelled further elaboration, often going far beyond the text or its intent. With

contemporary examples such as Always' #LikeAGirl, we have witnessed the power of advertising to stir important conversations about society, and potentially uncover uncomfortable facts.

The next step in the rhetorical turn was to demonstrate empirically how these variations in context, identity, and fanciful form actually changed response. A series of experiments did so successfully: McQuarrie and Mick investigated how responses to rhetorical figures tied into psychological constructs such as incongruence, resource-matching, memorability (1996), and elaboration (1999). They also pointed to the necessity of enculturation to understand tropes (figures that deviate from an expected meaning), but not schemes (figures that deviate based on form or pattern) (1999, 44). Scott and Vargas (2007) showed how viewers inferred brand meaning from unrelated imagery, and settled on readings that would be unlikely to occur outside a promotional context, let alone have any foundation in the natural world. Their findings document how ideogrammatic language can be extended *ad infinitum* through our capacity to infer beyond literal representation. In this case, they even point to how some of those inferences have embodied origins: the image of a fluffy kitten signals softness in tissue paper, but a wooden toy cat certainly does not.

Highlighting the distinctiveness of the artful form, Deighton, Romer and McQueen determined that dramatisation persuades differently compared to argumentation, and that form is therefore a relevant mediator of persuasion (1989). Escalas and Stern showed how drama type could change the path to persuasion as well, distinguishing empathy from sympathy as a response to persuasion (2003). Finally, these works on drama and affect paved the way to the most recent concerted effort in theorizing persuasion: the concept of narrative transportation (Escalas 2007; Green and Brock 2000; Van Laer et al. 2014).

Narrative transportation is a construct used to understand why stories, despite being potentially mischaracterizing or misleading, retain a persuasive quality that seems to be unparalleled in any other form of communication. The main premise is that stories have a vividness that engage readers in such a way that they are transported *into* the world of the story, and *away* from the here-and-now. As a consequence, "[a] transported reader suspends normal

assumptions and treats the narrative as the frame of reference" (Green 2004, 248). This new frame of reference has the power to change perceptions, which endure upon the reader's return to the "real" world. For example, the Steven Spielberg thriller *Jaws* (1975) induced a widespread fear of shark attacks amongst beachgoers, even though such attacks are statistically rare (Gerrig 1998). The degree of verisimilitude, the likability of characters, the imaginability of the plot, the genre of the story, and the demographics of the reader (e.g., gender and age) have either been demonstrated or hypothesised to yield varying degrees of transportation in the extended transportation imagery model (Van Laer et al. 2014).

Studies of rhetoric and dramatisation clearly yield interesting and actionable results that would have been lost in a too-narrow conception of what counts as information under the standard model. Accordingly, they revealed a cornucopia of further avenues for research. To give but a handful of examples, Stern suggested that recall and comprehension studies examine the difference between the use of metaphors and the use of symbols (1988). McQuarrie and Mick wondered whether tropes, once resolved, resulted in less pleasure on subsequent views (McQuarrie and Mick 2003). Scott and Vargas have suggested deeper investigation into the ideographic qualities of brand logos (2007).

Many more questions have equally been left unanswered. For example, if form determines the way an advertisement is processed, it would be useful to investigate what differentiates a good exemplar of a drama from a bad one. Schemes have been observed to bypass enculturation, but we do not yet know whether this makes them the ultimate avenue of global, cross-cultural communication. We do not yet know why narrative transportation fails, whether stories can persuade without transportation, whether an eighty-year-old novelist is transported in the same way as a fifteen-year-old hacker, or why two demographically, socially, and politically similar individuals can turn out to be polar opposites when evaluating an ad. We do not often question how some ads leave their commercial purposes in the dust, and generate debates on political and social fault lines instead (think Dove's Real Beauty campaigns, 2004, Always' #LikeAGirl, 2014, or Pepsi's Kendall Jenner ad, 2017). Finally, it is evident that there was still a wide gap between the studies that demonstrated how rhetoric and narrative made a difference to

response, and the studies that focused on the social relations, identity projects, or ritualisation effects of advertising. The spectre of material experience, which unites consumers as much as it distinguishes them, is present in all these questions, but has not yet explicitly been examined as a key explanatory variable.

Unfortunately, this research programme—with the notable exception of narrative transportation—has petered out. One underlying assumption is likely to have been the culprit: the idea that there is a systematic and indexable correspondence between form (a word, an image, a stylistic feature), its meaning, and the reader's response. Cultural artefacts are attributed inherent qualities without recognition that they are largely constituted by the mind that perceives and deploys them. As has been pointed out by reader-response theorists, this is a fallacy that blinds us to the way in which meaning resides in the interaction between the reader and the text, not in one or the other (Scott 1994b). In doing so, these studies also tended to abstract the advertisement from its real-world settings, even though experimentation is largely unsuitable to test these types of variations (Deighton et al. 1989).

The biggest difficulty, however, was the lack of a more developed understanding of how the mind operates on these types of stimuli. The literature has tended to black box how cognition depends on material experience. The minutia of the processes that get a consumer from inference A, to feeling B, to perception C and eventually to persuasion are overlooked in favour of categorisations (of form, of content, of the reader's profile) that must subsequently be qualified. At the time when these studies were conducted, only computational models were being discussed outside the mind sciences, which left little room to consider the fictional qualities of advertising with the necessary nuance. Nuances could be observed, but they could not be explained, and they were rarely reproducible in laboratory settings. Separating form from content was one way in which rhetorical features could be squeezed into the input side of the equation. We now know that this model is unhelpful in understanding the complexity of response to persuasive fiction. Most importantly, it did not delve into the role of material experience in producing this complexity.

AN EMERGENT UNDERSTANDING OF THE BRAIN

With the rise of increasingly sophisticated brain imaging technologies such as functional Magnetic Resonance Imaging (fMRI), Position Emission Tomography (PET), and Magnetoencephalography (MEG), neuroscientists have taken leaps in mapping, illuminating, and reassessing the brain's functions and workings (Uttal 2011). We are now able to observe the patterns of the 100 trillion synapses that fire between our 86 billion neurons (Herculano-Houzel 2012) to accomplish an astounding variety of mental tasks. The connectome, which is the complete map of the neural network, turns out to be an extensively employed and distributed entity, and the neural correlates of cognition that we have been able to observe so far question common models such as the dual-systems framework (Petty and Cacioppo 1986) in the information processing literature (Plassmann et al. 2015).

Neuroscientists, cognitive psychologists, and philosophers of mind have therefore been compelled to reformulate their understanding of the integrated, connected, and embedded nature of our mental abilities—and even reconsider what constitutes cognitive states and cognitive processes beyond the traditional boundaries of "skin and skull" (Rowlands 2010). Disputes on the implications of these new approaches are generating lively debates on the nature of the mind, and are putting serious pressure on theories of functional specialisation and related metaphors of cognition (Uttal 2011).

The prevailing metaphor of the brain, familiar to us in consumer research, is often referred to as the computational model because it hypothesises a distinction between the brain as hardware and cognition as software, not unlike the architecture of a personal computer. Similarly to the way software operates, cognition is then understood as a series of algorithmic manipulations of symbolic content. At the time that this model was gaining traction from the 1960s onwards, the inputs that our perceptive apparatus could obtain were considered to be hopelessly incomplete. Perception was believed to only capture a fraction of the information available in the world, and the onus was therefore on the cognitive system to complete the picture by building mental maps that are reliable enough to enable action (Wilson and Golonka 2013).

A major source of discontent with this conceptualisation is that it tends to be solipsistic: the source of inputs and the effects of outputs are either overlooked or considered irrelevant in understanding the nature of cognition. Consequently, the study of cognition is conducted by placing humans into experimental settings where they become "passive recipients of stimulation that has been especially designed to elicit information about cognitive algorithms located exclusively in [the participants'] brains" (Shapiro 2010, 27). Given the empirical advances since the heyday of computational cognitivism, this conceptualisation is no longer satisfactory (Wilson and Golonka 2013). Whereas vision, for example, was understood to build useful maps of the environment, visual perception is now theorised to be an ongoing process of intelligent selection and reaction to this environment. Vision is an agent in itself, not a cartographer at the service of a separate decision-making apparatus (Clark 1999). Thus understanding the brain as fundamentally context-sensitive and in continuous conversation with material experience, these findings displace the notion of the brain organ as the be all and end all of mental activity.

Raising further cause for a thorough re-conceptualisation, brain imaging meta-analyses are suggesting a brain that is characterised by pluripotency and degeneracy: one region can be involved in several distinct functions, and reversely, different neural structures can perform the same function. As a consequence, "every brain region has the potential to influence every other brain region within a given network" (Kiverstein and Miller 2015, 126), and the linkages are unclear. In this context, it is useful to understand that every connectome develops differently from one person to the next. Only 10% of neural connections are in place at birth, leaving the remaining 90% to be determined throughout the individual's development (Vidal 2012). This "striking parsimony of genetic information to code for brain complexity" (Changeux 2010, 3) suggests that the environment in which the brain's development takes place—the material experience it accumulates—plays a critical role in shaping these connections. Since these environments are shared with other human beings, they lead to the development of large-scale similarities between brains, but given that the precise circumstances of acquisition vary from one person to the next, the wiring itself does not follow a pre-set pattern. Like the structure of snowflakes, which are recognisable as a group but individually unique, the rough structure of the connectome is shared

across the human species but unique to each person because it develops under slight variations in communal material circumstances.

The interpretation of ambiguous imagery best illustrates how minute differences in brain structure can lead to vastly different perceptions. Optical illusions such as the rabbit-duck figure, the Kanizsa triangle, and the Necker cube exemplify how we tend to settle into interpretations that come to us most readily, even if they do not necessarily correspond to a full view of the image in question. The Necker cube, for instance, is a line-drawing of a cube that could be seen from two different perspectives. Yet that interpretation, even if people disagree on the direction into which the cube expands, is reliant on the understanding that line-drawing can depict objects in 3D. Some people might not have learned this, and would therefore see no ambiguity in the drawing. That was the case for Sidney Bradford, who lost his vision during infancy. When he underwent an operation to restore his sight at 52 years of age, neuropsychologist Richard Gregory documented his recovery minutely (1963). To Gregory's surprise, it soon became clear that Bradford had no difficulties visually identifying objects for which he had accumulated tactile knowledge throughout the course of his life. He could read the time from an analogue clock because he had learned to read the dials by touch; the same was true for upper case letters and a range of other objects that he had experienced physically. In other words, he was able to transfer material knowledge (the positioning of the dials), to symbolic knowledge (the representation of time), and subsequently apply this symbolic knowledge to new perceptual stimuli (his re-acquired vision). With the Necker cube, however, he identified only a two-dimensional set of lines (Gregory 2004). Bradford's case highlights the extent to which embodied knowledge can help in the understanding of modal stimuli, but also how constructs such as perspective line drawings must be acquired through learning before coming to us so effortlessly. In the absence of this cross-referencing material experience, optical illusions held no meaning to Bradford.

This brings us to one of the most extraordinary discoveries in neuroscience, which is that the connectome never stops evolving. From the gelatinous mass of a baby's brain to the rapid restructuring of the teenager's brain, we know that most of what characterises human cognition is developed and acquired in the first twenty-five years of life. But that does not mean that the

connectome is not capable of developing further, adapting and adjusting on the basis of experience and necessity. Studies show how transient and selective changes to brain structures appear in participants learning a new skill such as juggling, even after only one week of training (Draganski et al. 2004; Driemeyer et al. 2008; May et al. 2007). Structural neuroplasticity—the degree to which synaptic connections reshape over time—is therefore a life-long ability and the result of brain activity itself. These insights change, for example, the ways in which we as scholars understand the persistence, resilience, and changeability of knowledge, skill, and belief. As the full potential of the connectome is brought to the perception of, engagement with, and response to each instance of a new event or changed environment, neural connections are continuously being pruned, rerouted, or reinforced in response to these experiences.

This emergent understanding of the brain depicts a species with an extraordinary and lifelong capacity for learning—both individually and as a group—which gave it a distinct advantage in the evolutionary race for survival. It also emphasises our cognitive indebtedness to particularised environments. We know this already from observing how the extended period of childhood enables children to engage in exploratory learning by manipulating the environment without a particular goal in mind (Buchsbaum et al. 2012). Such protected play time is powerful, because new research shows that it encourages the development of causal understanding, which underpins activities such as tool-making, mentalizing, counterfactual reasoning, and eventually planning. These are exactly those activities that we consider uniquely human (Buchsbaum et al. 2012).

The difference between a gazelle and a human seeking food illustrates the evolutionary advantage that such abilities would have provided (Cosmides and Tooby 2000). The grazing gazelle developed a neural specialisation that enables it to distinguish between different types of grass, and therefore identify sources of nutrition amongst them. This knowledge, however, is not transferable to other potential foodstuffs: the gazelle does not have the ability to infer whether tree leaves are safe to eat based on its knowledge of grass. Humans, by contrast, do. By grouping grass, leaves, berries, and nuts as edible based on shared experience and knowledge, humans show a capacity to categorise the natural world in ways that are both flexible and useful. To add

some layers of cognitive complexity, humans even develop replicable technologies to help them in their endeavours. Poison-tipped arrows that are used to hunt game, for example, can be reproduced in different contexts and with different materials because the knowledge involved is abstract and flexibly applicable. Humans have, in short, learned to exploit the cognitive niche (Tooby and DeVore 1987), which means that they take advantage of their cognitive abilities, such as the use of grammatical language and cooperation skills, to outwit other organisms in the evolutionary arms race. Humans make their way through the world by creating mental models and applying these to their environments (Pinker 2010).

Yet survival based on cognitive prowess, however effective, would be a daunting task if every individual had to learn from scratch, no matter how much protected time they had at their disposal. The ability to separate out poisonous from non-poisonous berries, for example, depends on the experiences of the unfortunates who ingested the poisonous kind, and on the ability of the fortunate survivors to pass this knowledge on to subsequent generations. Social learning is therefore key to the development of the human species (van Schaik and Burkart 2011), eventually giving rise to complex social systems of transmission that Boyd et al. argue are more adequately called the "cultural niche" (2011).

Consider, for a moment, just the vast possibilities that this entails. For example, we would have gone from recognizing distinct entities to being able to count them, not only recognizing that "one" apple is the same, quantitatively speaking, as "one" orange, but also going from the basic concepts of "one" and "many," to a numeric sequence from "one" to "ten." Importantly, the ability to enumerate must be learned through enculturation—the Amazonian Pirahã tribe, for example, has no such numeric concepts (Frank et al. 2008). And while it is likely that the Pirahã have no need for it, this specific "cognitive technology" (Frank et al. 2008, 823) is instrumental in other contexts (trading activities come to mind), and eventually leads to the development of what we now know as algebra (Pinker 2010). Mental models beget mental models, if some use can be found for them.

This is why Greenspan and Shanker (2006) point to the necessity of a specific cultural milieu for the development of symbolic and reflective reasoning as we currently know it. The

development of writing, for example, began with memory-aiding tokens that recorded economic transactions, before transitioning into full-fledged pictographic and phonetic systems that require increasingly abstract thought. (For example, a Chinese pictograph of two trees is not read as "two trees," but the more abstract "woods.") The rise of these systems, as Ong (2002) and Goody (1975) have famously documented, not only structured the societies that used them by making distinctions between literate and illiterate classes, but also changed the very way in which people perceived the world. Time understood in terms of calendar dates was almost non-existent before the rise of print, when these dates began organizing time through mass-culture items such as the daily newspaper. Or to give another example, written or printed words are devoid of all the contextual information that are crucial to oral communication, such as intonation, body language, environment, and the social status of the speakers. Investing the written word with these nuances requires a different set of mental processes, such as keeping an imagined author in mind (Ong 2002). Today, these insights on the profound effect of communication technologies on cognition are being corroborated by neuroscientific evidence: Heyes has shown, for example, how the capacity to read radically changes our understanding of speech (2012).

In summary, we now know that while the brain is not entirely a blank slate, it is fundamentally plastic and pluripotent. It is shaped through interaction with the environment, an activity that is in turn shaped by the body and the brain structures that are already in place. It draws, with constancy and efficacy, on the accumulation of material experience. As a species, we are eager, social, effective learners. Over time, we have constructed and transmitted entire universes of thought that superimpose the physical environment, allowing us to change it even further. As a result, "culture is as much a part of human biology as our peculiar pelvis" (Boyd et al. 2011, 10924). This understanding of the brain and its role in generating our living environments, summarised in TABLE A, changes the way in which we need to think about consumer contexts. Not only is a computational model of cognition too static to capture the complexity of interpretation, it is also too isolated from a world that continues to challenge our wondrous "organ for thinking." Culture is the consequence and the cause of our peculiar cognitive

abilities, and the literature on persuasion would, as I will show, benefit from incorporating this insight into its empirical efforts.

TABLE A. OVERVIEW OF KEY INSIGHTS ON THE BRAIN

Key concept	*Definition*
Pluripotency	The observation that neural circuitry is reused for different purposes, a "pervasive" and "fundamental… strategy for realizing cognitive functions" (Anderson 2010, 257, 246).
Degeneracy	The ability of structurally different neural networks to perform the same function (Edelman and Gally 2001).
Plasticity	The continuous structural and functional reshaping of the brain, which leads to a life-long learning (or unlearning) ability (Draganski et al. 2004; Driemeyer et al. 2008; May et al. 2007).
Cognitive niche	The domain of mental models that the human cognitive apparatus has learned to inhabit and deploy to its evolutionary advantage (Pinker 2010; Tooby and DeVore 1987).

BRAIN, TEXT, AND CONTEXT: A COGNITIVE ORCHESTRATION

Cognitive cultural theory is a new interpretive lens that studies cultural artefacts in light of our cognitive faculties. Pioneered by English scholars who were frustrated with their field's oversight of cognition, the lens leverages the insights detailed above to interrogate why literary artefacts are so compelling to read and produce. Cognitive cultural scholars contend that a great deal of literary variance and value can be explained in reference to the cognitive processes that they presuppose, train, and challenge. Some of this work aligns with evolutionary explanations for our propensity to tell stories (see Boyd 2009), while others have reached into neuroscience (Armstrong 2014; Phillips 2015; Richardson 2010) and cognitive science (Cave 2016; Vermeule 2011; Zunshine 2006) to unravel the mechanics of literary affect.

To demonstrate how cognitive cultural theory can advance advertising research, I will walk us through the cognitive mechanisms that underpin the interpretation of a LEGO advertisement. In a sense, I reverse-engineer the mental processes that give the image the potential to be powerfully persuasive. For the demonstration below, I focus on the most probable and desired interpretation, the meaning that was likely intended by the advertiser. To crystallise

this, I begin by tracing the circumstances that led to the production of this text. It is clear that readers may depart from my subsequent interpretation in a number of ways, and these departures could be analysed through a cognitive cultural lens after documenting them through a reader-response study. Still, in order to underline how each mental movement is predicated on particularised circumstance, every cognitive process used in this endeavour must be considered in light of the material experience that shapes it, the mental modelling that it serves, and the shared learning that it furthers.

Now a ubiquitous toy, LEGO's trajectory to iconicity is the culmination of several successful and less successful strategic moves that have shaped the intended audience's experiences with the brand. Founded by a master carpenter turned toy maker in early 1930s Denmark, the LEGO Group manufactured a range of wooden and plastic toys before focusing exclusively on their bricks. Like most other mid-century construction toys, early LEGO building blocks came apart easily, and they were sold as independent gift sets. The invention of "System of Play" in 1955 reconceptualised the sets as an ever-growing system of compatible parts (Lauwaert 2008). The improvement of the interlocking structure in 1958 meant that the bricks finally offered children "clutch power:" a satisfying click when binding the bricks, and a satisfying tug when pulling them apart (Breen and Robertson 2014). Together, these two innovations created the brick system that we know today, and despite lukewarm initial reception, LEGO steadily gained access to international markets throughout the 1960s. The 1970s and 1980s were characterised by the addition of sets that expanded the LEGO universe, as well as the introduction of the minifigures, which encouraged children to populate that universe with denizens and storylines (Herman 2013; Konzack 2014). It was this expandability, which anchored LEGO as a toy of limitless possibilities for both construction and narrative play, that associates the toy with the development of material ingenuity in children.

Despite dominating the global toy industry in the 1990s, LEGO's popularity declined dramatically by the start of the new millennium, and profits turned into devastating losses (Konzack 2014). The rise of media entertainment as the child's pastime of choice had all but eroded the desire for open-ended play (Breen and Robertson 2014). The company responded

through rapid diversification, but only LEGO's first media tie-ins (with *Star Wars,* and later *Harry Potter*) showed much promise. Worryingly for a company that valued its independence, these sets were beholden to the successes of the eponymous films. Having stretched itself too thin, an overhauled LEGO leadership team recognised that it had lost sight of the product's core appeal and of its core consumers (who, incidentally, now included the profitable AFOLs: Adult Fans of LEGO). A painful but ultimately rewarding back-to-basics strategy saw the product lines pared back or discontinued, and LEGO's classic offers modernised (Breen and Robertson 2014; Herman 2013).

It was at this point in LEGO's history, in 2006, that the print advertisement in Figure 9 was designed by creative agency Blattner Brunner (New York). The ad needed to rehabilitate LEGO's image as a purveyor of ingenuity and creativity—not a jumble of faddish franchise agreements and resulting merchandise. Perhaps more challengingly, it needed to strike a tricky balance between appealing to parents, who remembered and valued open-ended construction play, as well as to children, who were clamouring for the narrative-driven Bionicle and the above-mentioned tie-ins. To complicate matters even further, its core line LEGO City was now primarily targeted at boys, thereby frustrating the appeal of its originally gender-neutral ethos (see Reich, Black and Foliaki 2018; Knudsen and Kuever 2015). The brand had therefore come to stand for much more than a simple toy: its consumption served educational, political, and social purposes. Parents buy LEGO for their girls and boys because they want to give them every chance to become, as the company line goes, "builders of tomorrow" (LEGO Group 2017)—a notion that is riddled with historically construed value-judgments and assumptions.

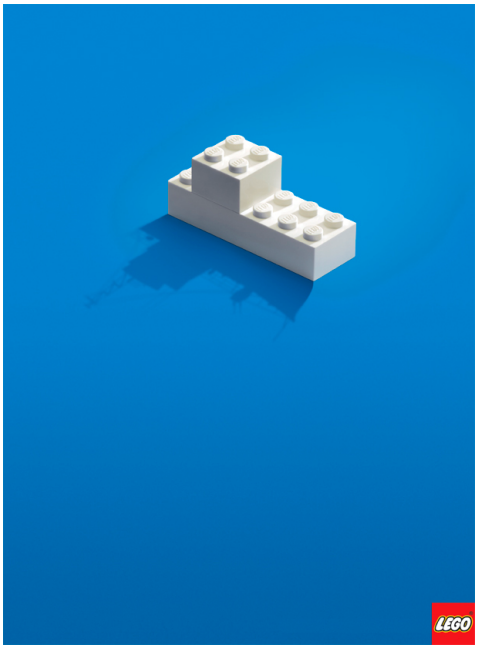

Figure 9. LEGO advertisement, “Boat,” by Blattner Brunner, USA, 2006.

Even though the toy industry, and thereby the nature of play, was vastly different in the 2000s from what it was in the 1950s, LEGO bricks had become to the material world what training wheels are to the bicycle, and these brand meanings play an important cognitive role in the process of interpretation. Note that while the reading offered below is specific to this image, the mental processes that are discussed as constituting the interpretive act are not: they could be demonstrated in relation to any number of different advertisements. However, these processes are most clearly visible in ads that seek to challenge the reader, which is a common strategy adopted by leading brands (Holt 2004). In my experience, the response to this ad is usually positive, amused, and satisfied—although audiences often struggle to elaborate beyond one-word descriptors such as “imagination” and “creativity” when asked what the ad means to them. The image is powerful that way: like a duck-rabbit illusion, once it clicks, it is delightfully obvious. But the way that it makes us think a little bit further than usual, the way that it plays with our mind, is much more difficult to describe. As it turns out, I will show that it actually plays with our brain.

Taking a closer look

The first, and most striking, observation about this image is that it represents a material impossibility: a set of LEGO bricks cast the elaborate shadow of a ship. From our many experiences with shadows, we know that shadows always have a source, but the source of this shadow—bricks that we know to be square, streamlined, and straightforward—is definitely not playing by the rules of nature. But instead of dismissing it as nonsensical madness, we treat it as an anomaly that must be resolved: there must be an explanation that helps us work out the ambiguity. There is nothing inherent to the bricks or the shadow that will help us do that, so we draw on our material experience and look at the context for cues.

On the surface, all we really see is two white boxy figures joined together on a vast blue expanse, and the inescapable LEGO logo sitting like a signature in the corner. Closer attention reveals, however, that there must be a light source outside the frame of the image, so that the shadow can be cast in the first place. Assuming a naturalistic setting where shadows have light sources, we are therefore compelled to imagine the scene as happening in a space that is hidden from our view, but that might contextualise the paradox enough to explain it. The anomaly does not make us throw all previous knowledge overboard, but simply revise what is useful in this case, and what is not.

At this point, we are faced with a choice between two familiar contenders for the outside space: the ocean, which is vast, blue, and a reasonable place for a ship, and the playroom, which is where LEGO bricks usually live. All we require now is an explanatory logic that both pushes us in the direction of one (the playroom), while retaining the clues that point to the other (the ocean). This logic will help us ignore all the other knowledge we have on oceans, floors, ships, and toys, and dismiss the incongruity of, for example, vast differences in size.

It is our knowledge of LEGO as a toy that finally propels us towards a resolution. LEGO bricks are often used by playing children to build symbolic surrogates of “the real thing.” These bricks, then, must have purposefully been put together to perform such a function. The bricks

cast the shadow of a ship because that is what someone imagines them to be. What we are looking at is not just a set of bricks with a strange shadow, but the very act of creativity that transformed plastic into a fictional world, perhaps even a story. The image is a metaphor for creativity, ingenuity, and play.

Putting two and blue together: Conceptual blending

As Scott has pointed out, even a non-metaphorical, photo-realistic image needs a level of enculturated literacy to be interpreted *as* a representation of something else (1993). Even though we take it for granted, "it takes a brain evolved over three billion years and trained through several months of early life to construct the identity between," for example, the "picture [of a baby] and the baby" (Fauconnier and Turner 2003, 5). It is therefore useful to begin at a very basic level of perception. The fundamentals of vision tell us that we seek for patterns that allow us to understand the figures at hand. This is only possible, however, if we intuit the whole before understanding the parts, iteratively finding the configuration in which the elements resonate with each other (Armstrong 2014). We circle between the elements to understand their sum. As quickly becomes clear, we do not rely only on what we perceive, but on our background knowledge and experience as well. The tricky part is to know what sort of knowledge to draw on.

Lakoff and Johnson (1980) have famously argued that certain concepts are more basic than others because they are grounded in physical experience, and therefore serve as scaffolding for further abstraction. Physical space is one of such primary conceptual domains, as Nelson and Simmons (2009) demonstrated in their study of how respondents derived meaning from the metaphoric relationship between cardinals and their vertical position (i.e., north is "up", while south is "down"). In the ship figure, the blue background, the shadow, and the way the white bricks sit on the blue expanse direct us to a physical space schema that is subjected to the usual rules of light, gravity, mass, volume, and so on.

The action that we perform here has been conceptualised by cognitive linguists Fauconnier and Turner (2003) as "conceptual blending": the act of blending two domains into a new construct with its own evolved logic (also see Joy, Sherry, and Deschenes 2009; Turner

2006). As two input domains are juxtaposed, their comparison highlights equivalences that create a common ground between them. This creates the "generic space," which captures just enough detail from each domain to serve as a useful abstraction. The idiom "the apple does not fall far from the tree," for example, relies on a generic space that is the domain of living things that reproduce: babies are to parents as apples are to trees. The generic space helps bind seemingly different entities into one, allowing for the relevant elements to be selected from each in order to construct a fourth mental space, which is the blend. In the blend, a new structure arises that was present neither in the first input domain, nor in the second, but is facilitated by the generic space. This emergent structure builds a new logic. If I now were to build on the apple-tree idiom by stating, "no wonder the apple is rotten," the blend's logic will continue to equate the apple with the baby, and we will infer that the baby's character is rotten because the parents are.

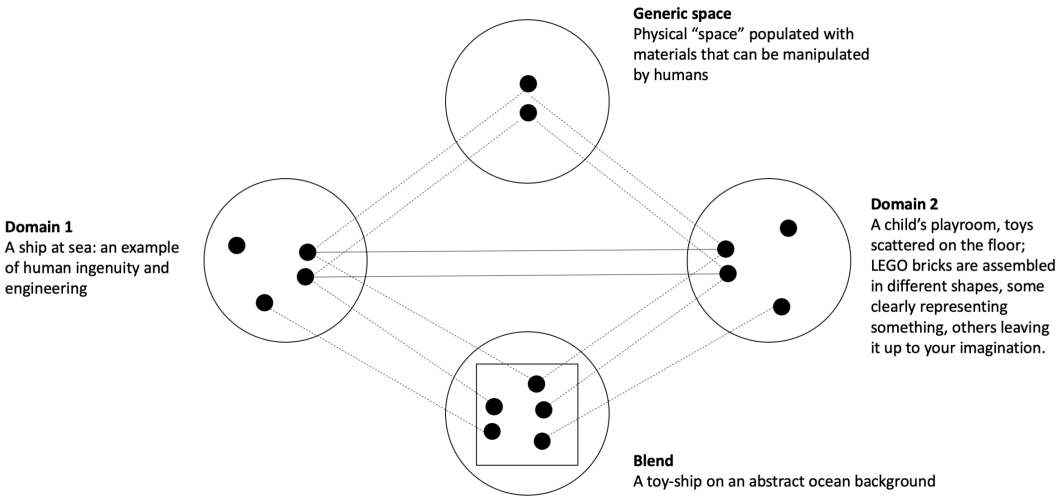

Figure 10. A conceptual blending diagram showing a blend at work in the LEGO advertisement, based on Fauconnier and Turner 2003, 46.

I suggest that two of the domains that must be integrated for the purpose of the LEGO advertisement in question are "the ship at sea" and "a child's playroom." Figure 10 adapts Fauconnier and Turner's blending diagram (2003) to schematise how the generic space connects these two domains by highlighting their shared physicality. This is where the shadow becomes important because it is one of the shared attributes that constructs the generic space. Yet for the

image to become meaningful beyond the spatial connection between a ship and a toy, the logic that arises from the blend must perform an explanatory function; it must give meaning to the merging of the two domains.

What the diagram leaves out is the deeper function of the shadow in the development of a blended logic: it does not only suggest a shared generic space where things have shadows, but it also opens up a host of symbolic meanings (cf. Stoichita 1997). Evidence that shadows, for one, are subject to symbolic treatment goes back to at least the Ancient Egyptians, where shadows were believed to be a part of the human soul (Budge and Romer 2008). Similarly, here, the shadow performs a visible binding function in its suggestion that we can see the bricks for what they truly are by virtue of their projection: the bricks may *look* like bricks, but on a different plane, they *are* a boat. We have thus seamlessly moved from interpreting the environment on the basis of physical evidence, to incorporating a cultural concept that must have been acquired through learning.

Imagining another: Theory of mind

The power of conceptual blending is not only that certain characteristics of each domain blend into forming a new image, but also that the relationships between these characteristics are manipulated. Further probing into these domains reveal other helpful similarities: brick and ship share the property of having been made by humans, with intention, ingenuity, and purpose. The superimposition of human agency, therefore, begins to hint at a further meaning: not only are ship and brick to be blended, but so is the driving force behind their existence (engineering knowledge on the one hand, and the imagination of a child on the other). Of interest to us here is the cause-effect relationship, and its subtype producer-produced relationship (Fauconnier and Turner 2003, 96). This cause-effect (human-boat, child-brick) relationship therefore hides a key common characteristic: the presence of other people, and the role that they have in shaping that environment. In other words, a child is envisioned to be doing some creative imagining, to be in the midst of constructive play. Even if the bricks had rolled out of their box just so—needing no intervention from a child to put them together—the image still implies that LEGO bricks have

the *potential* of being used in this constructive way. As we will see, the image is therefore saying just as much about the contents of that child's mind, as it is about LEGO itself.

The recognition of intent seems to be a key ordering mechanism in interpretation. The discovery of mirror neurons, which discharge both when an action is observed, and when the same action is executed, have changed the way we understand the link between perception and action (Freedberg and Gallese 2007). Interestingly, even the mere observation of a manipulable object, without the manipulation, can trigger mirror neurons, indicating that the object is, in part, understood in terms of its manipulability. The existence of mirror neurons therefore suggests that the basis for perception and comprehension is inextricable from embodied experience. Every time I look at the mug sitting on my desk, I have already imagined myself grasping it and lifting it to my mouth. This is equally true for images of mugs: in their study on mental simulation, Elder and Krishna have documented how the depiction of a product influences intent to purchase depending on whether the product was oriented towards the reader's dominant hand or not (2012). Freedberg and Gallese suggest that mirror neurons may be the basis for the embodied empathy that we display when we appreciate certain artworks, even if the work itself is not a direct representation of an embodied emotion. What is mirrored is the perceived intent behind the image: "our brains can reconstruct actions by merely observing the static graphic outcome of an agent's past action" (Freedberg and Gallese 2007, 202).

The LEGO advertisement therefore triggers a mirroring of the LEGO construction, drawing from our knowledge and past experiences of the object. The picture is incomplete, however, without detailing with some specificity how this intention is extended to a subject as complex as the "creative child." For this, we need to take a step back into cognitive science again, and consider what it takes to draw further inferences on this initial recognition of intent. The ability to imagine the contents of another person's mind is called "theory of mind," and it is vital to survival in social groups (Dunbar and Shultz 2007; Launay et al. 2015). Otherwise known as mentalizing, mindreading, or folk psychology (Apperly 2011), this ability is so engrained that we ascribe meaningful action even to moving geometric shapes (Heider and Simmel 1944). It is instant, imperceptible, and ubiquitous. Without theory of mind, we would take every word we

hear at face value, because we would fail to conceive the speaker could be deceitful, ironic, or intend a figurative meaning ("we need to talk" never means that the speaker is just keen on exercising her vocal cords). We would have difficulties understanding different points of view, because we wouldn't be able to imagine a world that is not exactly the same as our own. We would not even comprehend that a gesticulating body (such as a wave, or a hand raised in class) is trying to convey a message (see Fish 1978), because we would fail to understand that that person possesses agency, and might therefore *mean* something with his actions. Even highly abstract mental activities such as making moral judgments activate brain regions associated with theory of mind, whether the participants are prompted by the research design to imagine mental states or not (Young and Saxe 2009). Theory of mind is therefore a powerful organizing principle through which we interpret the world: the attribution of intention gives a direction to interpretation.

In consumer research, a handful of studies have explicitly referred to theory of mind as crucial in the development of persuasion knowledge (Lapierre 2015; McAlister and Cornwell 2009) and the effectiveness of word-of-mouth recommendations (Faraji-Rad, Samuelsen, and Warlop 2015). But the skill has otherwise also featured tacitly in the assumptions and mechanisms advanced in persuasion studies, from the Persuasion Knowledge Model (Friestad and Wright 1994, 1995) to Escalas and Stern's work on empathy and sympathy (2003). Jing Xu and Wyer Jr., for example, have shown that the credibility of puffery depended on whether respondents imagined the target audience to be knowledgeable or not (2010). And of course, the positive directionality of interpretation (Hirschman, Scott, and Wells 1998; Mick 1992; Phillips 1997) indicates that without imputing an intention to sell, figuration in advertising runs the risk of becoming meaningless. I suggest that the cognitive underpinning for these observations is theory of mind—and that part of the attraction of rhetorical imagery can be attributed to the pleasure of exercising it, just as is hypothesised to be the case for literature (Zunshine 2006). Tests that are standard in cognitive science have demonstrated the link between reading literature and the activation of theory of mind (Kidd and Castano 2013), and could be adapted to demonstrate this in consumer research contexts.

However, the pervasiveness and utility of theory of mind activities should not be mistaken as proof of its inevitability. Cultural context is crucial to the opportunities that theory of mind is afforded to develop (Heyes and Frith 2014). Anthropologists have now documented that in some tribes, theory of mind does not seem to play much of a role in communication and thought at all. While some tribes *choose* not to imagine the contents of other minds because it is considered to be an act of trespass, others do not conceive the thought itself. Wassmann and Funke conclude that while there is reasonable evidence that humans have a predisposition to think in terms of intentions, theory of mind is largely enculturated (2013). The development of this ability is therefore not a biological imperative, but it is a skill that is acquired throughout childhood and influenced by the interventions that shape an individual's cognitive make-up.

Those who are most aware of this process may also have been the advertiser's primary target for this ad: Most parents wish to help transform their child's minimally structured brain mass into something that will thrive in the wider world, which includes the development of fine motor skills, the development of mental mapping and abstraction, and the comprehension of the social rules that govern their environment.

The LEGO ad acknowledges this ambition. As pointed out above, the ship-toy blend presupposes an agent "making it so." The child agent must be imagined, and in the mind's eye, this child is clearly able to make a distinction between reality and pretend-play, to ideate with these tools, and to put them together in a purposeful manner—all desirable abilities. In other words, the reader must imagine the child's cognitive abilities to parallel the very cognitive processes that the reader engages in interpretation. Though the details are in dispute, there is considerable neuroimaging evidence that theory of mind is in reality the sum of a variety of specialised tasks: the decoupling of mental state representations from reality is distinct from the ability to perceive intentional behaviour, and separate from episodic as well as personal semantic memory (Gallagher and Frith 2003). All of these processes are needed to develop theory of mind, and all of these processes are at work in the interpretation of this image.

"Our extended childhoods," as Stephen Pinker has noted, "may serve as an apprenticeship in a species that lives by its wits" (2010, 8995). Training these wits is what has

enabled us to evolve to who we are today. LEGO understands that parents seek to enable this training to the best of their ability, and is in the peculiar position where their product seeks out and embodies our cognitive aspirations. More importantly, it is what consumers have come to expect from the brand, so that each move that inscribes meaning to the different minds at play in this image foregrounds an awareness that LEGO is doing the speaking. Wright (1986) called this interpretive element "schemer schema": one could imagine the ad without the logo, but the image would not attain the same level of meaning without the understanding that LEGO *intended* the image to convey the toy's potential to benefit childhood development, and that its advertising encourages consumers to make purchases that change their material experiences. Put differently, a consensus on the purpose of toys such as LEGO needs to be shared between the advertiser and its audience for the pitch to be effective (Deighton and Grayson 1995). A cognitive cultural perspective shows how these schema and brand knowledge are not only integral to the cognitive act of interpretation, but that they result in tangible insights on the product that is being promoted. Theory of mind implies more than an ability to juggle our own perspectives with that of LEGO and the imagined child; it makes a host of assumptions on those mental contents as well.

Once more, we can demonstrate that the reader is far from a passive recipient of information. In this ad, the imagined child outputs a pretend ship; in the reading of the ad, the parental audience outputs an ideal for their child. These elaborate reading activities have cognitive parallels: the brain does not just churn information, it performs an orchestration that might result in novel applications for the text. Just as a teenager might repurpose a punchline to inject humour in an awkward social situation (Ritson and Elliott 1999), so might parents hope that LEGO has the power to strengthen cognitive skills against the forces of gendered socialisation. The key concepts that underlie the cognitive cultural analysis of such phenomena are summarised in TABLE B.

TABLE B. OVERVIEW OF KEY COGNITIVE CULTURAL CONCEPTS

Key concept	*Definition*
Cognitive cultural mental processes	The mental activities that are crucial to cultural understanding and production, and are shaped by culture and environment in turn (Armstrong 2014; Cave 2016; Heyes 2012; Zunshine 2010).

Conceptual blending	The activity of blending two familiar domains in order to generate a new domain, with its own meaning and logic (Fauconnier and Turner 2003; Joy et al. 2009; Turner 2006).
Theory of mind	The ability to imagine that others have minds similar to one's own, and thereby infer reasons for their behaviours or attribute intentions (Apperly 2011).
Mirror neurons	Neurons that fire both at the observation and the execution of an act and that have been hypothesised as being integral to aesthetic enjoyment (Freedberg and Gallese 2007).

DISCUSSION AND FUTURE RESEARCH

The cognitive cultural lens has the benefit of tying the advertisement text closely to consumer response by elaborating on the cognitive processes that previous empirical rhetorical studies demonstrated, but could not yet unpack. If we revisit Scott and Vargas's theory of a pictorial communication system or McQuarrie and Mick's discovery of resonance (1992), the conceptual blending that underpins these findings becomes more than apparent: from deriving brand attributes from the image of a kitten, to developing a logic that knits contradictory text and imagery together, their respondents demonstrated the ability to understand these abstractions by mixing and transforming previous knowledge. Similarly, it is an active application of theory of mind that enables Phillips' respondents to find meaning in opaque or nonsensical advertising, because they know that advertisers have specific communicative intents and seek to understand the message accordingly (1997). Most importantly, however, what these studies imply is how these responses developed through the accumulation of material experiences. When McQuarrie and Mick (1999) showed that nationality moderated whether tropes could be worked out to the fullest extent of their intended meaning, they were pointing out that cultural background amounts to a differentiation in the accumulation of experience that distinguishes the mental elaborations of Americans from those of non-Americans.

Cognitive cultural researchers recognise that socialisation leads to group-level similarities in cognition, but also that the very structure of each brain, and therefore its activities, is unique. Drawing conclusions on a population's cognitive characteristics without spending an equal amount of time detailing the socio-cultural specificities that shape both artefact and cognition can lead to overgeneralisation and misrepresentation. Cognitive cultural theory

therefore encourages experimental set-ups that better reflect the participants' lived realities, and recognise that stimuli are themselves culturally constructed.

This echoes Pozharliev, Verbeke, and Bagozzi's call for more neuroscientific research on the role of social settings in advertising response (2017), but adds that it is not just consumer cognition that is social. Stimuli, as cultural constructs, are equally so. Not only should researchers thus seek to diversify their participant pools (Henrich, Heine, and Norenzayan 2010), but they should also understand what differentiates these participants in terms of their material experiences, and how artefacts feature in these differentiations. Research designs would be able to address the tensions between individual experience and social enculturation, and account for variability accordingly.

The ability to discern and articulate these variations will help the researcher avoid falling prey to "neuromania," where neuroscience is uncritically promoted as an omnipotent source of evidence without acknowledging the field's continuous updates (Spence 2016). The very idea that every interaction, every representation, and every response results from the uniqueness of the brain's structure should prevent us from reaching generalizing statements on the path to persuasion without corroborating these through an examination of historical, social, and cultural contexts as well. This requires that the researcher keeps two questions top of mind:

a) How has culture shaped the cognitive processes involved in the phenomenon over the course of human evolution, and over the course of the individual's lifetime?
b) How do cognitive processes shape and constrain the cultural and material environment in which they are observed?

Neuroaesthetics, evolutionary psychology, and cognitive cultural theory all provide ample sources of evidence, theory, and inspiration for a continuation of rhetorical work to take hold in advertising research. The questions that are raised by the material specificities of a cognitive universal such as theory of mind is a promising avenue for further research, as are the variations that these give rise to in the advertising artefact itself. An empirical investigation might examine how participants respond if cues that suggest promotional intent, such as brand logos,

are manipulated or even discarded: would consumers still understand the LEGO advertisement discussed above if the logo were omitted? Would K'Nex, Goldie Blocks, and Play-Doh achieve similar levels of persuasion if they used the same shadow device? Cognitive cultural theory would anticipate that each change in implied speaker would have ramifications for the experiences that consumers bring to the image, and therefore the resonance that it will achieve. A related study could, for example, determine whether the power of celebrity advertising and fictional brand characters lies in the mental content that is ascribed to them, rather than by the simple virtue of their presence or fame. A field experiment comparing the endorsement of the same message by different fictional characters (e.g., Bart from *The Simpsons* versus DC Comics' Wonder Woman) could be combined with reader response interviews to reveal the differential effect of imputed minds.

Cognitive cultural theory also highlights how persuasion knowledge is acquired gradually through interaction with specific artefacts and environments, providing a tangible avenue to unpack how "the basic conceptualization of persuasion that Mother Culture whispers in our ear shapes our thinking" (Friestad and Wright 1994, 7). We already know that symbolic consumption practices begin to form at early ages (Belk, Mayer, and Driscoll 1984) and that the acquisition of persuasion knowledge is linked to the development of theory of mind (Lapierre 2015; McAlister and Cornwell 2009, 2010). But in other disciplines, this development has also been shown to differ between cultural contexts, and its expression is therefore experience dependent (Wellman 2014). An investigation of how persuasion is depicted in children's media will go a long way in detailing how advertising appeals and their efficacy differ from context to context.

Conceptual blending provides the opportunity to explore how blended logics can fuel innovations in messaging or strategy. We can interrogate, for example, how conceptual blending is at the root of surprising advertising traits such as the grotesque in fashion ads (Phillips and McQuarrie 2010) or the weird in "oddvertising" (Berger 2004). There must be a trajectory of material experiences and resulting abstractions that enable consumers to respond to these persuasion attempts and morph them into new experiences. Adding depth to experimental stimuli

in this way—understanding them as constructions that intend to tap into consumers' previous experiences—will make the cognitive processes that underlie rhetorical variation more visible.

Finally, the study of the uses of advertising (O'Donohoe 1994; Ritson and Elliott 1999) serve as good reminders that in order to understand response, it is useful to examine what respondents do with advertisements beyond interpretation. Re-enacting an advertisement to lift the mood points to how a reader's cognitive creativity can transform ad interaction into behaviour. Historical analyses of advertising strategies could benefit from tracking how a campaign leveraged cognitive processes, as reflected in non-advertising outputs such as spoofs and boycotts. Experimental studies could step away from a brand attitude scale that presupposes a narrow range of outcomes such as "dislike" versus "like," and instead formulate tasks that foreground the participant's unique interpretation and re-use of the message. Participants may be asked to engage in creative tasks such as mood board collaging, imagining a fictive character's shopping basket, or coming up with a brand parody. In other words, paying more attention to the output of the interaction will reveal more nuance in cognitive processing, and move us beyond the binary observation of whether persuasion happened or not.

CONCLUSION

An understanding of how the brain engages in symbolic thought holds great potential in understanding how advertising interacts with our minds beyond the mechanisms that have been put forward under the rubric of information processing. I have argued that the feedback loop between brain and environment is essential: every abstraction has the potential for tangible change. Thanks to the brain, not only were humans capable of adapting to changing environments, but they also became proficient at modifying their environments to suit their needs, through tool-making, planning, and communication. These are fundamental capabilities that advertising taps into. The LEGO ad that was analysed here is, therefore, not only an example of how mental processes such as conceptual blending and theory of mind construct meaning, but also how their very presence can persuade through a shared belief of what is required for the

development of such seemingly effortless abilities. For the most part, we rarely take notice of the orchestration of mental processes that guide everyday conscience and behaviour, but it is nice—sometimes—to be challenged, because it reminds us that we are still capable of learning, still capable of advancing. Our propensity for mental play (Armstrong 2014) might therefore explain the variability of artful forms, as well as our ability to act on advertising texts through purchase or parody.

Taking a cognitive cultural lens forces a reconsideration of what cognition is, and what persuasion consists of, in ways that challenge fundamental assumptions in the field. Given that the connectome differs so extensively by individual, such an understanding argues against the possibility of a taxonomy of artefacts and features having corresponding categories of response. I hope to have demonstrated that although most advertising research is conducted at the group level, understanding the individuality of response is equally empirically productive: it shows the deep integration of cognition and culture in a way that has so far remained mostly unarticulated. These mental processes can, in future research, be explored in relation to a variety of rhetorical features (such as irony) and consumer responses (such as scepticism) in order to identify wider patterns of interpretation, and determine the nature of the cognitive-cultural environments in which some campaigns thrive, and others fail.

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PAPER III –

BORN EXHIBITIONISTS:

EXAMINING HUMOROUS RESPONSES

AS EVIDENCE OF MENTAL ELABORATION

> "Jokes, cartoons, caricatures, parodies, and other humorous artifacts are, then, like designer drugs, created deliberately, but with scant understanding of the underlying machinery that makes them work."
>
> —Hurley, Dennett, and Adams Jr., *Inside Jokes* (2013, 274)

The use of humour is a persistent and pervasive characteristic of consumer culture. But whereas there is a long-established tradition in investigating how humour can aid in attempts at persuasion by advertisers (Sternthal and Craig 1973), there is much less knowledge about the way that audiences use humour to cope with these attempts (Friestad and Wright 1994), or how consumers use humour to achieve their goals (Warren, Barsky, and McGraw 2018). Several reader-response and ethnographic studies have documented that consumers engage in the humoristic repurposing of advertisements to social ends, such as lightening the mood or demarcating social groupings (Jayasinghe and Ritson 2013; Mikkonen and Bajde 2013; O'Donohoe 1997; Ritson and Elliott 1999; Warren and Mohr 2018). Other work has acknowledged the use of parody, satire, and comic strips as ways for consumers to resist the marketplace, whether it is to express discontent with brands (Thompson, Rindfleisch, and Arsel 2006), with societal norms (Mikkonen and Bajde 2013), or with the practice of salesmanship (Wiid et al. 2016). Yet while these studies document that complex consumer responses are materialised into texts and practices (cf. Otnes and Scott 1996), they do not address how this occurs. What are the mental processes that result in the production of such reincarnations of the original text—and indeed, what is the point in leveraging humour?

I propose that we elucidate this question by recognising humour as a cognitive-cultural phenomenon: bounded and propelled equally by culture and by cognition, and thereby also serving

some purpose in understanding the world better (Van den Bossche 2018b). As a response to the world, humour aims to "bring about a change of situation, a *surrealization* of the real" (Critchley 2002, 10) that I argue helps us think through newly acquired knowledge and challenge old patterns of thought. As a consequence, we must regard humorous spin-offs as the product of mental elaborations that were engendered by the original text. This process of interrogation thus begins with elucidating the way that the advertisement itself elicits specific mental processes, which are then examined, explored, tested, and repurposed through the use of humour.

I unpack this thesis by analysing six humoristic responses to the iconic Maidenform Dreams campaign (Van den Bossche 2018a) through a cognitive cultural lens (Van den Bossche 2018b). I discuss the mental elaborations that gave rise to a cartoon, a satire, a set of contest submissions, a college prank, a window display, and a postcard. Together, these spin-offs exemplify how the controversial but enduring campaign led a rich life in the minds of its various audiences, and give some access to the reasons why the campaign was so prolific. In terms of methodology, I show how archival records can thus be used effectively to investigate the cognitive-cultural underpinnings of a historic campaign.

LITERATURE REVIEW

As Warren et al. (2018) discuss in their recent review on humour in consumer behaviour, the production of comedy by consumers and the role that this behaviour plays in the attainment of consumer goals is sorely under researched. Instead, the study of humour has focused mainly on examining how comedy can be designed as a stimulus to improve persuasion, and on the appreciation of humour as a psychological mechanism. Humorous intent is thereby usually construed as a peripheral cue (Zhang and Zinkhan 2006), rather than conceptualised as having an effect on the informational content of the ad. For example, Sternthal and Craig's foundational review advised that "[d]espite the fact that humor improves attention, it may inhibit comprehension and thus reduce overall message reception" (1973, 13), as if the humorous component were extraneous to the message and irrelevant to comprehension. This places humour squarely in the realm of affect instead of cognition (cf. Madden and Ajzen 1991), as a stimulus that elicits an emotional reaction rather than elaborative thought. Consumer-produced

spin-offs such as parodies are good examples of where this perspective falls short: they are elaborate pieces of cognition that rely on the recognition of the substance of the original. This is an established insight in the reader-response literature, which has mostly dealt with the problem of humour by considering the special case of irony (Otnes and Scott 1996; Stern 1990).

As a rhetorical technique, irony is lost if it goes unrecognised by the reader, and therefore evades the positivist treatment that would isolate humour as a manipulable feature of the text (Hirsch 1976). Irony depends on a shared understanding between the author and the audience (Otnes and Scott 1996), which means that it can be usefully deployed by consumers who, for example, wish to connect to others who can glean their meaning (Warren and Mohr 2018). Attempting to articulate the rhetorical operation that makes this possible, McQuarrie and Mick classified irony as resting on the destabilisation of the context, which frees up a wider variety of meanings to be taken into consideration by the reader (1996). Irony is thus highly dependent upon the reader's ability and motivation to perceive it, but also on the richness of a context that can carry the alternative reading (Fiske 2010; H. Jenkins, Ford, and Green 2013).

Identifying that irony is created between the active reader and a destabilised context befits cognitive-cultural theorisation. However, it does not explain the cognitive process that allows readers to discern its presence, choose the ironically intended interpretation amongst all the "freed up" options, or indeed, see humour in it. The study of irony also does not further our understanding of non-ironic humour.

The study of humour itself—its make-up, mechanism, and purpose—houses three major schools of thought (Billig 2005), but out of all the options only one has been considered in the advertising literature: incongruity-resolution theory. It posits that humour issues from the resolution of two clashing expectations, frames, or schemas (Alden and Hoyer 1993; Alden, Hoyer, and Lee 1993). Once a clash has been identified, the reader 'backtracks' in their initial interpretation to search for an interpretation that will reconcile conflicting pieces of information. Consider the following example (found in the *Maiden-Forum* 1950):

> "Why did you leave your last position?"
> "Illness. The boss got sick of me."

The joke depends on the reader drawing on their knowledge of working life and making the reasonable assumption that the reference to illness implies that it was suffered by the person leaving their position. Faced with the incongruent reference to the boss, readers backtrack to where this assumption led them astray, and resolve it by recognising how the pun on 'sick' construes 'illness' differently.

Incongruence-resolution theory is widely accepted in the advertising literature as an adequate explanation for how humorous texts (including irony) work (Kim and Kim 2018; Warren, Barsky, and McGraw 2018; Yih Hwai Lee and Lim 2008), but there are no studies that detail what incongruity is beyond a cognitive puzzle, thus side-stepping the investigation of the interpretive, cultural, and social environments that gave rise to the incongruity in the first place. Looking for incongruence can often illuminate effectively which stimuli count as humorous and which do not on a case-by-case basis, but it remains descriptive: the theory does not offer an explanation for how and why incongruity is funny (Hurley, Dennett, and Adams 2013). Some scholars have even suggested that any pleasure found in resolving incongruity might be epiphenomenal: a by-product of a conditioned reading process that rewards humorousness for social, and not just cognitive, reasons (Veale 2005).

As such, the dearth of research on humour is much greater than recorded by Warren et al. (2018): while scholars have documented irony and incongruence as sources of humour, neither streams are able to elucidate the purpose to which comedy production lends itself. In other words, we have yet to explain two phenomena: a) why consumers respond to advertising with humorous artefacts that include the likes of parodies, spoofs, and cartoons; and b) how consumers go from the original text to the spin-offs.

HUMOUR: A PRODUCT OF CULTURAL COGNITION

Despite our difficulty in establishing why, somehow we tacitly know what is funny, what is not, and when it is appropriate to display our mirth in public (Critchley 2002; Douglas 1968). The sociality of humour therefore seems like a good place to start. Living in shared environments enable readers to discern that a statement or image has purposefully been tampered with, as was the case with the employee and their exasperated boss: without social congruity, there can be no comic incongruity

(Critchley 2002). The emergence of social congruity has typically been studied under the umbrella of "culture," but as I have argued previously, culture is another word for the co-construction of meaning between our minds and the mutually shared environments that shape them (Van den Bossche 2018b). Given that our mental faculties are continuously engaged in articulating a cohesive impression of the world, what we perceive as congruent or incongruent is therefore as much determined by this shared environment, as it is by our ability to discern it.

Seeking an explanation for why humour exists in the first place, Hurley, Dennett, and Adams develop this proposition in their incisive treatise *Inside Jokes: Using humor to reverse-engineering the mind* (2013). As they explain, if the function of the brain is to "generate information on the fly […] and generate expectations that will service the [human] well in its odyssey through an uncertain and often hostile world" (2013, 93), then it is likely that the ability to produce and enjoy humour is the result of applying these cognitive faculties in a useful fashion. Hurley et al. draw on two key theorems on the brain's ability to generate meaning: the construction of mental spaces and just-in-time spreading activation.

As we formulate our thoughts, the theory of the construction of mental spaces stipulates that instead of reaching into our memory sequentially to find the adequate script, frame, or schema to apply to the situation that presents itself, we generate a mental space in which semantically connected concepts are called on and discarded as needed ('just in time') to achieve comprehension (cf. Collins and Loftus 1975). This active process of mental space construction allows for the effective activation and deactivation of relevant knowledge, as well as the construction of multiple spaces if required. The famously misleading sentence, "The horse raced past the barn fell," provides a useful example. Garden-path sentences such as these demonstrate how a reader is continuously anticipating the completion of the sentence, and readjusting expectations as necessary to make sense of the whole (Dynel 2009). It is our ability to backtrack quickly that gives us the flexibility to acquire, re-assess, shift, and morph concepts to best organise incoming stimuli.

Humour makes use of this nimbleness to call to attention the potentially disastrous results of elaborating (deploying just-in-time spreading activation) in the wrong direction. As various elements are activated to construct mental spaces, there are some elements that we become fully epistemically

committed to (i.e., these are committed active beliefs; also see Sperber et al. 2010 for the related concept of epistemic vigilance), whilst there are others that sneak into the mental space, ready to be activated if necessary but with no degree of epistemic commitment attached to them. If we imagine a conversation between a father and a son, we might imagine them in a homely environment, but not necessarily whether they are sitting on the couch or on the porch. More importantly, unless we are given reason to do otherwise, we do not commit to either option and are therefore not particularly surprised if subsequent information fills in the gap.

Humour arises when there is a committed active belief that *covertly* enters into the mental space, and that is subsequently demonstrated to be falsely held. Humorous texts are enthymematic, meaning that they rely on leaving some of their premises unstated, and on the reader to fill them in based on their existing knowledge (Cave 2016; Hurley, Dennett, and Adams 2013). Consider the following joke:

> Junior: "Daddy, what's a sweater girl?"
>
> Daddy: "A girl who works in a factory making sweaters." After a slight pause: "Say, where did you get that question?"
>
> Junior: "Never mind that, Daddy, where'd you get that answer?" (*Maiden-Forum* 1956b)

In the mental construction of the parent-child conversation, one supposes tacitly that the child is seeking information from the father that he does not possess (because he is a child, and should not know about sweater girls, which referred to women wearing form-fitting sweaters in the Lana Turner fashion). The son's response dislodges this epistemic commitment by escaping the innocent childhood frame and turning the situation upside down: the father is the naïve one in this scenario. Catching these covertly held over-commitments is crucial to ensuring the integrity of our knowledge of the world, and mirth could be the reward system that encourages the discovery of such mistakes. Or, in other terms, humour is "debugging our heuristic reasoning machinery" (Hurley, Dennett, and Adams 2013, 118).

It is fairly easy to see how this explains first-person humour: I make a mistake, I catch it and I reward myself by laughing. But the humorous texts that we are interested in here are much more complex than that: they tend to invoke theory of mind (also referred to as mentalising), which is the cognitive ability to infer the mental states of others and predict resulting behaviours (see my discussion of theory of mind in advertising, 2017). Mentalising can rapidly become unwieldy and prone to

mistakes. Human adults can typically navigate up to four levels of inference in higher-order mentalizing. This means that the nested doll-type phrase, "I suspect that you think that he feels that she appreciates…" is comfortably understandable, but adding another level (e.g., "…that they dream,") begins to stretch our ability to keep track of all those mental states, and how they relate to each other (Zunshine 2006). The fifth and sixth are the levels at which irony and sarcasm usually operate, as well as more complex forms of literary discourse such as parody (Launay et al. 2015). These special instances add another level of inference because of the implicit mental states that are necessary to imagine in order to derive at the intended meaning: "Have a great day," becomes an ironic statement once we infer that the speaker is feeling resentful, and that the utterance should not be taken at face value.

Humour that plays with these higher-order inferences specifically relies on the discovery and the anticipation of mistakes that have slipped into another person's elaborations, or on the discovery of mistakes in our own continuous mentalising and perspective-taking. Indeed, we are quick to distinguish the mistakes of others because of our propensity to make them ourselves (Hurley, Dennett, and Adams 2013). In the sweater girl joke, we are amused at the father's mistake, but we are painfully aware that his mistake is also our own: we too failed to correctly anticipate the mental contents of the child. Even funnier is imagining the child's sophistication as he marvels at his father's ingenuousness.

In summary, humour is the debugger of a cognitive mechanism—just-in-time spreading activation—that allows us to make sense of the world quickly and efficiently. Complex forms of humour thrive on the instability of complex cognitive operations, such as mentalising or conceptual blending. In what follows, I will demonstrate how consumers used humour to navigate the new conceptual domains drawn up by the Maidenform Dreams campaign and explore the ramifications of the mental operations they engendered. Newly constructed mental spaces are a breeding ground for mistaken beliefs, so I argue that consumer-produced humorous texts tackled this challenge by articulating, unravelling, mimicking, materialising, bowdlerizing, and hijacking the original text.

MAIDENFORM: THE CASE AND THE ARCHIVES

When Maidenform set its iconic 1949-1969 Dreams campaign in motion, it clearly did so with a dose of cheek: the punny copy, as well as the overt references to the Freudian naked dream, invited audiences to take the ad in jest. It is difficult to provide a summary of the two decades worth of Dream executions without glossing over all but two elements that remained constant throughout the campaign's run: the subject of the image and the tagline. In terms of the image, a poised Maidenform model was always pictured fully and fashionably clothed, with the exception of her torso, which was clad only in a Maidenform bra. This tableau was then accompanied by the well-know "I dreamed I [X] in my Maidenform bra" tagline, in which X was substituted by anything from the mundane ("went shopping"), to the slightly aspirational ("went skiing"), the very aspirational ("was a lady ambassador"), the fantastical ("was a mermaid"), the absurd ("was sawed in half"), and the plainly punny ("got a lift").

The Dreams are a helpful case for the study of historical marketing practices and consumer culture given that it needed to navigate the societal sea-changes that took place in the aftermath of the Second World War, and because it gave expression to deeply conflictive notions on the question of female identity, gender roles, and female sexuality. I have offered a more expansive account of the campaign elsewhere (Van den Bossche 2014, 2018a), where I detail how its twenty-year run was the result of Maidenform's successful orchestrations with the fashion, culture, and industry landscapes of the time.

What I did not address is why the campaign provoked the sustained and varied reactions that it did. Reader-response theorists and marketing historians have long argued for more nuanced and pluralistic views of audience response, beginning by examining how real audiences reacted to real advertisements (Knudsen 2019; Schwarzkopf 2011; Scott 1994, 2012). The problem with historical settings, however, is that we can no longer deploy the usual qualitative methods to capture these reactions as well as the references and assumptions that underpin their context. Instead, we must rely on records left behind in their wake, both in the form of the ads themselves and in the responses that have been preserved in museum, library and corporate archives (cf. Tadajewski 2011).

Fortunately for us, Maidenform decided that all publicity was good publicity: they saw every response to the campaign as evidence that their messaging was successfully engaging its audience. In their own words: "Every time the Maidenform name (to say nothing of complete Maidenform ad copy) gets into print, more and more women decide that a bra that's worth writing about is certainly worth buying" (*Maidenform Mirror* 1951). As a result, Maidenform often reported on these responses in their in-house publications, their employee magazine the *Maiden-Forum*, and their trade magazine, the *Maidenform Mirror*.

Having consulted the collection held at the Archives Centre of the Smithsonian National Museum of American History, I digitised and annotated the magazines for humorous content that related directly to the Dreams campaign. These finds include reprinted jokes, funny anecdotes, correspondence from fans and detractors, cartoons, photographs of window displays, photographs of college homecoming floats, college spoofs, poetry, and reprinted newspaper columns. In addition, I collected further cartoons and jokes as found in various trade magazines such as *Broadcasting*, *Sponsor*, and *TV Radio Mirror*, and photographs from archives such as the *Minnesota Historical Society*.

Together, these artefacts indicate how actively audiences were participating in the uptake of the campaign: they were not only watching out for the next in the series (d'Alessio 1990), but they were playing with it too. These playful adaptations served a variety of purposes, which concur with what consumer culture theorists have identified already: they forged social bonds, they critiqued society, they championed alternative meanings, they forged rituals (Mikkonen and Bajde 2013; O'Donohoe 1994; Otnes and Scott 1996; Ritson and Elliott 1999). But these texts also played with cognition. Many of the jokes reprinted in the *Maiden-Forum*, for example, indicated a self-awareness about the company's trade in 'unmentionables,' and a willingness to laugh with it. For example, a *Maiden-Forum* editor referencing the psychoanalytic hype that surrounded the sales of their bras reprinted the quip: "A psychologist is one who, when a good looking babe walks into a room, watches everybody else" (*Maiden-Forum* 1955). Some of the cartoons that made reference to the Dreams also joked about how easy it was to develop an obsession with the image of the cheeky Maidenform model. As a case in point, a cartoon of a man who "dreamed [he] was dreaming about a Maidenform dream!" poked fun at the

fantasies of the ads' male audiences (Zasloff 1953). These artefacts are, as I will show, exemplars that we can analyse systematically to gain insight into these mental elaborations.

REINCARNATIONS: HOW HUMOROUS TEXTS REVEAL MENTAL PROCESSES

When viewed from a cognitive cultural perspective, the Dreams leveraged two mental processes that are foundational to reading and to social life: conceptual blending and theory of mind. These processes are also visibly at work in the texts that were produced by consumers in response to the campaign, and the following analysis will demonstrate this. Before addressing these examples, however, it is useful to highlight how the Dreams leveraged theory of mind and conceptual blending in the first place, thus forming the foundation for the humoristic responses.

The Dreams were characterised their brazen disregard of a taboo, and by their sheer ubiquity in the consumer landscape. Not only did they display the female body for everyone to see, but they also ensured everyone saw it by placing the ads in general interest publications such as the *New York Times Magazine*, and by peppering storefronts with Dream-themed window displays (Van den Bossche 2018a). Maidenform thus invited the attention of a much wider audience than typically assumed in undergarment advertising at the time. In doing so, they were not only challenging the protected feminine sphere (the boudoir realm of bras, girdles, corsets, garters, stockings, and slips), but also challenging the usual advertiser-to-audience relationship.

This move added quite a few mental spaces into the series of inferences that were necessary to understand a Dream, and thereby upset this usually effortless and mostly unconscious process (Zunshine 2003). Figure 11 schematises this in the form of a triangle: earlier Maidenform ads, depicted on the left, addressed potential consumers and no one else, thus only involving the advertiser (Maidenform), the target audience (bra-wearing women), and the advertised (the person benefiting from the service or product in the ad). In order to read the text, the audience imagines the intentions of the advertiser, which includes guessing at their intended audience. This conception of the target audience would have influenced depiction of the advertised, whose mental contents must also be inferred (e.g., in its simplest form, the audience reads the model as being satisfied with her purchase).

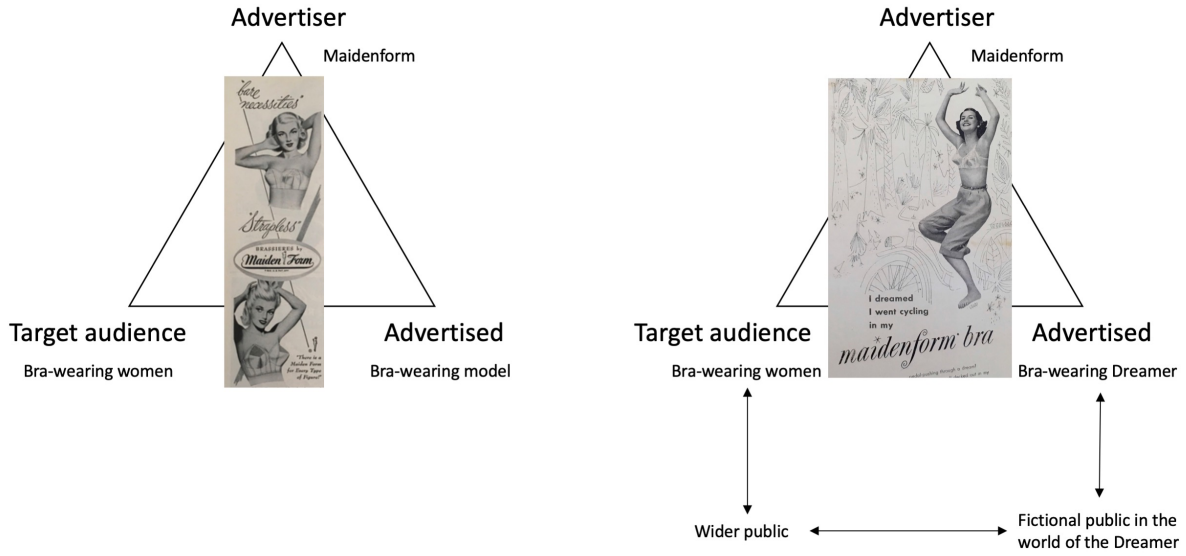

Figure 11. The mentalising triangles before and during the Dreams.

The Dreams, depicted on the right, extended this triangle by attracting the attention of vaster and more varied audiences—'surplus' audiences (cf. H. Jenkins, Ford, and Green 2013)— who became part and parcel of the interpretation because their mental states mattered for the reader's comprehension of the ad. Because the model was transgressing a social norm, the intended audience (bra-wearing women) were now made aware of the presence of an observing public. References to minds outside the usual triangle thus extended the levels and the recursion of these mental inferences.

Besides this complicating factor, the Dreams also created new mental spaces by blending conceptual domains (Fauconnier and Turner 2003; Joy, Sherry, and Deschenes 2009; Van den Bossche 2018b) that were previously studiously kept separate. By displacing a halfway-dressed female body from the dressing room to the sidewalk, they demanded that audiences bring together two realms, the public and the private, to an in-between that threw the undergarment—and the woman wearing it—into a new light. What kind of logic could rule a space that blended the hidden with the exposed, the domestic with the worldly, and the sensual with the everyday? And where did this place the idealised public figure of the chic and laborious suburban housewife?

Processing these questions resulted in a plethora of humoristic consumer responses. I argue that these responses were derived at through the articulation, unravelling, mimicking, materialisation, bowdlerisation, and hijack of mental spaces for debugging purposes. As such, each of these responses

were driven by an epistemic need to test, push, police, and replicate the boundaries of the new mental spaces that were opened up by the Dreams.

Articulating: A cartoon exposes minds

The cartoon in Figure 12 was published on 28 October 1963 in *Broadcasting*, a trade periodical for the radio and television broadcasting industries. A fashionably coiffed young woman is lying down on a chaise longue, and her psychiatrist (as we gather from the diploma on the wall), is leaning over her to listen to her concerns. The caption conveys what she is telling him: "I'm worried, Doctor. I've been dreaming of going out without my Maidenform!" She is, we infer, a Maidenform model in need of therapy for fear of letting her transgressions go too far.

This cartoon articulates the set of mental inferences that were necessary to understand the Dreams and its public reception. At the time of the campaign's publication, audiences would have infer-



Figure 12. A cartoon by Sid Hix, *Broadcasting*, 28 October 1963, Media Lantern Archives.

red that the model was subject to a Freudian naked dream because of the tagline and the reference to a state of undress. While the reference itself could have been perceived as a joke, there was also a theory floating about that explained the campaign's success in psychoanalytic terms: the very suggestion of a sexual transgression was supposedly liberating to women, thereby compelling them to purchase the product that was advertised (Packard 1957). As a contemporaneous pundit opined:

> "whether conscious or not, the wish to appear naked or scantily clad in a crowd of people is present in most or all of us. The copy writer […] permits the reader, by identification with the girl in the advertisement to fulfil this exhibitionistic wish" (*Maidenform Mirror* 1953, 8).

This reasoning was a crafty piece of pop-psychology, and it had staying power because psychoanalysis was enjoying a heyday on Madison Avenue as the principal explanation of how the mind worked (Samuel 2013, 14). In addition, the fear of abnormality that arose in reaction to the anti-communist persecutions of the McCarthy era and myths about the Soviet Union's brainwashing superpowers fuelled the American citizen's fear of losing mental control and inadvertently engaging in unsanctioned behaviour (Samuel 2013). The Freudian theory of a libidinous subconscious that could rebel at any moment thus legitimised these anxieties (Scott 2006; Acland 2012), and gave audiences a particular conception of the fragility of the mind.

As such, the allusion to the Freudian mind did raise the thought that there might be no end to this exhibitionism. The Freudian dreamscape and the public sphere are both potentially limitless; the boundaries of their blend are therefore unclear, which left an unsettling irresolution in its wake. The only way to know where it ended was in knowing how far the Dreamer's mind would go. If the reader believed that she had a sound mind, then the spreading activation ended there; it found closure (Hurley, Dennett, and Adams 2013). But if there was even an inkling of a doubt, then the cartoon articulated the consequences. Freud was so deeply associated with neurosis and mental instability that one of the paths to resolution necessarily involved imagining the extent to which the mind could unravel.

The cartoon also suggests another interpretation. The psychiatrist looks remarkably like Freud and is staring at the model's breasts with a vague look of panic on his features. She, on the other hand, is perfectly comfortable: so comfortable that she is not just in her bra, but her arms are bent casually underneath her head, and her slip is showing underneath her skirt (at the time, this would have been considered unseemly). The Dreamer's contented poise (she was, to quote radio host Dorothy Kilgallen Kollmar, "happy as a clam"; *Maidenform Mirror* 1949) was a crucial detail in the original executions that implied that she was not a Freudian dupe after all (Van den Bossche 2018a). By quoting the model's placid demeanour, the cartoon was therefore also mocking the psychoanalytic fever that shrouded the campaign's reception, and that might have elicited the audience's scepticism. After all, the existence of a textual libidinal trigger probably proved itself false in the reader's everyday experiences. A question

mark thus hovered over both characters: was she neurotic, or was she self-possessed? Was he an expert, or was he a pervert? The cartoon thus played with the contents of the different minds at stake and articulated the consequences. Drawing on third-person humour, it might have revealed the model's cognitive malfunctions to some audiences, but to other audiences, it would have betrayed the limits of the poor psychiatrist's abilities, and cast judgement over those who sided by him. This joke was as much on Freud and his acolytes as it was on the Dreamer.

Unravelling: A satire explodes the blend

Not all cognitive explorations of the Dreams resulted in good-natured jokes. Figure 13 is a parodic satire that was produced in 1961 by the *Harvard Lampoon* in collaboration with fashion photographer George Barkentin. "I dreamed I was arrested for indecent exposure" showed a model in a bra being manhandled by two policemen on the street. The scene is violent, with all three models contorting to implausible poses and one man screaming into the woman's ear. A smoking bystander seems not to notice while a white glove on the pavement furthers the impression of unruliness—incongruously, because the model is still wearing hers.

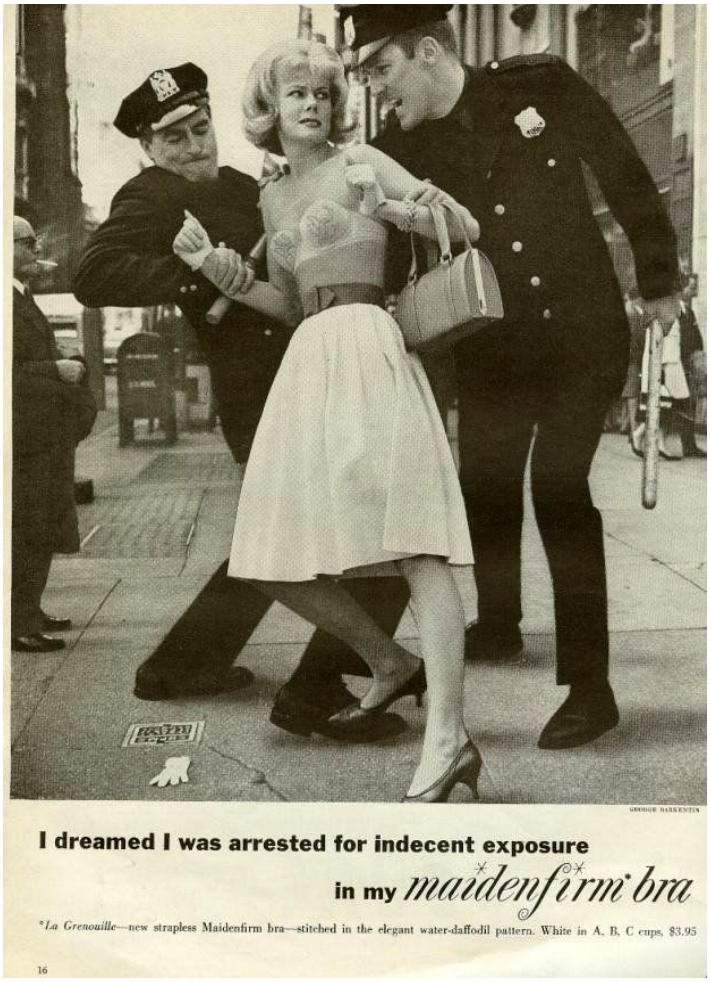

Figure 13. A *Harvard Lampoon* spoof by George Barkentin published in a lampooned edition of *Mademoiselle*, 1961.

This text unravels the mental space constructed by the Dreams and demolishes one of its freshly-minted epistemic commitments: the safety of the dreamscape. While the original executions often referred to themes of sexuality and romance, they could do so because there was an understanding that the public space was confined to the mind of the Dreamer. There were no men in the picture, no law that would get her into trouble. This image, however, worked out what would happen if this commitment to safety was mistaken or jeopardised, and revealed its precarity. It alerted viewers to how nonsensical it was to suspend disbelief at the Dreams' premise: no one could roam about in a bra without having to answer to moral authorities.

The surprising origin of this parody is that the editors of *Mademoiselle* invited the *Harvard Lampoon* to take over one of their issues. The *Lampoon* team proceeded by crafting, as was their habit,

a full-fledged magazine in *Mademoiselle*'s style. In the words of *Mademoiselle*'s editor-in-chief explaining the collaboration: "In typically male fashion, they have kidded our foibles, pricked with parody our notions" (*Mademoiselle* 1961). That this was welcomed by *Mademoiselle* indicated a willingness to laugh with themselves, as well as their intention to gain some currency with college-going readers (the *Lampoon* was written by Harvard undergraduates after all). Spoof after spoof, notions that were usually peddled by *Mademoiselle* were now being exposed as petty, unrealistic, or vain. Female readers were meant to recognise their "foibles," laugh, and gain some distance from the offending messages.

A directly satirical parody such as this one thus exposes elements of a world implied by the original that was not, in fact, represented in it (Ben-Porat 1979). Satires rely on the reader's recognition of this fact, which allows them to see that the author intends to deliver a critique that reaches into the fabric of society. In being chastised for suspending their belief, the reader is duly ridiculed: it is "for better or for worse, an othering process" (Phiddian 2013, 46 & 54). In a clear act of norm-setting, such strong condemnation thus works to monitor and police the mental space of the Dream, to act as a reminder that it should be treated with epistemic caution.

Mimicking: An invitation flaunts its wit

Figure 14 is the invitation that was sent out by the Physicians Forum for their 1954 Annual Garden Party. Although the drawing is much more risqué than the advertisements themselves, the tagline followed the usual structure: "I dreamed I went to the Physicians Forum Garden Party in my Maidenform form." Mimics of the campaign were bountiful and cropped up in all sorts of situations, including comedy sketches, costume parties, and anecdotes that were reframed as Dreams (such as the archaeology student who wrote to Maidenform: "Dear Sirs: 'I went digging in my Maiden Form Bra'—as you may see by the enclosed photo […] to get a better sun tan"; *Maidenform Mirror* 1952).

One of the campaign's features that facilitated this was its seriality: half the fun was in imagining what the Dreamer did next. The other was its wit, which audiences mimicked in form and in spirit. The two Dream contests that invited audiences to send in their own taglines bear witness to this.



Figure 14. Invitation to the Physicians Forum Annual Garden Party, *Maidenform Mirror*, October-November 1954, p. 7, Maidenform Collection, Archives Center, National Museum of American History, Smithsonian Institution, Box 19 Folder 0.

One "graceful, grey-haired grandmother," for example, wrote in: "I dreamed I found the Fountain of Youth," while a runner-up quipped: "I dreamed I was just a silhouette until I was spotlighted in my Maidenform bra" (*Maiden-Forum* 1956a; *Maidenform Mirror* 1957). The Physicians Forum invitation was, of course, playing with the idea that a 'maidenformed' body is in particularly good shape.

In mimicking the campaign, audiences were engaging in the cognitive elaborations that its humour evoked and making it their own. The process requires a two-step approach; the first is in the reproduction of the semantic nimbleness that characterised the Dreams, which asks for the lighting-speed integration of two seemingly disparate concepts into one mental space. Possessing such wit is a generally admired quality because it signals a specific sort of cognitive mastery (Billig 2005). The second step is in the way that theory of mind is exercised: once in the mimics' ability to place themselves in the place of the Dreams, and once in the intent to showcase this mastery to others.

Materialising: A college prank brings the Dream into the physical world

Figure 15 shows how the campaign was brought to life in a college prank at Butler University, Indianapolis, where a campus statue of Persephone was dressed in a Maidenform bra. The reprint in the

Maidenform Mirror suggests that a sign accompanied it, reading "I dreamed I passed the final in my…" (1962). Besides mimicking the Dream tagline, this example distinguished itself because it also modified an existing physical object: it covered the statue's breasts, implying that this college fixture (and the student body it represented by virtue of being co-opted for the prank) was going to do very well in her examinations thanks to the Maidenform bra. The infamous public/private blend had become tangible.



Figure 15. Photograph of the Persephone statue dressed in a bra at Butler University, Indianapolis, *Maidenform Mirror*, May-June 1962, p. 6, Maidenform Collection, Archives Center, National Museum of American History, Smithsonian Institution, Box 20 Folder 0.

Materialisation sees to it that new mental spaces are tested by reincarnating them into physical realisations, and challenges the notion that the space can only live in the mind. All of the window displays translated the Dream from its textual form into a rendition with mannequins and real props, materialising all sorts of situations where the tagline could come true (displays based on the "I dreamed I was sawed in half" ad were inventive and sometimes horrifying exemplars; *Maidenform Mirror* 1954). Yet there is also the question of the physical product that the advertisement referred to. The Dreams were peppered with allusions to the comfort and effectiveness of the Maidenform bras, which were intimated to enable women to engage in all sorts of aspirational activities. For the advertisement to work, it needed to forge a deep link between dreaminess and the physical properties of the bra: "Maybe you've dreamed of a dream of a bra that fits to perfection like this!" ("I dreamed I went to the zoo in my Maidenform bra," August-September 1950). While dressing statues in bras was unlikely to be

Maidenform's objective, the prank did take the ad to its logical conclusion: if you can dream it, Maidenform enables you to do it.

Bowdlerizing: A window display cultivates the momentum



Figure 16. A window display at Donaldson's, Minneapolis, circa 1956, Minnesota Historical Society Library.

Figure 16 is a photograph of a window display at Donaldson's department store in Minneapolis riffing on the 1956 "I dreamed I had Spring Fever" executions. The display punned on the idea of Maidenform being an antidote for spring fever, borrowing visual cues from the apothecary with its giant tonic flasks and old-fashioned floral labels. The mannequins were dressed in typical New Look attire, reinforcing the campaign's links to fashionable respectability (Van den Bossche 2018a).

While the display was still challenging moral norms by displaying mannequins in their bras on the street, this artefact was bowdlerising the original execution. As I have argued elsewhere, the Spring Fever ad was unusual because it was the first in the series not to have an overt humorous component to it, and it was more sexual in tone than its predecessors (Van den Bossche 2018a). Donaldson's display rejected this deviation by discarding the sexual connotation of fevers and elaborating on medical

associations instead, using the original copy's predilection for puns to their advantage (and, of course, coaxing the knowing viewer's spreading activation in another direction). To those who knew the original execution, it is as if Donaldson's were saying: never mind Maidenform's faux pas, here is a better version.

These witty re-imaginations can be extremely telling because they allow us to discern how store keepers transformed the theme into displays that they felt were acceptable for public consumption. Donaldson's transformation was likely done to avoid alienating customers who disapproved of explicitly mentioning women's sexuality. In reimagining the execution, they could keep up with the momentum of the campaign and change their displays in concert with Maidenform's publication schedule. Some elaborations therefore had a survival function: a new mental space that went too far could be dialled down, simplified or sanitised to be disseminated into new spaces. But bowdlerised artefacts also allowed for the theme to be used in entirely different contexts, where the sexual connotations played little to no role. The following and final response is an example of this.

Hijacking: A postcard navigates belonging

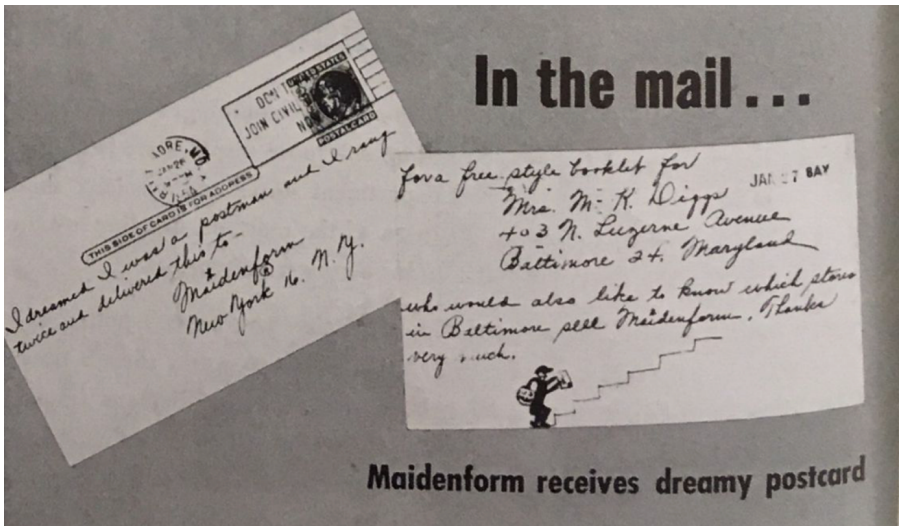

Figure 17. "In the mail… Maidenform receives dreamy postcard," *Maidenform Mirror*, May 1954, p. 8, Maidenform Collection, Archives Center, National Museum of American History, Smithsonian Institution, Box 19 Folder 0.

Figure 17 is the *Maidenform Mirror* reprint of a postcard that was sent to Maidenform headquarters, taking up Maidenform's offer of a free style booklet. This particular card distinguished itself because it was addressed as follows:

> I dreamed I was a postman and I rang twice and delivered this to –
> Maidenform
> New York 16. N.Y.

A little flourish on the "i" in Maidenform imitated the brand logo, and on the back, the sender completed the joke with a doodle of a postal officer in action.

This final example shows an elaboration that allowed the theme to travel beyond its original remit (i.e., promotional Maidenform materials) and hijack other domains. The tagline encrusted into the space typically reserved for a postal address. It required that whomever read it (i.e., post office clerks) recognise the author's intention in mimicking the famous tagline. The postcard would be unintelligible otherwise and fail to be delivered. But at the same time, the card was playing on the audience's mentalising activities by conflating the sender (who supposedly was the subject of this particular dream), the postman (who was also the subject of the dream), and the Maidenform model (the original Dreamer). The joke was, in other words, hijacking the postman (or, in Hurley et al.'s terms, placing him in a vicarious position where the observer forges sympathies with the subject)—and the humour was reinforced by encouraging the reader to imagine said postman climbing up some stairs and "ringing twice" in his dreamy delivery.

Although it is a simple example, this hijack demonstrates how flexible new mental spaces can be: they can transcend their original purpose and serve another just by moving to another form of communication. The postman does not expect to be addressed by a postcard, and especially not where the address is supposed to be; recognition of the tagline dislodges this expectation (an epistemic commitment in the moment). Here, the joke also forges bonds between those who understood the reference and were taken in by it (literally, as we see with the hijack of the postman) and those who did not. Repurposed in this way, the use of the tagline indicated a tacit approval of the original text, and a desire to use this approval to foster a sense of belonging with others, perhaps even aiding in the manifestation of a brand community (Muniz and O'Guinn 2001).

DISCUSSION

In an often-quoted 1963 article explaining the success of the Maidenform Dreams, an art director purported that…

> The sad, or happy truth is that any woman worth her sex is basically deep down a born exhibitionist. […] Maidenform dreams allow the eager females to take a brief but meaningful excursion into the wicked land of violent and base emotions, uninhibited men, and 'bad' women (Baker 1963, par. 6).

The humoristic responses studied here give credence to the idea that the Dreams lent themselves to mental excursions; they are windows into the mental elaborations (including Baker's salacious line of thought) that were elicited by the original ads. These mental elaborations were then propagated in further texts and practices to display their results for others to learn from and admire (see Hurley, Dennett, and Adams 2013). Born exhibitionists indeed!

Advertising leverages a number of cognitive processes that can lead to a "combinatorial explosion" of mental elaboration (Hurley, Dennett, and Adams 2013, 93). Theory of mind, for example, is drawn on recursively in a mentalising triangle that combines the mental spaces of the advertiser, the target audience, the advertised, and the surplus audiences (Van den Bossche 2018b). Increasing the levels of mental inference in this way can produce a "momentary cognitive vertigo […that] may render us *increasingly* ready either to laugh or to quake with apprehension," thus explaining why some instances of fiction elicit more attention, and a different response, than others (Zunshine 2006, 36). The spreading activation that tackles this combinatorial explosion will be error-prone, and thus activate the system's debugging mechanisms. Readers elaborate their thoughts in various directions and end up producing humorous texts such as the ones discussed above.

The elaborations documented here (and summarised in TABLE C) should not be seen as exhaustive. These examples were chosen because they differ from one another enough to demonstrate a variety of spreading activation paths. Others could also have been included, such as texts that hyperbolise (i.e., grow the new mental space to encroach on its parent domain, as when the Dream tagline was used as a stand-in for the entire undergarment industry (Van den Bossche 2014)), or texts that condense (i.e., compress the new blend to its bare essentials, as we observe in caricatures). More

importantly, these elaborations are not mutually exclusive: they often build on one another. The dreamy Persephone statue is as much a materialisation of the Dream as a hijack of public statues and Greek mythology. The postcard hijack relies on the successful mimicking of the tagline. The drawing adorning the Physicians Forum invitation complements the tagline mimicry by articulating the Dreams' come-hither intimations.

Elaborations are not paired one-on-one to a resulting insight. In our example, demolishing the dream as a safe space alerted the viewer to their suspension of disbelief. In other parodies, this was achieved by turning the Maidenform model into a man (an inversion, which combines articulation and unravelling) or by imagining the difficulties that a Dreamer's husband would face (articulation). Nor are the elaborations confined to one form or medium: the same elaboration can be observed in a newspaper column, a drawing, or a costume. Just like the brain, elaborations are pluripotent and degenerate: they can be used for different purposes, and various elaborations could reach the same result.

TABLE C. OVERVIEW OF MENTAL ELABORATIONS

Mental elaboration	*Cognitive purpose*
Articulating	Spelling out ramifications of new mental spaces by drawing on existing knowledge
Unravelling	Testing the premises of a new mental space and its resulting new knowledge
Mimicking	Replicating the new mental space
Materialising	Transposing the new mental space from the mental world to the physical world
Bowdlerizing	Weeding non-essential premises out of the new mental space
Hijacking	Hopping the new mental space onto an unexpected domain

Together, these texts demonstrate how actively audiences were reading and repurposing the Dreams. These jokes circulated because the elaborations that they gave form to had either already been experienced by the audience, or they revealed potential interpretations and mistakes to them for the first time. Either way, it is in our advantage to share puzzles and insights of this type (Hurley, Dennett, and

Adams 2013): a collective system for debugging, exploration, and general cognitive maintenance. As such, this empirical evidence shows that humour should be understood as much more than a peripheral cue: it is central to the comprehension of a message, and an indication of the consumer's mental elaborations.

CONCLUSION

What can we learn from the parodies, spoofs, memes, jokes, and other such consumer texts that circulate our culture? While scholars have long noted their significance and have recently renewed calls to investigate their workings in the current textual climate (Boxman-Shabtai 2018), we are yet to leverage their study to further our understanding of the way consumers engage in symbolic thought (cf. McCracken 1986). As we know, humour has the ability to break open the ordinary and effect change (Douglas 1968), just as much it has the ability to reinforce the status quo (Critchley 2002). Humoristic consumer responses also demonstrate the active participation of the audience's imagination, which is often overlooked in marketing research (R. Jenkins and Molesworth 2018).

In this paper, I have drawn on the theory of just-in-time spreading activation, conceptual blending, and theory of mind, to further Hurley et al.'s thesis on the cognitive-cultural function of humour (2013). But we have barely begun to scratch the surface of cognitive cultural theory in consumer research. As long advocated by humanist scholars (e.g., Hirschman 1986; Scott 1994; McQuarrie and Phillips 2012), and more recently by researchers in sensory marketing (Krishna et al. 2017), doing so would necessitate an overhaul of the way the relationship between the text and the mind is conceptualised, from information processing models of cognition to models that are grounded in its material environment. Here, I have demonstrated how this new perspective can shed light on why consumers use humour to engage with commercial culture. Following the two guiding questions that I set out as the agenda of the cognitive cultural researcher, I investigated how cognitive processes (the debugging function of humour) shape and constrain their material environment (the humoristic artefacts), and how culture (the Dreams and their context) shapes cognitive processes (the generation of new mental spaces, the paths taken by just-in-time spreading activation).

An important take-away from this investigation is the confirmation that humour is in the mind, not in the stimulus. Humorous artefacts are therefore continually on their way to extinction (how long before the sweater girl joke requires too much explaining?), and unless they are thoroughly documented, we may lose the knowledge that we need to illuminate the nature of their underpinning mental elaborations. This is an insight that is lost if we insist on considering humour as a binary variable. While the archives are still available, teasing apart the mechanisms of interpretation allows us to "analyse various cultural institutions and social practices as both reflecting our need to attribute intentionality *and* remaining subject to the instabilities inherent to our mind-reading processes" (Zunshine 2010, 12). It is in the activation of different beliefs made evident in humoristic responses that lies the differentiated reaction between readers, both at one moment in time and across the decades.

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CONCLUSION

This dissertation explored how advertising is not only a vehicle of thought, but also an instrument of thought: a piece of exchange textualised (cf. Scott 1994), of cognition materialised (cf. Cave 2016; Malafouris 2013). I took a historical view on the Maidenform Dreams, and focused on the cognitive underpinnings of the campaign. Looking at advertisements as the embodiment and the tool of thought brings together culture and cognition in a way that challenges the notion that they are meaningfully distinct. While each paper in this dissertation aims to make a specific and stand-alone contribution to the literature, together they explore what it means to take a cognitive cultural approach to advertising research.

As I argued in the General Literature Review, rhetorical and literary approaches to consumer research have stopped short at explaining how consumers become such discerning readers, and what this discernment entails from a cognitive perspective. This is likely also why this stream of research petered out: once these boundary-pushing scholars stopped publishing, there was no clear path for younger scholars to follow if they wanted to cross-pollinate between the established psychological paradigm and the emergent humanistic paradigm. Although psychological research had begun to pick up on works such as Lakoff and Johnson's metaphorical thinking (1980; e.g., Nelson and Simmons 2009) and several researchers made steps towards integrating experimental and interpretive methods (McQuarrie and Mick 1992; Scott and Vargas 2007), what the field needed, as I argued in the second paper in this dissertation, was a new agreement on the way in which the mind works.

Paper II, "The Cultured Brain: Understanding cognition as the orchestration of material experience," sets out to do three things: a) it surveys the literature on response and cognition in advertising studies and points to its gaps; b) it summarises recent discoveries in the cognitive sciences and their implications for how we understand the role of material experience in the acuities of the mind; and c) it demonstrates how to perform a cognitive cultural analysis on an advertisement by LEGO, showcasing how conceptual blending and theory of mind are foundational to meaning-making. The cultured brain is a thinking organ that is characterised by pluripotency, degeneracy, and plasticity,

which allows us to respond to changes in the material environment during our lifetime, and to build layers of meaning on this environment through abstraction. These mental processes are at play when faced with advertising, and I discussed the abstractions and contextual knowledge that need to be applied when decoding a seemingly straightforward text.

I chose LEGO instead of a Dream ad because I wanted to analyse an advertisement that was within closer reach of this dissertation's audience, and whose dissection may therefore be all the more illuminating. It demonstrates that this is neither a sector-specific theory, nor one that assumes that historicity is a quality only of the past: the cultural specificities of contemporary LEGO ads are just as complex as those of Maidenform, and denaturalising what we think we can easily decode today is a useful way to demonstrate this lens. Finally, LEGO's message was particularly well-suited to explaining concepts such as conceptual blending because it is one of the skills that the toy purports to develop in children, thereby tracing a neat parallel to the adult audience's own mental activities. The LEGO advertisement proved itself to be an elegant instrument of thought.

With this foundation, I argued that we should approach the Maidenform Dreams with a fresh perspective. In Paper I, "Dreamatic Undergarments: Recovering the material orchestrations of the Maidenform 'I Dreamed…' campaign," I drew out the way that Maidenform orchestrated its efforts to keep abreast of its material environment: competing strategic interests, affordances in the media and cultural landscapes, and pressures in the fashion and undergarment industries. These contexts are often glazed over in current accounts of the Dreams' impact, either because there was little space to question and delineate these complexities in cursory marketing histories (e.g., Coryell 2000), or because there was an activist and revisionist agenda at work (e.g., Coleman 1995).

As discussed, Maidenform's ongoing concern was to keep its dominant market position secure by capitalising on the Dreams' serial nature and encouraging retail partners to spin out eye-catching window displays, in-store promotions, and co-op advertisements. As the years pressed on, so did new understandings of female sexuality, expanding the permissiveness of the public sphere, and eventually transforming the function of the undergarment from something that shaped the body, to something that displayed it. When the Dreams were no longer novel enough to sustain sales levels by themselves,

Maidenform diversified their offer and their promotional efforts to keep in step with competitors such as Playtex. Eventually, the environment changed so much that the campaign lost its relevance.

Paper III, "Born Exhibitionists: Examining humoristic responses as evidence of mental elaboration," combines the analytical lens set out in Paper II with the historical knowledge generated in Paper I to investigate how consumers responded to the campaign's premises. The study is informed by resources from cultural evolutionary theory, which postulates that humour results from the discovery of wrongful epistemic commitments that slipped unnoticed into the construction of a new mental space (Hurley, Dennett, and Adams 2013). In other words, humour exercises and rewards the weeding out of such mistakes in routine cognitive operations. By applying these resources on the Dreams case, the study is the first to explore humoristic consumer responses as materialised artefacts of the mental elaborations generated by an advertising campaign. I argue that it was the process of playing with the collapse and recursion of new mental spaces—of the public and the private, but also of the Dreamer, the implied audience, the implied speaker, and the real audience's minds—that formed the fertile ground on which the Dreams spawned jokes, spoofs, poems, satires, and more. Readers were actively engaging with Maidenform's message and co-producing a material environment in which the campaign would eventually lose its relevance.

In the sections that follow, I will consider the ramifications of this dissertation's contributions and the paths that it has opened up. I begin by reflecting on some final questions on the Maidenform Dreams. I then discuss how techniques from the digital humanities are unfurling a new world of data and investigation. Finally, I consider the future of cognitive cultural theory in consumer research, including its weaknesses and its strengths, its barriers and its promises. I end on a reflection on work to come, showing how this dissertation has been an exercise in laying the groundwork for future study.

REFLECTING ON MAIDENFORM

One of the larger questions that remains outstanding is exactly why the Dreams petered out in the late 1960s, and what its lasting legacy has been. The impact of the Dreams was immediate (a "breakthrough performance" in Holt's terms; 2004), and it took several years for its influence to

naturalise into a new status quo (i.e., the commonplace exposure of the female body). But what happened then? There will always be limitations in our understanding of why some cultural phenomena resonate, and why others do not. This is because these are neither unidirectional nor linear occurrences, and they do not operate within a fully identifiable cause-and-effect framework. However, I do want to offer some thoughts.

Just as it is deceptive to think about one uniform response, it is deceptive to think of the Dreams as one uniform campaign. The changes that took place over the course of these two decades were significant: what made the campaign worthy of publicity initially was not necessarily what kept it running throughout the tumultuous late 1950s and early 1960s. The Dreams kept changing their executions in order to keep pace with moving norms in the advertising industry and reader expectations, and to avoid the fatigue that comes with hearing a joke told once too often (cf. Gelb and Zinkhan 1985). The early Dreams, for example, were still accompanied by lengthy copy, as was usual for the time; readers would have taken the time to read it. As the 1960s drew nearer, print advertising became less reliant on text, suggesting that a different discursive mode—one more reliant on pictorial reading—began to dominate. The Dreams moved the wit that characterised the early copy to the tagline itself, thus opening a new world of multi-modal punning: a pun that integrated the verbal joke with the image. This change in creative direction assumed the public's familiarity with the campaign's trope and allowed Maidenform to push its logic a little further: whereas the copy of the 1955 "I dreamed I was the Queen of Westerns" punned extensively on the Wild West theme, a 1960s execution on the same theme spoofed the "wanted" posters emblematic of frontier law enforcement ("I dreamed I was WANTED," 1960).

The campaign's creative come-back in the late 1960s was, however, scattered and short-lived. It is possible that we witnessed the Dream theme's fossilisation into Maidenform's brand 'DNA.' This is a practical reality often excluded in cultural history: some advertising campaigns might only live on because the advertiser has an unshakable belief in their effectiveness. Maidenform has been coming back to the dream theme ever since the campaign was dropped, with varying degrees of success. At what point, then, did the Dreams cease to resonate with its audience?

Part of the answer to this question can be deciphered from the textual landscape because, as I have argued, artefacts can illuminate the consumers' mental elaborations. The Dreams' psychoanalytic connotations, once a source of novelty, became a mainstream feature of underwear advertising (albeit often used in jest). In 1964, for example, a slip advertisement for Hollywood Vassarette featured a psychoanalyst's couch in the background:

> "Oops! We've made a Freudian slip!"
>
> Does wonders for your ego, too. Gives you a snug, secure feeling. Solves the frustrations of your knits and silks that cling. Actually, we've made several Freudian slips to suit your psyche, your wardrobe, your color whims (*Mademoiselle* 1964, 102).

The innovation of the Dreams, which was to allude to the life of the female mind, had become commonplace. The failure of the campaign that succeeded it shows a fundamental shift in the public's receptiveness to the message. This revamped campaign depicted women in professional situations surrounded by their male colleagues (e.g., in a boardroom or a hospital room), wearing nothing but their underwear and a few accessories that indicated their profession. "The Maidenform woman—You never know where she'll turn up," intended to link undergarments with accomplishment, but this time critics firmly saw it as the objectification of women, and as derisory of their professional identities. Pulitzer Prize winner Ellen Goodman vocalised the objection in a feminist satire published in the 1990s:

> So the doctor is ordered to strip, literally, her professional cover. She is revealed in the flesh, to be— yes, indeed— just another woman insecure about her femininity, just another woman in search of sex appeal, just another woman who needs "silky satin tricot with antique lace scalloping" (Goodman 1991, 79).

Beatrice Coleman, then president of the company, admitted that the campaign had misfired: "Generally a man [fully clothed] was in the background—and that was the problem. […] If I had to do it over, I would take the man out of the ad" (Morris 1987, 88). As attitudes towards women changed, the mere exposure of the body in lingerie advertising has been construed as a sign of patriarchal oppression, reinforced by the function of the bra itself: the way it regularises and immobilises the breasts to make invisible how they "sway, jiggle, bounce, ripple even when the movement is small" (Young 2005, 83). This has been a fault line of feminist studies in advertising ever since (Kilbourne 1999; Lazarus 1979; Williamson 1978).

Some accounts of the Dreams suggest that this backlash should have come much sooner, and have critiqued the campaign for being encrusted in restrictive notions of femininity and womanhood (Coleman 1995; Lyons 2005). The 1950s ushered in fresh contempt towards the advertising industry ("a remarkably consistent picture [was painted] of the advertising world: false in tone, tense in pace, vacant and self-hating, overheated and oversexed" (Fox 1984, 206)) that resonated with the critique of domestic consumerism as a way to maintain patriarchal oppression (Friedan 1963). Thus maligning such advertisements as fuelling this disbalance, these scholars also labelled reports of positive consumer experiences as misguided. In a recent version of the argument, Susan Bordo has critiqued the "celebration of creative reading as resistance" as wilfully blind to the dominant meanings that "often offer a pedagogy directed at the reinforcement of feelings of inferiority, marginality, ugliness" (2003, 262).

While I agree that structural oppression is visible in the campaign, I argue that the Dreams also articulated a feminist sensibility that clashed with the premises of second-wave feminism (Maclaran 2012), and that its activism has therefore been overlooked. It was the tension between a dominant set of meanings (evidence of a patriarchal order) and the individual reading paired with a subversive construction (i.e., humour) that engendered change. The celebration of resistant reading should therefore not be an exercise in demonstrating that these dominant meanings are not at work, but rather an acknowledgement that readership is generative because and in spite of it. This is precisely what early reader-response theorists did: we might assume that women bought into patriarchal narratives without reflection or self-awareness, but if we ask them, we find that the narratives are consumed purposively, critically, and deliberately (Radway 1991).

Instead of viewing the market as a force in patriarchal oppression, this account of the Dreams leans towards the line of feminist thought that sees the market and consumption as a historically significant source of economic, social, and cultural empowerment (Scott 2006a, 2006b). Importantly, it also makes a step towards unravelling the questionable maxim that "sex sells," and that the exposure of women's undergarments is paramount to the objectification of women's bodies (cf. Mulvey 1975). The Dreams were impactful because they portrayed more than just a body: they gave expression to a mind that was pushing against the boundaries of what was considered cognitively sound. In other words,

this work has grappled with what has been termed “fourth wave” feminism (Maclaran 2015): the micro-politics of reading and agentic response are blended in with the structural issue of gendered enculturation and its shaping of thought.

Eventually, the Maidenform Dreams became an icon of the freedom to be feminine, and the right for the feminine to be free. In the late 1960s and well after the Dreams retired, the tagline and the product were continuously repurposed as a vehicle to satirise endemic inequalities—sometimes using the Dreams positively, sometimes negatively. In 1966, writer, academic, and civil rights activist Julius Lester repurposed the Dream tagline in his essay “The Angry Children of Malcolm X” to point to the deep disillusionments of a persistently racist society:

> How naive, how idealistic they were then. They had honestly believed that once white people knew what segregation did, it would be abolished. But why shouldn't they have believed it? They had been fed the American Dream, too. They believed in Coca Cola and the American Government. “I dreamed I got my Freedom in a Maidenform bra.” They were in the Pepsi Generation, believing that the F.B.I. was God's personal emissary to uphold good and punish evil (Lester 1966, 3).

Lester’s redeployment of the tagline highlighted what white women had ostensibly achieved, and black people had not. On the other hand, equal rights activist Leo Skir, who testified in a city council hearing on facing discrimination as a gay man in 1971, said that he would have made more of an impact had he worn a dress in solidarity with trans people. The headline of his article was, “I should have worn my Maidenform bra!” (1971).

So what did the Dreams signify to its audiences: freedom or oppression? The campaign was obviously polysemic (Puntoni, Schroeder and Ritson 2010), but there is more to say about the influence that this polysemy had in its reception. A first step would require tracking how advertising themes shifted during this period (along the lines of Alexander’s work (1994) on the representation of children, for example). This is possible with the data that I collected. In summary, there is a larger story to be told here about the way that the industry responded to changes in attitudes towards gender identity. I believe that Maidenform engendered a shift in visual language that was transformative for the industry’s advertising practices, but that ironically led to the rejection of the exposure of women’s bodies in commercial contexts.

LEVERAGING LARGE-SCALE ARCHIVAL DATA AND COMPUTATIONAL ANALYSIS

Although the collection of archival data on which the Maidenform case study rests is far advanced, it is incomplete. Next steps would involve adding advertisements found in *Life* magazine—which I have been collecting and classifying with the help of machine learning—and revisiting the ProQuest *Women's Magazines Archive*. I used digital techniques as tools to help me organise the data collected, and understand its comprehensiveness, quality, and applicability for further analysis. However, developing this approach into a fully-fledged methodology that plays more than a supportive role will require further experimentation. With this goal in mind, the process brought up a number of challenges and opportunities that are worth exploring further.

Issues that arose with data collected from the ProQuest *Women's Magazines Archive* is a good example of how computational techniques can be helpful. Figure 18 depicts the spread of advertisements captured in the dataset over time in select publications. The observer will note how *Mademoiselle*, *Vogue*, and *Harper's Bazaar* show a busier timeline than a comparable magazine such as *Redbook*. This might lead to insights about the frequency with which the industry advertised in different outlets, but in this case, it is more likely that the database search failed to pick up all the relevant ads. Although the database notes indicate that their *Redbook* collection is complete, it is clear the indexing is faulty and that we should conduct a manual spot check before this data can be used. In other words, visualising the data helped illuminate which sources are unreliable due to black boxed indexing procedures.

A black box is formed when a technology or raw data cannot be accessed (such as with proprietary software or commercial databases) and are poorly documented. All scholars face this problem because we rarely stop to consider the premises on which search engines such as Google

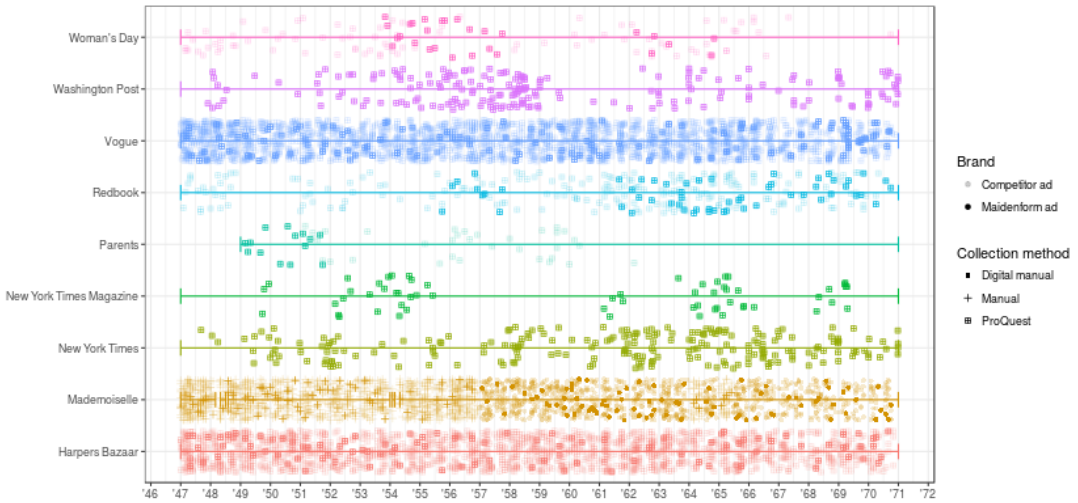

Figure 18. A plot showing each advertisement collected from a range of sources, including the ProQuest *Women's Magazines Archive*.
The continuous line indicates the dates between which ads were collected (from 1947 to 1970). Each shape represents one ad. If it is semi-transparent, it belongs to a competitor, if it is not, it is a Maidenform ad.

deliver responses to our queries; this is a black box that we have mostly normalised and accepted (Underwood 2014). In scholarship that relies on digital techniques and data for more than search, black boxes represent a more serious threat because the researcher runs the risk of overlooking biases in the data and/or analysis (for a notable example, consider the difficulties posed by the Google n-gram viewer; Pechenick, Danforth, and Dodds 2015). It is crucial to remember that "code through its mathematical and algorithmic origins does not acquire some inherent objective and neutral correctness"—assumptions are assumptions, and assumptions can be flawed, inadequate, or inappropriate (Van Zundert, Haentjens Dekker, and Haentjens Dekker 2017, 124). Unless researchers are actively engaged with the processes of digitising, indexing, and programming themselves, it is difficult to have confidence in the decisions that shaped the data: what to include and exclude, how to recognise and label features, what to discard as 'noise,' and so on. Such decisions might have an impact on the resulting search queries, obscuring the data and the algorithm's omissions and biases.

The reality is, however, that we are unlikely to have the resources to produce datasets and tools to our exact specifications, never mind the duplication of labour. The digital cultural scholar is therefore part-scavenger, part-carpenter: she scavenges for data and tools, and she builds, scaffolds, and

refurbishes as needed. Using distant reading techniques and databases therefore require a different sort of training than most cultural scholars are used to: training in data quality and source management, statistical skills, and a working understanding of algorithms, if not programming abilities.

Based on my experience (see Appendix 3 for my code), I propose that guiding principles to combat black boxes are:

i) Use a plurality of sources to construct a vast landscape of divergent materials. Relying on a diversification of databases, materials, and modes of collection will not only aid in more comprehensive sampling, but it will also help redress errors and biases in digitisation and cataloguing processes.

ii) Keep it simple by avoiding tools that the research team does not need or understand. Topic modelling is *de rigeur* right now, but its mathematical complexity (e.g., the Latent Dirichlet Allocation) cannot replace the insights of a simple frequency count. Even if more advanced tools are necessary and warrant collaboration with computer scientists, all researchers should have a rudimentary understanding of them in order to critique the algorithm (Ramsay 2011; Tenen 2016).

iii) When in doubt, stick to a do-it-yourself approach. Though laborious, it is the only way one can be certain that the data has been processed in the way that best suits the project's needs.

iv) In the interest of reproducibility, transparency, and collaboration, follow best practices for every data collection, analysis, and tool making effort. Wilson et al. (2014) delineate, for example, the best practices for scientific computing, which includes a) writing code for humans, not computers, b) the DRY (don't repeat yourself) principle, and c) document, document, document. Learning a skill requires time, and understanding (let alone implementing) best practices is an ongoing endeavour that should not hamper progress, but will ultimately accelerate it.

Once data has adequately been collected, documented, and analysed, one could see the rise of a new source of insight and verification. Slicing the Maidenform data in various ways has provided some leads that might have been difficult to see 'with the naked eye'. Figure 19 suggests, for example, that the media plan differed from publication to publication (e.g., *Mademoiselle* saw a bigger spike and diversification in the late 1950s than *Harper's Bazaar* or *Vogue*), indicating that readership and/or cost considerations were at play when deciding when and where the Dream ads circulated. These types of

insights can lead to further theorisation or inspire a new line of investigation. For example, advertising data aggregated at the industry level reveals a year-on-year cyclicality that shows undergarments achieve peak advertising frequencies in March and October (see Figure 20). This pattern seems to hold over two decades, even though the frequency of advertising clearly declined.

The question of the visualisation and aesthetics of data should also come with a critical engagement with questions of audience and spectacle (Drucker 2013): humanists fear that visualisations "[condemn] the viewer to a world in which we can see everything but understand nothing" (Hall 2013, 789) and glorify the graph as unquestioningly objective. In an effort to counter such complacency, some scholars have taken to producing interactive visualisations, such as in Lunzer and McNamara's tutorial on histograms (n.d.), where the user can manipulate settings to test whether a plot tells a different story if given different parameters. I have followed this example in the development of the web appendix that allows for an exploration of the Maidenform data. Demystifying the transformation from cultural data to statistical analysis and visualisation can help the reader develop a more critical sense of what conclusions we can draw from plots.

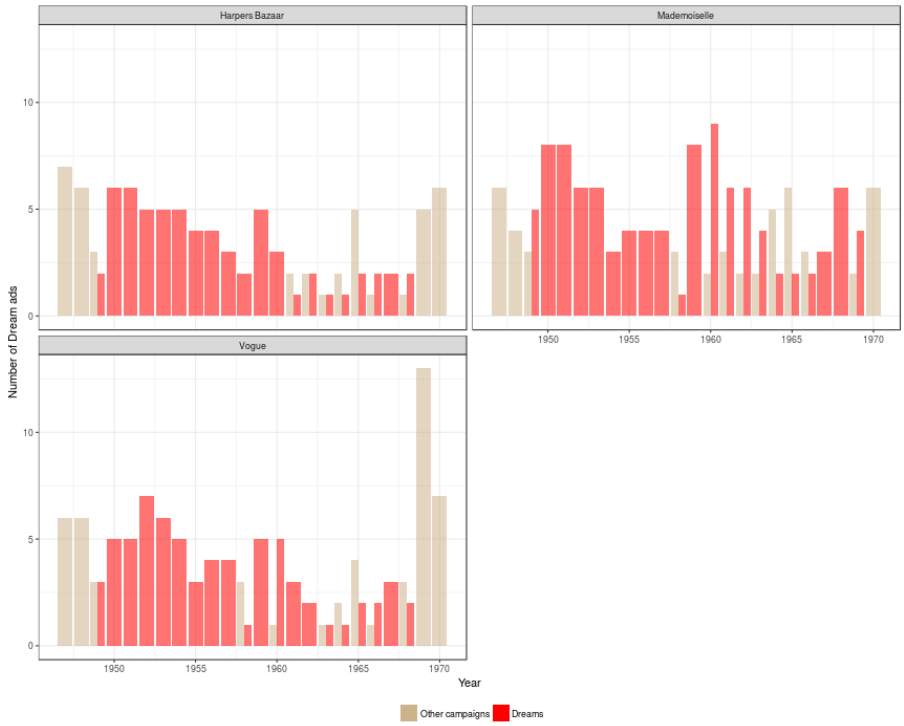

Figure 19. The number of Maidenform ads (total count, separated by Dreams versus other campaigns) plotted by year and faceted by publication.

Computational methods also warrant some consideration as to how they may contribute to cultural theory, not just methodology. Writing for the interdisciplinary *Poetics* audience, Foster recently noted that a computational theory of culture could now make more inroads in a field that urgently needs to acknowledge our emergent knowledge of cultural "hardware" (i.e., "human bodies, brains, artifacts, and material environments" [2018, 145]). This is especially true considering that machine learning no longer follows the linear structure critiqued in the General Literature Review, and neither do the latest advances in cognitive sciences. Cultural artefacts are therefore becoming increasingly appealing objects to investigate as singularities and collectives both.

We might, for example, reconsider what it means to *read* from the reader's (not the scholar's) perspective. Could distant reading become an emulation of the reading practices in a digital age? A recent issue in the *Digital Humanities Quarterly* was dedicated to this question and the related—and recent, for the humanist—question of attention. Here, literary theorists can learn something advertising scholars have known for a while: that differing degrees of attention will influence the way a message is received. But this new focus also means a fresh engagement with the subject; literary scholars are speaking about how, amongst other insights, "distraction might involve acts of micro-attention or a distributed focus that can be harnessed constructively" (Thain 2018, par 4). Insights resulting from distant reading could approximate the cognitive implications of this novel textual landscape and its affordances.

COGNITIVE CULTURAL THEORY AND ITS FUTURE IN CONSUMER RESEARCH

Across the three papers in this dissertation, I have emphasised the need to approach culture as bounded by the human biological apparatus, and to remember that cognitive phenomena are dependent on the environment in which they manifest themselves. Marketing research, as do the evolutionary and cognitive sciences, often relies on an inadequate conception of culture: too boxed in, too static, too deterministic, and too keen on seeing binaries and oppositions that are themselves cultural constructions (Shore 1998). The humanities, on the other hand, should not continue to ignore the wealth of scientific inquiry about the functioning of our bodies and brains, which are the vehicles with which we experience

and create culture (Cave 2016). Cultural artefacts often rely on the interruption and de-familiarisation of unconscious mental processes, which both allows for the examination of their everyday workings (Bizup and Kintgen 1994), and for an appreciation of how artefacts leverage and exercise them.

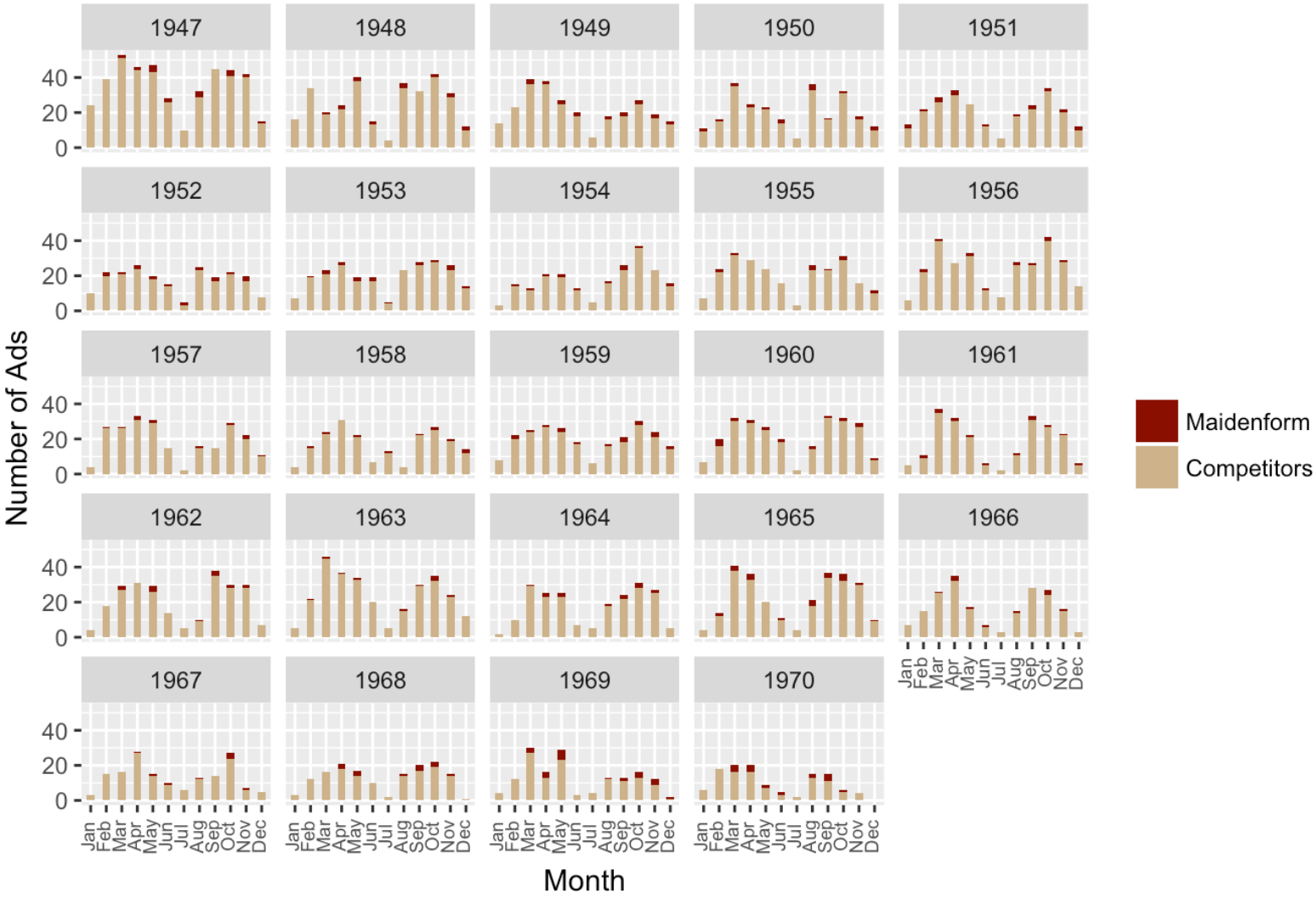

Figure 20. Advertising frequency per month for the undergarment industry in *Vogue*, *Harper's Bazaar* and *Mademoiselle*, faceted by year.

This dissertation is a first step towards demonstrating how cognitive cultural theory could be of value to consumer research; but also how consumer research is a bountiful field of study for both cultural and cognitive scholars. In this, I align myself with the ethos of cognitive-cultural researchers, which is to cross-pollinate back into the parent disciplines, and to demonstrate how also advertisements are "evidence of human cognition" (Nikolajeva 2014, 5). Yet there is much foundational and exploratory work left to do, and this final section will a) comment (based on my experience) on the paradigmatic challenges that will face researchers in this area; and b) delineate the areas of further research that this dissertation has opened up.

Paradigmatic difficulties—and why we should overcome them

In the General Literature Review, the section on cognitive cultural criticism focused primarily on the paradigmatic gulf between humanist post-structuralism and the positivistic cognitive sciences. As Slingerland and Collard describe, the points of contention that this agenda dredges up can be boiled down to disagreements on: the merits of mind-body dualism; the role of quantification, hypothesis testing, controlled experiments, and mathematical modelling; and the degree of acceptable reductionism (2011). What is needed are decisive steps towards consilience by developing a framework that is shared between the humanities and the sciences: a common ground "where scholars working at different levels of explanation feel comfortable exchanging information and sharing certain very general theoretical and methodological assumptions" (Slingerland and Collard 2011, 34).

I discussed how changing the mind-as-computer metaphor to the mind-as-embedded-organism is a conceptual move that could bring these perspectives in accord. The computer metaphor implies a closed system that absorbs inputs and emits outputs; the organism metaphor allows for a more ecological approach in which the material environment plays an equally shaping role in the way cognition manifests itself. The papers in this dissertation set out the first steps towards demonstrating how such a lens can be applied: Paper I recovers the material environment in the case of the Dreams, Paper II sets out the theoretical lens, and Paper III applies it to the Dreams and related consumer responses. Yet none of these papers formalise this approach

into an interdisciplinary methodology, which is the next frontier. Cognitive cultural theory is as invested in the analysis of singular texts as any other literary lens, and therefore avoids speaking to the generalising tendency that is so valued in the sciences. Developing a mixed methodology that gives equal footing to the singular and the collective will need to deal with frustrated epistemic and ontological questions about culture and the mind.

The debate about the existence of universals is a good example of such a frustrated issue. The discovery of the brain's plasticity has complicated the question of how determined brain structures really are. Cognitive cultural theorists tend to agree that a sense of temporal instability must be incorporated into any insights provided:

> "it is the job of these innovative studies to chart the emergence, manifestation, and readability of these only temporarily stable relationships between the humanly universal and the culturally and individually specific, as coded and recorded in cultural artifacts" (Spolsky 2004, viii).

The example of theory of mind illustrates this most clearly: while some postulate that theory of mind has enabled the development of human societies as we know them (Dunbar 1996), this does not mean that these skills are developed in the same form across cultures. Certain tribes in the Pacific, for example, avoid encouraging such mental elaborations because it is deemed unnecessarily intrusive into one's personhood; as a result, there is no language nor social mechanism that articulates mentalising as we measure it clinically (Wassmann, Trauble, and Funke 2013). While these tribes are in the minority, they do demonstrate how structural predisposition is far from sufficient in establishing the cognitive structures that we take for universal. These types of insights are likely to be overlooked in the study of persuasion, because they go beyond seeing cultural difference as a mediating or moderating factor: the very existence of the advertising text as a promotional medium leverages our cognitive make-up in very specific ways. Acknowledging this marks communication as inherently unstable because it depends on inferential processing from those who invoke it, a "process that is open to error, cognitive divergence, even failure, […which, as a phenomenon under scrutiny,] doesn't mean that it is invalid or 'undecidable'" (Cave 2016, 4).

Developing the methodological tools to deal with this nuance and volatility requires a leap as big as the shift away from the computer metaphor of the mind. The tools that are currently available to test for these cognitive skills are often more rudimentary than the theory would warrant. Again, theory of mind is a good example. Usually assessed through the 'reading the mind in the eyes' test (Baron-Cohen et al. 2001) and the Yoni test (Shamay-Tsoory and Aharon-Peretz 2007; Shamay-Tsoory, Tibi-Elhanany, and Aharon-Peretz 2007) for non-clinical applications with adult participants, both tests rely on and disguise the enculturated nature of visual language. The 'reading the mind in the eyes' test asks participants to read emotion into a series of eye pictures. The Yoni test asks participants to indicate the mental contents of a smiley, based on some minimal cues (e.g., the screen displays "Yoni loves __," and the participant is required to click on the item that Yoni is smiling at). Their test imagery (Figure 21) makes a number of assumptions about the reading culture that the participants grew up in (see Scott 1993). The photograph of the woman's eyes is not so much expressive of a universally recognisable feeling than the result of conventions in modelling (the images were taken from magazines). Likewise, the Yoni test assumes familiarity with line-drawings and smileys, as well as the implicit understanding that a frowning smiley looking at Mr. Potato Head indicates displeasure at the toy, more so than the frowning smiley who also has a toy but looks straight ahead (and is therefore, presumably, just generally unhappy). In other words, the tests make assumptions about the universal accessibility of these heavily encoded texts. Left unquestioned and replicated across hundreds of experiments, these assumptions slip into our models of cognition.

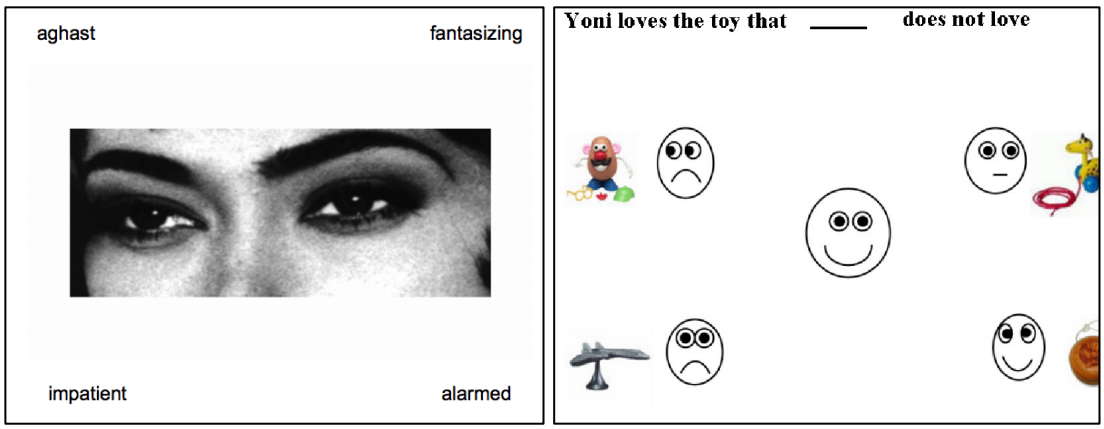

Figure 21. Left: A slide from the "Reading the mind in the eyes" test (Baron-Cohen et al. 2001). Right: A slide from the Yoni test (Shamay-Tsoory and Aharon-Peretz 2007). Participants click on the corner that best answers the question (e.g., perhaps "fantasizing" on the left, and on Mr. Potato Head on the right.

Rather than uncritically adopting theories of cognition, marketing researchers could deploy them with the view of contributing back to debates in the parent discipline. A notable example in cognitive literary theory that aims to do so is Carney et al.'s study on the use of mentalising in reading different genres, where the authors take the opportunity to weigh in on the inferentialist versus enactivist debate on the nature of theory of mind (2014). For the inferentialist, the mind processes information as it comes to it from the world; it is a passive information processing device. Therefore, the construction of narratives is but an expression of an innate ability to read minds—an application of theory of mind that depends on pre-existing abilities to simulate the mental states of others. The enactivist account conceptualises the mind as embodied, embedded, extended and enacted: it is active in the way it perceives and interprets the world as it is experiencing it. In this scenario, theory of mind is a consequence of our narrative tradition, which is "a repository of explanatory precedents, background knowledge, interactional schemes and dispositional primers that we actively use to understand [others]" (Carney et al. 2014, 2). Narratives are playground and skills training in one. More simply put, the inter-disciplinary question that these researchers pose is "whether fictional narratives presuppose or inform our reasoning about other minds" (Carney et al. 2014, 12).

One could imagine a study that explores Cosmides and Tooby's concepts of cognitive source tagging and epistemic vigilance (2000) to work out the details of the Persuasion Knowledge Model (Friestad and Wright 1994) and further develop a critique of narrative transportation (Green and Brock 2000). Or, indeed, epistemic vigilance could serve as a companion to Hurley et al.'s theory of humour as the mechanism that catches and redresses mistaken epistemic commitments (2013; see Paper III for an application). While these concepts refer to cognitive processes, they go to the heart of readership, and are therefore potential bridges between rhetorical and reader-response studies and the psychological evaluation of persuasion.

Towards chronicling the orchestrated mind

Advertising has a rich history of engaging the mind that is waiting to be told. Charles R. Acland's fascinating study of the cultural life of subliminal messaging (2012), albeit not intended to give insight into cognition, gives an idea of what such a study could do: to document how shifting understandings of cognition—and thereby persuasion tactics—interplay with both the production of texts and their use of our cognitive abilities. While the minds of past audiences may no longer be in existence, they have left traces. It just takes a different lens to derive from these traces all that we can. If we can debate the prehistoric mind and learn something about our nature through the Lascaux cave paintings (see Malafouris 2013), then we can do the same for periods that are much closer to us in time.

Taking a cognitive lens to a historical setting of course brings its own challenges, as any historical study would. Taking the premise that cognition is contextual seriously means that we cannot unquestioningly use current models of cognitive structure as proxies for cognition in the past (Crane 2015); examining jokes that were funny sixty years ago requires the help of a history of the mind just as it needs a cultural history of the context. Yet in this case, living memory links the creative revolutions that characterised post-WWII advertising to contemporary practices, thus establishing a common ground in the vernacular that is specific to commercial texts (Cook 1992; Scott 1993). Furthermore, some cognitive abilities are less likely than others to have fundamentally changed, at least in Western cultures: the agglomerate of systems that enable us to read is one of them (Phillips 2015), as are theory of mind (Onishi and Baillargeon 2005; Wassmann and Funke 2013) and conceptual blending (Fauconnier and Turner 2003).

As Zunshine summarises, the challenge is to chronicle the interplay between cognitive affordances and the present moment:

> We have to ask what specific challenges of this moment—economic, theological, sexual political, emotional, linguistic, ecological, personal (and so forth: ways of framing these challenges are infinite)—this way of seeing the world engages. We also have to ask how it engages them so as to be relevant (again: communicable) to specifically human cognition; for example, how it interacts with our theory of mind, with our tendency to engage in analogical thinking, with our embodied perception of the world, with particularities of our emotional response to representations and how it forges (or severs) connections between our sensory modules (2010, 16).

One domain in which a cognitive cultural history can be written is the acquisition of persuasion knowledge by children. Lapierre has demonstrated how the sophistication of theory of mind is directly related to the acquisition of persuasion knowledge (2015); the question to explore now is how they shape one another. I have written about the moralist and normative connotations of money as incorporated in children's stories (2017); this work will be further developed to specifically investigate how these stories leverage a budding theory of mind in the context of market cultures (see Nikolajeva 2014 for an overview of the cognitive dimensions of childhood literature). In addition, I will be writing a paper on the interface between materiality and reading by deconstructing Dorothy Kunhardt's *Pat the Bunny* (1940; paper presented at the Consumer Culture Theory Conference, 2018), and I will delineate the history of touch-and-feel books and their affordances. These pieces will respond to Scott and Vargas's call for studies on the processes of enculturation into the commercial writing system (2007).

Finally, I propose that we chronicle scepticism as an enduring but ever-changing response to commercial culture, following the example of Ellen Spolsky's ground-breaking study of scepticism in the history of art (2001). In marketing, the threat of scepticism bears on a business's ability to survive. The aim of marketing is to minimise the risk. But in Cavell's philosophy, this threat refers to its utter inescapability (Rifelj 1992), because it is a characteristic of the way the mind relates to the mediated world. Scepticism is a response that usually combines comprehension (i.e., "I understand that LEGO wants me to think their product is good for my child") with a hesitation in committing to its truth-value because of the perceived authorial intent (i.e., " I believe that LEGO would say anything to sell their product"). It is, in other words, a counterfactual to the widely-held postulate that comprehension or a positive attitude-towards-the-ad is closely enough related to purchasing behaviour that it may be used as a proxy in experimentation (cf. Fennis and Stroebe 2016). Following Cavell, one could see scepticism as the result of a coming-to-terms with this unsettled relationship, a way for our mentalising activities to deal with the epistemic uncertainty that accompanies a deeply intentional promotional language. Seen from this perspective, what can we learn from two centuries of modern advertising, about the mind, and about society?

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APPENDICES

APPENDIX 1: LIST OF MAIDENFORM DREAM EXECUTIONS

The following table summarises the Dream executions that were found in the advertisements collected in the magazine and newspaper archives (dataset), and the executions mentioned in the archives. There is a total of 173 executions listed here.

Year	Tagline	First date of publication	Last date of publication	Format	Recorded as appearing in…	Found in…
1949	I dreamed I went shopping in my Maidenform bra	August 1949	September 1949	Half page, black and white		Good Housekeeping, Harper's Bazaar, Ladies Home Journal, Mademoiselle, New York Times Magazine, Parents, Vogue
1949	I dreamed I went cycling in my Maidenform bra	September 1949	September 1949	Half page, black and white	Mademoiselle, Charm, Calling All Girls, Seventeen	Mademoiselle
1949	I dreamed I went shopping in my Maidenform bra	October 1949	November 1949	Full page, colour		Harper's Bazaar, Mademoiselle, Vogue
1949	I dreamed I went strolling in my Maidenform bra	October 1949	November 1949	Half page, black and white		Good Housekeeping, Ladies Home Journal, Mademoiselle, New York Times Magazine, Parents
1949	I dreamed I went skating in my Maidenform bra	December 1949	February 1950	Half page, black and white	Ladies Home Journal, Woman's Home Companion, Seventeen	Mademoiselle, Modern Screen, New York Times Magazine, Vogue
1950	I dreamed I went cruising in my Maidenform bra	February 1950	February 1950	Half page, black and white	Parent's Magazine, Good Housekeeping	Harper's Bazaar, Ladies Home Journal
1950	I dreamed I went sightseeing in my Maidenform bra	March 1950	May 1950	Half page, black and white	Mademoiselle, Glamour, Cosmopolitan, Today's Woman, Parents, Modern Screen	Mademoiselle, Parents, Vogue
1950	I dreamed I danced the Charleston in my Maidenform bra	April 1950	May 1950	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, Vogue
1950	I dreamed I had a screen test in my Maidenform bra	May 1950	November 1950	Half page, black and white		Good Housekeeping, Ladies Home Journal, McCall's, Vogue

Year	Tagline	First date of publication	Last date of publication	Format	Recorded as appearing in…	Found in…
1950	I dreamed I went shopping in my Maidenform bra	June 1950	June 1950	Half page, black and white		Ladies Home Journal, Mademoiselle
1950	I dreamed I went to a carnival in my Maidenform bra	June 1950	June 1950	Half page, black and white		Harper's Bazaar
1950	I dreamed I went to the theater in my Maidenform bra	August 1950	October 1950	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, Vogue
1950	I dreamed I went to the zoo in my Maidenform bra	August 1950	September 1950	Half page, black and white		Harper's Bazaar, Mademoiselle, Parents
1950	I dreamed I lived on the moon in my Maidenform bra	October 1950	November 1950	Half page, black and white		Mademoiselle, McCall's, Parents
1950	I dreamed I danced a ballet in my Maidenform bra	December 1950	December 1950	Half page, black and white	Harper's Bazaar, Mademoiselle, Seventeen, Glamour, Woman's Home Companion' McCall's, Cosmopolitan	Harper's Bazaar, Mademoiselle, McCall's
1951	I dreamed I went skiing in my Maidenform bra	January 1951	December 1952	Half page, black and white		Ladies Home Journal, Mademoiselle, Parents, Vogue
1951	I dreamed I broke the bank at Monte Carlo in my Maidenform bra	February 1951	May 1951	Half page, black and white		Harper's Bazaar, Ladies Home Journal, McCall's
1951	I dreamed I was a toreador in my Maidenform bra	March 1951	April 1951	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, Vogue
1951	I dreamed I was a lady editor in my Maidenform bra	March 1951	April 1951	Half page, black and white		Harper's Bazaar, Mademoiselle, McCall's, Parents, Vogue
1951	I dreamed I was Cinderella in my Maidenform bra	May 1951	June 1951	Half page, black and white		Mademoiselle, McCall's, Parents
1951	I dreamed I was a mermaid in my Maidenform bra	August 1951	August 1951	Half page, black and white		Mademoiselle
1951	I dreamed I was a Lady Ambassador in my Maidenform bra	September 1951	November 1951	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, McCall's, Vogue

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1951	I dreamed I was an artist in my Maidenform bra	September 1951	September 1951	Half page, black and white		McCall's, Parents
1951	I dreamed I was bewitching in my Maidenform bra (vamp)	October 1951	October 1951	Half page, black and white		Harper's Bazaar, Ladies Home Journal, Parents
1951	I dreamed I starred on television in my Maidenform bra	November 1951	November 1951	Half page, black and white		Mademoiselle, McCall's, Vogue
1951	I dreamed I sang Carmen in my Maidenform bra	December 1951	December 1951	Half page, black and white		Harper's Bazaar, Mademoiselle
1952	I dreamed I stopped traffic in my Maidenform bra	February 1952	February 1952	Half page, black and white		Mademoiselle, McCall's, New York Times, Vogue
1952	I dreamed I joined the circus in my Maidenform bra	March 1952	March 1952	Half page, black and white		Harper's Bazaar, New York Times Magazine
1952	I dreamed I played Cleopatra in my Maidenform bra	April 1952	June 1952	Full page, colour		Harper's Bazaar, Mademoiselle, McCall's, Vogue
1952	I dreamed I led the Easter Parade in my Maidenform bra	April 1952	April 1952	Half page, black and white		McCall's, Modern Screen, New York Times Magazine
1952	I dreamed I went to the races in my Maidenform bra	April 1952	August 1952	Half page, black and white		Harper's Bazaar, New York Times Magazine, Vogue
1952	I dreamed I stopped at a sidewalk cafe in my Maidenform bra	May 1952	July 1952	Half page, black and white		Mademoiselle, Modern Screen
1952	I dreamed I rode a streetcar in my Maidenform bra	August 1952	August 1952	Half page, black and white		Vogue
1952	I dreamed I opened the World Series in my Maidenform bra	September 1952	September 1952	Half page, black and white		Ladies Home Journal, Modern Screen, New York Times Magazine
1952	I dreamed I won the election in my Maidenform bra	September 1952	November 1952	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, McCall's, Vogue

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1952	I dreamed I was bewitching in my Maidenform bra (genie)	October 1952	October 1952	Half page, black and white		Harper's Bazaar, McCall's
1952	I dreamed I was given the key to the city in my Maidenform bra	November 1952	November 1952	Half page, black and white		Mademoiselle, Modern Screen, Pittsburgh Courier, Vogue
1952	I dreamed I left for school in my Maidenform Over-ture bra	August 1952		Half page, black and white	National newspapers	
1953	I dreamed I was a Queen of Hearts in my Maidenform bra	February 1953	February 1953	Half page, black and white	Quick, McCall's, Harper's Bazaar, Seventeen, Charm, Glamour, New York Times Magazine	Harper's Bazaar, McCall's
1953	I dreamed I went to the circus in my Maidenform bra	March 1953	March 1953	Half page, black and white	Life	Ladies Home Journal, Mademoiselle, Radio TV Mirror, Vogue
1953	I dreamed I lived like a Queen in my Maidenform bra	April 1953	June 1953	Full page, colour	Seventeen, Vogue	Harper's Bazaar, Ladies Home Journal, Mademoiselle, McCall's, Vogue
1953	I dreamed I won the Academy Award in my Maidenform bra	April 1953	April 1953	Half page, black and white		Harper's Bazaar, Ladies Home Journal, McCall's, Modern Screen, New York Times Magazine
1953	I dreamed I went to the Flower Show in my Maidenform bra	May 1953	May 1953	Half page, black and white		Radio TV Mirror
1953	I dreamed I arrived in Paris in my Maidenform bra	June 1953	June 1953	Half page, black and white		Mademoiselle, Vogue
1953	I dreamed I went on a tiger hunt in my Maidenform bra	July 1953	August 1953	Half page, black and white		Mademoiselle, New York Times Magazine, Radio TV Mirror
1953	I dreamed I rode a rollercoaster in my Maidenform bra	August 1953	August 1953	Half page, black and white		Ladies Home Journal
1953	I dreamed I went on a safari in my Maidenform bra	August 1953	October 1954	Half page, black and white		Modern Screen, Radio TV Mirror, Vogue, Woman's Day
1953	I dreamed I rode in a gondola in my Maidenform bra	September 1953	December 1953	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, McCall's, Vogue, Woman's Day

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1953	I dreamed I was a fireman in my Maidenform bra	September 1953	October 1953	Half page, black and white		McCall's, New York Times, Radio TV Mirror
1953	I dreamed I was sawed in Half page, black and white in my Maidenform bra	October 1953	December 1953	Split over two Half pages		Harper's Bazaar, Ladies Home Journal, Mademoiselle, McCall's, Vogue, Woman's Day
1953	I dreamed I went square-dancing in my Maidenform bra	October 1953	November 1953	Half page, black and white		Modern Screen, New York Times Magazine, Vogue
1953	I dreamed I was voted best dressed in my Maidenform bra	December 1953	December 1953	Half page, black and white		New York Times Magazine
1953	I dreamed I was bewitching in my Maidenform bra (witch)	1953		Half page, black and white		
1954	I dreamed I was an eskimo in my Maidenform bra	January 1954	February 1954	Half page, black and white		Harper's Bazaar, New York Times Magazine, Radio TV Mirror, Woman's Day
1954	I dreamed I went to a masquerade in my Maidenform bra	March 1954	May 1954	Full page, colour		Harper's Bazaar, Ladies Home Journal, Modern Screen, Radio TV Mirror, Woman's Day
1954	I dreamed I flew a kite in my Maidenform bra	March 1954	April 1954	Half page, black and white		Ladies Home Journal, New York Times Magazine, Vogue
1954	I dreamed I went to the opera in my Maidenform bra	April 1954	April 1954	Half page, black and white		Modern Screen, Radio TV Mirror
1954	I dreamed I was a jack-in-the-box in my Maidenform bra	April 1954	May 1954	Half page, black and white		Harper's Bazaar, Mademoiselle, New York Times Magazine, Woman's Day
1954	I dreamed I was a private eye in my Maidenform bra	May 1954	June 1954	Half page, black and white		New York Times Magazine, Vogue
1954	I dreamed I played lawn tennis in my Maidenform bra	July 1954	August 1954	Full page, colour		Mademoiselle, New York Times Magazine, Radio TV Mirror
1954	I dreamed I was a cigar store in my Maidenform bra	August 1954	August 1954	Half page, black and white		New York Times Magazine

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1954	I dreamed I was a living doll in my Maidenform bra	September 1954	September 1954	Full page, colour		Mademoiselle, Vogue, Woman's Day
1954	I dreamed I sailed for Europe in my Maidenform bra	September 1954	September 1954	Half page, black and white		Harper's Bazaar, New York Times Magazine, Radio TV Mirror
1954	I dreamed I lived in a house of mirrors in my Maidenform bra	November 1954	November 1954	Half page, black and white		Ladies Home Journal, Woman's Day
1954	I dreamed I danced the hours away in my Maidenform bra	November 1954	December 1954	Half page, black and white		Harper's Bazaar, New York Times Magazine, Vogue
1954	I dreamed I went golfing at… in my Maidenform bra	1954		Half page, black and white		
1955	I dreamed I was a valentine in my Maidenform bra	February 1955	February 1955	Half page, black and white	Seventeen, Woman's Home Companion, Harper's Bazaar, Mademoiselle, New York Times, This Week, Parade, New York News, Philadelphia Inquirer, Chicago Tribune	Harper's Bazaar, Mademoiselle
1955	I dreamed I was a designing woman in my Maidenform bra	March 1955	June 1955	Full page, colour		Harper's Bazaar, Radio TV Mirror, Woman's Day
1955	I dreamed I was a mad hatter in my Maidenform bra	March 1955	March 1955	Half page, black and white		Woman's Day
1955	I dreamed I was queen of the Westerns in my Maidenform bra	April 1955	April 1955	Half page, black and white	Seventeen, Family circle, Modern screen, True Story, Chicago Tribune, New York News, Philadelphia Inquirer, Parade, New York Times	New York Times Magazine, Radio TV Mirror
1955	I dreamed I [arabic writing] in my Maidenform bra	May 1955	May 1955	Half page, black and white	Ladies Home Journal, Woman's Day, True Story, Modern Screen, Sunday Supplements (New York Times), Parade, This Week, New York News, Philadelphia Inquirer, Chicago Tribune	Radio TV Mirror, Woman's Day
1955	I dreamed I went up in a balloon in my Maidenform bra	June 1955	June 1955	Half page, black and white	Seventeen, Ladies Home Journal, Life, Family Circle, Parade, New York Times, This Week	New York Times Magazine
1955	I dreamed I climbed the highest mountain in my Maidenform bra	July 1955	July 1955	Half page, black and white	Woman's Home Companion, Woman's Day, Charm	Woman's Day

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1955	I dreamed I went back to school in my Maidenform bra	August 1955	September 1955	Half page, black and white		Harper's Bazaar, Mademoiselle, Radio TV Mirror, Vogue
1955	I dreamed I was a social butterfly in my Maidenform bra	September 1955	October 1955	Full page, colour		Mademoiselle, McCall's, Vogue
1955	Your dream can win 10,000!	October 1955	December 1955	Full page, colour		Good Housekeeping, Harper's Bazaar, McCall's, Radio TV Mirror, Redbook, Seventeen, Woman's Day
1955	I dreamed I was Venus de Milo in my Maidenform bra	December 1955	May 1956	Full page, colour	Vogue, Charm, Mademoiselle, Glamour	Mademoiselle, Seventeen, Vogue
1955	I dreamed I was an Egyptian dreamboat in my Maidenform bra	March 1955	March 1955	Half page, black and white	Life, Woman's Home Companion, Glamour, Woman's Day, True Confessions, Sunday Supplements (New York News, Chicago Tribune, Philadelphia Inquirer)	
1956	I dreamed I was an International Figure in my Maidenform bra	February 1956	March 1956	Full page, colour		Good Housekeeping, Mademoiselle, Radio TV Mirror, Redbook, Seventeen, Vogue, Woman's Day
1956	I dreamed I had Spring Fever in my Maidenform bra	March 1956	May 1956	Full page, colour	Ladies Home Journal, Harper's Bazaar, Mademoiselle, Charm, True Story, Dell Modern Group, Seventeen	Good Housekeeping, Harper's Bazaar, Mademoiselle, Radio TV Mirror, Seventeen
1956	I dreamed I was Twins in my Maidenform bra	April 1956	June 1957	Full page, colour		Good Housekeeping, Harper's Bazaar, Radio TV Mirror, Redbook, Seventeen, Vogue, Woman's Day
1956	I dreamed I was followed in my Maidenform bra	August 1956	December 1956	Full page, colour		Good Housekeeping, Mademoiselle, Redbook, Seventeen, Vogue, Woman's Day
1956	I dreamed I was being followed in my Maidenform bra	August 1956	August 1956	Full page, colour		Seventeen
1956	I dreamed I was a Work of Art in my Maidenform bra	September 1956	November 1956	Full page, colour	Life	Good Housekeeping, Harper's Bazaar, Mademoiselle, Seventeen, Vogue
1956	I dreamed I went whistle-stopping in my Maidenform bra	October 1956	October 1956	Full page, colour		Radio TV Mirror, Seventeen, Woman's Day
1956	I dreamed I played chess in my Maidenform bra	November 1956	March 1957	Full page, colour		Good Housekeeping, Harper's Bazaar, Radio TV Mirror, Redbook, Woman's Day
1957	I dreamed I was a Jigsaw Puzzle in my Maidenform bra	February 1957	February 1957	Full page, colour	Redbook, Mademoiselle, Glamour	Mademoiselle, Redbook
1957	Now you can win 20,000	March 1957	March 1957	Full page, colour		Good Housekeeping, Harper's Bazaar, Radio TV Mirror, Seventeen

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1957	I dreamed I raced with the wind in my Maidenform bra	April 1957	May 1957	Double spread, colour	Life, Good Housekeeping, Seventeen, Mademoiselle, Vogue, Ladies Home Journal, Harper's Bazaar, Charm, Glamour	Good Housekeeping, Harper's Bazaar, Mademoiselle, Seventeen, Vogue
1957	I dreamed I was an Outdoor Girl in my Maidenform bra	May 1957	May 1957	Full page, colour	This Week, Vogue, True Story, Woman's Day	Radio TV Mirror, Vogue, Woman's Day
1957	I dreamed I had Tea for Two in my Maidenform bra	August 1957	September 1957	Full page, colour		Mademoiselle, Radio TV Mirror, Redbook, Woman's Day
1957	I dreamed I crashed the headlines in my Maidenform bra	October 1957	November 1957	Full page, colour	Parade, Chicago Tribune Philadelphia Inquirer, New York News, Life, Seventeen, Vogue, Good Housekeeping, True Story, Dell Modern Group, Redbook, Glamour, Woman's Day	Good Housekeeping, Redbook, Seventeen, Vogue, Woman's Day
1957	I dreamed I posed for a Fashion Ad in my Maidenform bra	October 1957	October 1957	Double spread, colour		Vogue
1957	I dreamed I was lost in a London Fog in my Maidenform bra	November 1957	December 1957	Full page, colour	Seventeen, Harper's Bazaar, True Story, Charm, Good Housekeeping, Mademoiselle, This Week	Good Housekeeping, Harper's Bazaar, Mademoiselle, Radio TV Mirror, Seventeen
1958	I dreamed I made an impression in my Maidenform bra	May 1958	May 1958	Full page, colour	Life, Ladies' Home Journal, Harper's Bazaar, True Story, Good Housekeeping, Family Circle, Charm, Glamour, Dell Modern Group	Good Housekeeping, Modern Screen, Radio TV Mirror
1958	I dreamed I was a midsummer night's dream in my Maidenform bra	June 1958	July 1958	Double spread, colour		Good Housekeeping, Modern Screen
1958	I dreamed I was made over in my Maidenform bra	October 1958	December 1958	Full page, colour	Life, Ladies Home Journal	Good Housekeeping, Harper's Bazaar, Modern Screen
1958	I dreamed I made sweet music in my new Maidenform bra	November 1958	December 1958	Full page, colour		Good Housekeeping, Mademoiselle, Modern Screen, Radio TV Mirror
1958	I dreamed I was a heavenly body in my Maidenform bra	November 1958	April 1959	Double spread, colour		Harper's Bazaar, Radio TV Mirror, Vogue
1958	I dreamed I was cut out for fun in my Maidenform bra	March 1958	June 1958	Full page, colour	Life, Ladies Home Journal, Seventeen, Harper's Bazaar, True Story Women's Group, Charm, Glamour	
1959	I dreamed I set a record in my Maidenform bra	February 1959	August 1959	Full page, colour	Ladies Home Journal, Life, Seventeen, Dell Modern Group, Everywoman's family circle, Glamour, Good Housekeeping, Mademoiselle, True Story	Good Housekeeping, Mademoiselle, Modern Screen, Radio TV Mirror

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1959	I dreamed I was bookends in my Maidenform bra	February 1959	May 1959	Split over two Half pages		Good Housekeeping, Harper's Bazaar, Mademoiselle, Modern Screen, Radio TV Mirror, Vogue
1959	I dreamed I got a lift in my Maidenform bra	May 1959	June 1959	Full page, colour	Harper's Bazaar, Vogue, Charm, Dell Modern Group, Mademoiselle, Life	Harper's Bazaar, Mademoiselle, Modern Screen, Vogue
1959	...and played an encore in my Maidenform girdle	June 1959	June 1959	Half page, black and white		Good Housekeeping
1959	I dreamed I was a medieval maiden in my Maidenform bra	September 1959	March 1960	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, Vogue
1959	I dreamed I accentuated the positive in my Maidenform bra… and minimized the negative in my Maidenform girdle	September 1959	December 1959	Split over two Half pages		Good Housekeeping, Harper's Bazaar, Mademoiselle, Modern Screen
1959	I dreamed I sang a duet in my Maidenform bra	October 1959	December 1959	Full page, colour		Good Housekeeping, Harper's Bazaar, Ladies Home Journal, Mademoiselle, Modern Screen, Vogue
1959	I dreamed I sang a solo in my Maidenform girdle	October 1959	December 1959	Half page, black and white		Mademoiselle, Modern Screen, Vogue
1959	I dreamed I looked in the mirror in my Maidenform bra and saw myself in my Maidenform girdle	1959		Double spread, colour		
1960	I dreamed I conducted myself beautifully in my Maidenform girdle	February 1960	April 1960	Half page, black and white		Harper's Bazaar, Mademoiselle, Vogue
1960	I dreamed I was a beauty shop quartet in my new Maidenform girdle	March 1960	March 1960	Full page, colour	Seventeen, True Story, Photoplay, Mademoiselle, Glamour/Charm	Mademoiselle
1960	I dreamed I was enchanted in my Maidenform girdle	March 1960	May 1960	Half page, black and white	Ladies' Home Journal, Life, Mademoiselle	Ladies Home Journal, Mademoiselle
1960	I dreamed I played an all-girl orchestra in my Maidenform bra	April 1960	May 1960	Full page, colour	Life, Seventeen, Vogue, Family Circle, Glamour/Charm, Mademoiselle, Photoplay, True Story	Mademoiselle, Vogue
1960	I dreamed I was a real dish in my Maidenform bra	June 1960	June 1960	Full page, colour	Life, Seventeen, Harper's Bazaar, Glamour/Charm, Mademoiselle	Harper's Bazaar, Mademoiselle

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1960	I dreamed the leaves fell for me in my Maidenform bra	August 1960	December 1960	Full page, colour		Ladies Home Journal, Mademoiselle, Modern Screen, Vogue
1960	I dreamed I was wanted in my Maidenform bra	September 1960	December 1960	Full page, colour	Life, McCall's, Ladies' Home Journal, Harper's Bazaar, Glamour/Charm, Mademoiselle, Modern Screen, True Story/Photoplay, Family Circle	Ladies Home Journal, Mademoiselle, McCall's, Modern Screen
1960	I dreamed I covered the Paris collection in my Maidenform bra	October 1960	November 1960	Full page, colour		Mademoiselle, McCall's
1960	I dreamed I was a vamp in my Maidenform bra	November 1960	November 1960	Full page, colour	Life	Vogue
1960	I dreamed I was sugar and spice in my Maidenform bra	February 1960	June 1960	Double spread, colour	Seventeen, American Girl	
1960	I dreamed I was a lady editor in my Maidenform girdle	February1960	April 1960	Half page, black and white	Vogue, Glamour/Charm	
1961	I dreamed I walked a tightrope in my Maidenform bra	February 1961	June 1961	Full page, colour	Life, Ladies Home Journal, McCall	Harper's Bazaar, Ladies Home Journal, Mademoiselle, Vogue
1961	I dreamed I was a knockout in my Maidenform bra	February 1961	June 1961	Full page, colour	Life	Ladies Home Journal, Mademoiselle, McCall's, New York Times Magazine, Vogue
1961	I dreamed I was a siren in my Maidenform bra	May 1961	June 1961	Full page, colour	Life, Seventeen	Mademoiselle, New York Times Magazine
1961	I dreamed I had a stylish carriage in my Maidenform bra	September 1961	September 1961	Full page, colour	McCall, Life, Mademoiselle, True Story/Photoplay, Glamour, Charm, Everywoman's Family Circle, Redbook, Modern Screen, Seventeen, New York Times	Mademoiselle, McCall's
1961	I dreamed I drove them wild in my Maidenform bra	September 1961	December 1961	Full page, colour		Mademoiselle, McCall's, New York Times Magazine, Redbook, Vogue
1961	I dreamed I bowled them over in my Maidenform bra	October 1961	December 1961	Full page, colour	McCall's, Ladies Home Journal, Life, True Story/Photoplay, Modern Screen, Glamour/Charm, Mademoiselle, New York Times	Mademoiselle, McCall's, New York Times Magazine
1961	I dreamed I was cut out for fun in my Maidenform bra	September 1961	October 1961	Full page, colour	American Girl, Teen Magazine	
1961	I dreamed I flipped in my Maidenform bra	August 1961	September 1961	Full page, colour	Seventeen, American Girl, Teen Magazine	

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1961	I dreamed I was an Autograph Hound in my Maidenform bra	January 1961	July 1961	Full page, colour	Seventeen, American Girl	
1962	I dreamed I was all decked out in my Maidenform bra	February 1962	April 1962	Full page, colour	Life, McCall, Ladies Home Journal	Harper's Bazaar, McCall's, New York Times
1962	I dreamed I took the bull by the horns in my Maidenform bra	February 1962	May 1962	Full page, colour	Ladies Home Journal, McCall's, Look, Glamour, Redbook, Woman's Day	McCall's, Redbook, Woman's Day
1962	I dreamed I stopped them in their tracks in my Maidenform bra	March 1962	March 1962	Full page, colour	Life, Look, Seventeen, New York Times, Glamour, Mademoiselle, True Story/Photoplay	Mademoiselle, New York Times
1962	I dreamed I was a trademark in my Maidenform bra	May 1962	June 1962	Full page, colour		Mademoiselle, Redbook, Vogue
1962	I dreamed I barged down the Nile in my Maidenform bra	August 1962	November 1962	Full page, colour	Life, Ladies Home Journal, Glamour/Charm, Mademoiselle, Redbook, True Story/Photoplay, Everywoman's Family Circle, Seventeen	Mademoiselle, Redbook
1962	I dreamed I was tickled pink in my Maidenform bra	August 1962	October 1962	Full page, colour	Look, McCall, Vogue, New York Times, Glamour/Charm, Mademoiselle, Woman's Day	Mademoiselle, McCall's, New York Times, Vogue, Woman's Day
1962	I dreamed I inspired a new look in my Maidenform bra	September 1962	September 1962	Full page, colour	Vogue, Harper's Bazaar, Glamour/Charm, Mademoiselle, New York Times	Mademoiselle
1962	I dreamed I stole the show in my Maidenform bra	October 1962	November 1962	Full page, colour	Life, Ladies' Home Journal, Mademoiselle, Woman's Day, True Story/Photoplay, Seventeen, New York Times	Harper's Bazaar, Mademoiselle, Woman's Day
1962	I dreamed I was the center of attraction in my Maidenform bra	1962		Full page, colour		
1962	I dreamed I charmed the spots off a leopard in my Maidenform bra	February 1962	May 1962	Full page, colour	Seventeen	
1962	I dreamed I caught the brass ring in my Maidenform bra	September 1962	November 1962	Full page, colour	Seventeen, American Girl, Teen, Ingenue	
1963	I dreamed I went to blazes in my Maidenform bra	February 1963	May 1963	Full page, colour		Mademoiselle, McCall's, Woman's Day
1963	I dreamed I had a swinging time in my Maidenform bra	February 1963	June 1963	Full page, colour		Harper's Bazaar, Ladies Home Journal, McCall's, Redbook
1963	I dreamed I swayed the jury in my Maidenform bra	May 1963	June 1963	Full page, colour		Redbook, Vogue
1963	I dreamed I took the cue in my Maidenform bra	September 1963	November 1963	Full page, colour		Mademoiselle, McCall's, Redbook

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1963	I dreamed I cheered the team on in my Maidenform bra	September 1963	September 1963	Full page, colour		Mademoiselle
1963	I dreamed I painted the town red in my Maidenform bra	October 1963	November 1963	Full page, colour		Mademoiselle, McCall's, Redbook
1963	I dreamed I was wild in the west in my Maidenform bra	1963		Full page, colour		
1964	I dreamed I went to work in my Maidenform bra	March 1964	March 1964	Full page, colour		Redbook
1964	I dreamed I was way out in my Maidenform bra	March 1964	March 1964	Full page, colour		Mademoiselle
1964	I dreamed Paris was at my feet... in my Maidenform bra	September 1964	December 1964	Full page, colour		Harper's Bazaar, Ladies Home Journal, Mademoiselle, New York Times Magazine, Redbook, Vogue
1964	I dreamed I was the catch of the season in my Maidenform bra	1964		Full page, colour		
1965	I dreamed I lived a castle in Spain... in my Maidenform bra	March 1965	May 1965	Full page, colour		Harper's Bazaar, Mademoiselle, New York Times Magazine, Redbook, Vogue
1965	I dreamed I was a classic beauty in my Maidenform bra	September 1965	September 1965	Full page, colour		Harper's Bazaar, Mademoiselle, Redbook, Vogue
1965	I dreamed I switched on the stars in my Maidenform bra	1965		Full page, colour		
1966	I dreamed I turned on the magic of Venice... in my Maidenform bra	April 1966	November 1966	Full page, colour		Cosmopolitan, Harper's Bazaar, Ladies Home Journal, Mademoiselle, New York Times, Redbook, Vogue
1967	I dreamed I had the world on a string in my Maidenform bra [yoyo]	April 1967	June 1967	Full page, colour		Cosmopolitan, Harper's Bazaar, Mademoiselle, Redbook, Vogue
1967	I dreamed I had a mod mod world on a string in my Maidenform bra	August 1967	October 1967	Double spread, colour		Harper's Bazaar, Mademoiselle, Vogue
1967	I dreamed I had the world on a string in my Maidenform bra [balloon]	October 1967	November 1967	Full page, colour		Mademoiselle, Redbook, Vogue
1968	I dreamed I was a sketch in my Maidenform bra	April 1968	June 1968	Full page, colour		Cosmopolitan, Harper's Bazaar, Mademoiselle, New York Times Magazine, Redbook, Vogue
1968	I dreamed I swung to a new beat in my Maidenform bra	April 1968	May 1968	Full page, colour		Cosmopolitan, Harper's Bazaar, Mademoiselle, Redbook, Vogue

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1968	I dreamed I was here and there in my Maidenform Coordinates	April 1968	April 1968	Full page, colour		New York Times Magazine
1968	I dreamed I was a new dimension in "pow" in my Maidenform Juniors	August 1968	August 1968	Double spread, colour		Mademoiselle
1968	I dreamed I was a new dimension in color in my Maidenform Coordinates	September 1968	November 1968	Full page, colour		Mademoiselle, New York Times Magazine, Redbook
1968	I dreamed I was a new dimension in shape in my Maidenform Dreamliner	October 1968	November 1968	Full page, colour		Mademoiselle, New York Times Magazine
1969	I dreamed it's me it's me it's me in my Maidenform collection	March 1969	August 1969	Full page, colour		Cosmopolitan, Mademoiselle, New York Times Magazine, Redbook
1969	I dreamed I stretched from here to there in my Maidenform bra	March 1969	March 1969	Full page, colour		New York Times Magazine
1969	I dreamed I made more of myself in my Maidenform Dreamliner	April 1969	April 1969	Full page, colour		Mademoiselle, New York Times Magazine, Redbook
1969	I dreamed I felt free… really free in my Maidenform Concertina	April 1969	April 1969	Full page, colour		New York Times Magazine
1969	I dreamed there was no end of me in my Maidenform Confections	August 1969	August 1969	Full page, colour		Cosmopolitan, Redbook
1969	I dreamed I shaped up in an instant in my Maidenform Bra Slip	September 1969	September 1969	Full page, colour		Mademoiselle, Redbook
	I dreamed I played Cleopatra in my Maidenform bra	Unknown		Unknown	[Note: Kitty d'Alessio recollects a Cleopatra ad with Dorian Leigh that was made before the 1952 version with Sara Dolley and Richard Avedon.]	
	I dreamed I was a real cool treat in my Maidenform juniors	Unknown		Unknown		

APPENDIX 2: SOURCES FOR THE DATABASE

This table is best read in conjunction with the "gap" plot (Figure 18, or see the "Gaps" tab in the web appendix for an interactive and more extensive version).

Publication	Type	Source	Complete	Archive start date	Archive end date	Archive gaps	Notes
Harper's Bazaar	Magazine	ProQuest Women's Magazines Archive	Yes	January 1947	January 1971		
Mademoiselle	Magazine	Internet Archive; British Library	Yes	January 1947	December 1970	March, April, July 1948; January, March, April 1954	
Vogue	Magazine	ProQuest Vogue Archive	Yes	December 1892	January 1971		
Better Homes and Gardens	Magazine	ProQuest Women's Magazines Archive; Internet Archive	No	September 1925	December 1970		No Maidenform ads (based on ProQuest search)
Chatelaine	Magazine	ProQuest Women's Magazines Archive	No	March 1928	December 2005	1948, 1952, 1953, 1956, 1959	Canadian magazine
Chicago Daily Defender	Newspaper	ProQuest Women's Magazines Archive	No	January 1966	January 1973		
Cosmopolitan	Magazine	ProQuest Women's Magazines Archive; Bodleian Libraries	No	May 1960	December 1993	February 1963	
Good Housekeeping	Magazine	ProQuest Women's Magazines Archive	No	January 1886	December 1974	1960 to 1970	
Ladies' Home Journal	Magazine	ProQuest Women's Magazines Archive; Internet Archive	No	January 1887	December 1966	November 1954 to June 1959; July 1961 to January 1963; July 1965 to December 1965	
Life	Magazine	Google Books	No	January 1947	December 1970		Data collected; to be annotated
McCall's	Magazine	British Library	No	January 1947	March 1964	August 1947; May-June 1958	

Publication	Type	Source	Complete	Archive start date	Archive end date	Archive gaps	Notes
Modern Screen	Magazine	Media Lantern	No	January 1947	December 1960	November 1949; December 1956; January 1957	Only collected Maidenform ads
New York Times	Newspaper	ProQuest Historical Newspapers	No	January 1923	December 2013		Only collected Maidenform ads
New York Times Magazine	Magazine	ProQuest Historical Newspapers	No	January 1923	December 2013		Only collected Maidenform ads
Parents	Magazine	ProQuest Women's Magazines Archive	No	January 1949	December 1972		Unreliable
Radio TV Mirror	Magazine	Media Lantern; Internet Archive	No	January 1934	January 1963		Only collected Maidenform ads
Redbook	Magazine	ProQuest Women's Magazines Archive	No	November 1903	January 2002		Unreliable
Seventeen	Magazine	ProQuest Women's Magazines Archive; British Library	No	October 1955	November 1987	January 1958 to December 1969	
Sponsor	Magazine	Media Lantern	No	January 1948	January 1964		More available in Internet Archive, but no Maidenform ads expected based on data already collected
True Confessions	Magazine		No				British edition was checked in the British Library, but there were no Maidenform ads
True Romance	Magazine		No				
True Story	Magazine		No				
Washington Post	Newspaper	ProQuest Historical Newspapers	No	January 1923	December 1973		Only collected Maidenform ads
Woman's Day	Magazine	ProQuest Women's Magazines Archive	No	October 1937	December 2001		
Woman's Home Companion	Magazine	Pennsylvania State University Library Archives	No	October 1924	January 1957		Magazine discontinued in 1957; not collected (no access)

APPENDIX 3: R CODE FOR THE WEB APPENDIX

The following sections are the R scripts that were used to organise and display the advertisements collected for this project. setupData.R and setupFunctions.R clean and aggregate the raw annotation files (which are in .csv and .txt form). The web appendix is a Shiny app, and therefore consists of two documents: server.R and ui.R.

setupData.R

```
# Setup all the dataframes derived from the full observation dataset
# Version: 9 January 2018
library(plyr)
library(dplyr)
library(shinyjs)
library(timevis)
library(RColorBrewer)


full <- read.csv("data/180112 allObservations.txt", sep="\t", stringsAsFactors = FALSE)
full$Date <- as.Date(full$Date)
full$Competitor <- ifelse(full$Brand=="maidenform",FALSE,TRUE) #Simplifies Maidenform vs competitors analysis


publications.tobeused <- c("Vogue","Mademoiselle","Harpers Bazaar")
publications.promising <- c(publications.tobeused,"Good HouseKeeping","Cosmopolitan","Ladies' Home Journal","McCall's")
publications <- read.csv("data/180109 publications.txt", sep="\t", stringsAsFactors = FALSE)
publications$start <- as.Date(publications$start)
publications$end <- as.Date(publications$end)


# Products that are excluded from analysis
excludedProducts <- c("swimsuit","slip","lingerie","pantie","sleepwear","nightwear","clothes","gown","sport","sports","stockings","waistband","other","peignoir","petti","slip,girdle")


#Competitors
main.Competitors <- c("maidenform","warner","jantzen","peterpan","gossard","formfit","playtex","olga","exquisiteform","bleuette") #Maidenform always needs to go first
```

```
#Aesthetics

maidenform.Color <- "darkred"


#Filter observations

full.exclude <- full[which(is.na(full$Exclude)),] #Exclude column

allAds <- full.exclude[!full.exclude$Product %in% excludedProducts,] #Ex
clude products


allAds.complete <- allAds[allAds$Publication %in% as.list(unique(subset(
publications,Complete==TRUE, Publication)))[[1]],]


allAds <- droplevels(allAds)


allAds$Collection <- allAds$Source %>%

  gsub(pattern = "^ProQuest.*|^The Harper.*|^Women.*|^The Vogue.*",repla
cement = "ProQuest") %>%

  gsub(pattern = "^modern.*|^Media La.*",replacement = "Digital search")
%>%

  gsub(pattern = "^ladies.*|^https://archive.*",replacement = "Digital m
anual") %>%

  gsub(pattern = "^Bod.*|^British.*",replacement = "Manual") %>%

  gsub(pattern = "^Googl.*",replacement = "Machine learning")


#Get Dreams spreadsheet with image info

dreams.master <- read.csv("data/dreams.txt", sep="\t", na.strings = c("",
" ","NA"), stringsAsFactors = FALSE)

imagePath <- 'dreams/'

dreams.master$image <- paste(imagePath,dreams.master$image,sep="")


#Separate out only Maidenform Dreams

maidenform <- subset(full.exclude, subset = Brand == "maidenform" & is.n
a(full.exclude$`Department.Store`))

maidenform$Date <- as.Date(maidenform$Date) #This somehow became a facto
r along the way, so needs to be put into date format again

maidenform$Tagline <- tolower(maidenform$Tagline)

maidenform$Tagline <-as.factor(maidenform$Tagline)

maidenform$Dream <- ifelse(maidenform$Campaign %in% "dreams",TRUE,FALSE)

maidenform <- merge(maidenform, dreams.master[,c("format","slug")], by.x
="Tagline", by.y="slug", all.x=TRUE)

maidenform <- droplevels(maidenform)


dreams <- subset(maidenform, subset = Campaign == "dreams")
```

```
       inspiration <- read.csv("data/inspiration.txt", sep="\t", stringsAsFacto
rs = FALSE)

       inspiration$col <- paste0("<img src='inspiration/",inspiration$image,"'>
<div class='caption'>",inspiration$inspiration,"</div>")

       inspiration <- inspiration[,c("slug","col")]

       inspiration <- aggregate(col~slug, inspiration, paste, collapse = "")


       maidenform.complete <- maidenform[maidenform$Publication %in% publicatio
ns.tobeused,]

       maidenform.complete <- droplevels(maidenform.complete)


       dreams.complete <- dreams[dreams$Publication %in% publications.tobeused,
]

       dreams.complete <- droplevels(dreams.complete)


       #Modify Dreams dataframes for complete info

       dreams.unique <- ddply(dreams,"Tagline",summarise,start=(toString(min(Da
te))),end=(toString(max(Date)))) #Find all unique dream ads plus running dates

       dreams.unique <- data.frame(lapply(dreams.unique, as.character), strings
AsFactors=FALSE) #defactorise

       dreams.master <- left_join(dreams.master,dreams.unique,by=c("slug"="Tagl
ine")) #Add the dates that the dreams ran


       dreams.master$start <- as.Date(dreams.master$start)

       dreams.master$end <- as.Date(dreams.master$end)

       dreams.master$year <- format(dreams.master$start,"%Y")


       dreams.master$count<- ""

       dreams.master$foundin <- ""

       dreams.master$copy <- ""

       dreams.master$inspiration <- ""


       for (s in dreams.master$slug){

         dreams.master[which(dreams.master$slug==s),"foundin"] <- paste(unique(
full.exclude[which(full.exclude$Tagline == s & full.exclude$Campaign == "dream
s"),"Publication"]), collapse=", ")

         dreams.master[which(dreams.master$slug==s),"count"] <- nrow(full.exclu
de[which(full.exclude$Tagline == s & full.exclude$Campaign == "dreams"),])

         dreams.master[which(dreams.master$slug==s),"copy"] <- paste(readLines(
paste0("www/adcopy/",s,".txt"), warn = FALSE),collapse = "<br>")

         if (s %in% inspiration$slug){dreams.master[which(dreams.master$slug==s
),"inspiration"] <- inspiration[which(inspiration$slug == s),"col"]}

       }
```

```
        dreams.master$content <- paste("<li><div class='content'>
                                <h2>",dreams.master$tagline,"</h2><div class='rule'>
</div>
                                        <h3>",format(dreams.master$start,"%B %Y")
," – ",format(dreams.master$end,"%B %Y"),"</h3>
                                        <p>Publications listed in archives: ",dre
ams.master$publication,"</p>
                                        <p>Found in:",dreams.master$foundin,"</p>
                                        <p>Count:",dreams.master$count,"</p>
                                        <div class='well'><p>",dreams.master$copy
,"</p></div>
                                       <div class='inspiration'>",dreams.master$i
nspiration,"</div></div>
                                        <div class='ad'><img src='",dreams.master
$image,"' alt='' /></div>
                                        </li>")


        events <- read.csv("data/events.txt", sep="\t", stringsAsFactors = FALSE
)
        events$year <- format(as.Date(events$Date, "%B %d, %Y"),"%Y")
        events$content <- paste0("<div class='event'><img src='events/",events$I
mage,"'><div class='caption'>",events$Event,"</div></div>")


        windows <- read.csv("data/windows.txt", sep="\t", stringsAsFactors = FAL
SE)
        windows$ID <- seq.int(nrow(windows))
        windows$Start <- as.Date(as.character(windows$Start),"%Y")
        windows$End <- as.Date(as.character(windows$End),"%Y")
        windows$Popup <- paste0("<img width='100%' src='windows/",windows$file1,
"'>",
                                "<span class='window_data'><i class='fa fa-globe
'></i> Location: </span>",windows$Location,"<br>",
                                "<span class='window_data'><i class='fa fa-calen
dar'></i> Date: </span>",windows$Date,"<br>",
                                "<span class='window_data'><i class='fa fa-binoc
ulars'></i> Display type: </span>",windows$Type,"<br>",
                                "<span class='window_data'><i class='fa fa-build
ing'></i> Place: </span>",windows$Place,"<br>")
```

setupFunctions.R

```
        #Setup Functions
        capFirst <- function(s) {
          paste(toupper(substring(s, 1, 1)), substring(s, 2), sep = "")
        }
```

server.R

```
#Libraries
library(dplyr)
library(shinyjs)
library(timevis)
library(RColorBrewer)
library(ggplot2)
library(zoo)
library("htmlwidgets")
library (lubridate)
library(leaflet)
library(htmltools)


# App
server <- function(input, output, session) {


  ######################################
  #-- WELCOME
  ######################################
    output$Welcome.Welcome <- renderUI({
    HTML("
<p>Welcome to this web appendix about the Maidenform Dreams campaign. Th
is appendix details the data collected by Astrid Van den Bossche from magazine
and newspaper sources between 2014 and 2018.  It is primarily a summary of the
bra and girdle advertisements that were published between 1949 and 1969, but a
lso houses some materials pertaining to the context in which the Dreams appear
ed (the Timeline) and other marketing efforts around the world (Window Display
s).</p>
<p>This piece is an accompaniment to <i>'Dreamatic Undergarments: Recove
ring the material orchestrations of the Maidenform &amp;quot;I Dreamed…&amp;quot; camp
aign'</i></p>")
    })


  output$Welcome.Contents <- renderUI({
    HTML("
<p><b>Explore</b> allows you to examine the data collected acro
ss the entire dataset. You can limit your search by year, publication, and typ
e of ad.</p>
<p><b>Gaps</b> indicate the data gaps in the newspaper and maga
zine sources. This is useful to get a sense of which publications could be com
pleted in the near future and added to the analysis set.</p>
```

```
                <p><b>Timeline</b> is a timeline of the Dream ads from 1949 to
1970. It includes some contextual information such as competitor ads and refer
ences to significant events.</p>

                <p><b>Industry</b> explores what Maidenform's competitors were
doing between 1949 to 1969. For now, this is limited to the advertising freque
ncy of the ten top competitors.</p>

                <p><b>Dreams</b> is a zoom-in on only the Dream observations in
the dataset.</p>

                <p><b>Window Displays</b> offers an interactive map of window d
isplay photographs that were collected at the Smithsonian's Maidenform archive
.</p>")

        })


        output$Welcome.Prototype <- renderUI({

          HTML("<p><i class='fa fa-warning'></i> <i>This is a prototype, but d
on't worry, you can't break it! All feedback is welcome.</i></p>

                <p><i class='fa fa-desktop'></i> This appendix works best when
viewed fullscreen.</p>")

        })


        output$Welcome.Dream <- renderImage({

          filename <- normalizePath(file.path('./www/dreams',"dreamad-068.jpg"
))

          list(src=filename,

                contentType = 'image/jpg',

                alt = "An example of a Dream ad")},

          deleteFile = FALSE)


        ######################################

        #-- EXPLORE

        ######################################

      output$Explore.Welcome <- renderUI({

        HTML("<p>The plot below shows the distribution of observations in the
data set (one observation is one ad) across time. On the right, you can filter
the data and modify the plot according to a number of features. Below, you als
o get a random snapshot of the underlying database.</p>

             <p>As you change the parameters, the plot, the number of observat
ions included, and the database sample will change.</p>")

      })


        publicationSet <- reactive({

          if ("Incomplete publications" %in% input$Explore.Source) {

            leftover <- setdiff(publications.tobeused, input$Explore.Source[in
put$Explore.Source !="Incomplete publications"])

            levels(as.factor(allAds$Publication))[!(levels(as.factor(allAds$P
ublication)) %in% leftover)]}
```

```
    else{publications.tobeused[publications.tobeused %in% input$Source]}
  })

  includeDepartment <- reactive({
    if(!input$Department){NA}
    else { c(NA,levels(factor(allAds$Department.Store)))}
  })

  onlyMaidenform <- reactive({
    if(input$Maidenform){"maidenform"}
    else { c(NA,levels(factor(allAds$Brand)))}
  })

  filteredObservations <- reactive({
    allAds  %>%
      filter(Date >= input$Explore.YearInput[1],
             Date <= input$Explore.YearInput[2],
             Publication %in% publicationSet(),
             Department.Store %in% includeDepartment(),
             Brand %in% onlyMaidenform()) %>%
      mutate(PubFinal = ifelse(Publication %in% publications.tobeused,Publication,"other")) %>%
      mutate(Maidenform = ifelse(Brand == "maidenform","Maidenform","Other"))
  })

  output$Explore.NumberObservations <- renderText({
    nrow(filteredObservations())
  })

 output$allObservations <- renderPlot({

 Explore.plot <-    ggplot(filteredObservations(), aes(as.yearmon(Date)), color=PubFinal) +
      scale_x_yearmon(format = "%b %Y") +
      ylab("Number of Ads")+
      xlab("")+
      scale_alpha(guide=FALSE)+
      theme_bw()
```

```
      if(input$Explore.SeparateBars){
      Explore.plot <- Explore.plot +
        geom_histogram(position = "dodge", binwidth = as.numeric(input$BinWidt
h), aes(fill=Maidenform),color="white", alpha=0.6) +
        scale_fill_manual(name=NULL,values=c("red","navajowhite3"))
      }
      else {
        Explore.plot <- Explore.plot +
          geom_histogram(position = "dodge", binwidth = as.numeric(input$BinWi
dth), fill="navajowhite3",color="white", alpha=0.6)+
          scale_fill_manual(guide=FALSE)
      }

      if(input$Explore.Facet){
        Explore.plot <- Explore.plot + facet_wrap(~PubFinal)
      }

      Explore.plot
        })
        output$SampleObservations <- renderTable({
          table <- filteredObservations()
          table$Date <- format(table$Date, "%B %Y")
          table[sample(nrow(table),5),c(1,2,4,6,8,12)] #Random selection of ro
ws and selection of columns by ID
        })

        ########################################
        #-- GAPS
        ########################################
        output$Gaps.Welcome <- renderUI({
          HTML("<p>Not every source included in this project has been used in
the data analysis because a gap analysis shows that most datasets did not have
reliable or full data for the entire period. By this I mean that they do not n
ecessarily capture every single bra and girdle ad that was published.<br>To th
e side, you can adjust the publications that are shown below. Publications tha
t are 'complete' are those that other parties (ProQuest) marked as such, but t
his can be unreliable. The researcher has marked publications'promising' to in
dicate that these are a priority for further data collection. The last categor
y is consists of the publications that have been used in the analysis because t
hey are truly complete.</p>")
        })

        output$Gaps.Explanation <- renderUI({
          HTML("<p>Selecting 'show data points' maps every observation onto th
e graph. Comparing the density of the observations between publications should
```

```
also give an indication as to the likely completeness of the data. If you sele
ct this option and view the publications marked 'complete', you will see that <
i>Parents</i>, for example, had noticably less underwear advertisments than <i
>Mademoiselle</i>. This might be due to the type of publication and their audi
ence, but in this case, the sparseness would require us to manually double che
ck whether all the ads were collected.</p>

                <p>In the legend, the collection method shows how these observa
tions were collected. Digital manual means that the researcher or research ass
istant leafed through digital copies of the magazines(usually at the Open Libr
ary). Manual means that the researcher leafed through printed copies of the ma
gazines (usually at the British Library). ProQuest means that the ads were col
lected from the ProQuest databases, using their search function. These results
would have been verified, cleaned, and anotated.</p>")

        })


        output$Gaps.Plot <- renderPlot({


          InUse <- reactive({

            if(input$Completeness == "inuse"){publications.tobeused}

            else if (input$Completeness == "complete") {levels(factor(publicat
ions[which(publications$Complete == TRUE),"Publication"]))}

            else if (input$Completeness == "promising") {publications.promisin
g}

            else {levels(factor(publications$Publication))}

          })


          pubs <- publications %>%

            filter(

              Publication %in% InUse(),

              Type %in% input$PubType)


          pubAds <- allAds %>%

            filter(

              Publication %in% InUse(),

              Publication %in% publications$Publication[publications$Type %in%
input$PubType])


          if(nrow(pubs) == 0) {      # print error/ warning message

            ggplot(publications, aes(start))+

              xlab("")+

              ylab("")+

              theme_bw()+

              geom_text(aes(y="",x="", label="No data"), size=7)


          } else {
```

```
            plot <- ggplot(pubs, aes(start,Publication,colour=Publication))+
              geom_errorbarh(aes(xmin=start,xmax=end,height=0.3))+
              labs(y="", x="")+
              scale_x_date(date_breaks = "1 year", date_labels = "'%y")+
              theme_bw() +
              guides(colour=FALSE)

            if(input$showObs =="Yes"){
              shapes <-   c(16,17,8,3,12)
              names(shapes) <- c("Digital manual","Digital search","Machine le
arning","Manual","ProQuest")
              newShapes <- shapes[match(levels(factor(pubAds$Collection)),name
s(shapes))]

            plot <- plot +
              geom_jitter(data=pubAds, aes(Date, Publication, alpha=!Competito
r, shape=Collection))+
              scale_alpha_manual(name="Brand",values=c(0.2,1),labels=c("Compe
titor ad","Maidenform ad"), na.translate = FALSE)+
              scale_shape_manual(name="Collection method", values=as.numeric(n
ewShapes), labels=names(newShapes), drop=FALSE)
            }
            plot
            }
          })

          observeEvent(input$inuse, {
            if(input$inuse == T){
              shinyjs::disable("CompletePubs")}
            else {
              shinyjs::enable("CompletePubs")}
          })

          ########################################
          #-- TIMELINE
          ########################################
          output$Timeline.Welcome <- renderUI({
            HTML("<p>Welcome to the timeline! Scroll down to see the succession
of Dreams published from 1949 to 1969. For each year, you will see a random se
lection of competitor ads and a summary of significant events. For each Dream,
I have given an indication of the period it ran, which publications it has bee
n associated with through the archives, which publications it appears in in th
is dataset, and the frequency in this dataset. The ads are also followed by a t
```

```
ransciption of the copy, and any events that the execution was probably refere
ncing.</p>")
        })


        output$Timeline.Scroll <- renderUI({
          yearLinks <- ""
          for (i in 1949:1970){
            year <- paste0("<a class='yearLink' href='#",i,"'>",i,"</a><br>")
            yearLinks <- paste(yearLinks,year)
          }
          HTML(yearLinks)
        })


        output$timeline <- renderUI({


          years <- ""
          for (y in  1949:1970){
          #Random Competitors
            randcomp <- subset(full.exclude,Brand !="maidenform" & Year == y)
            random_competitors <- randcomp[sample(nrow(randcomp), 4),c("Image.
Reference","Publication")]
            comp <- ''
            for (row in random_competitors$Image.Reference) {
              comp <- paste0(comp,"<img src='https://s3.eu-west-2.amazonaws.co
m/maidenform/allImages/",row,".jpg'>")
            }


            #Other maidenform ads
            maidenformOther <- subset(full.exclude,Brand=="maidenform" & Year
== y & Campaign !="dreams" & is.na(Department.Store))
            maidenformOther <- maidenformOther[sample(nrow(maidenformOther), 4
, replace=TRUE),c("Image.Reference","Publication")]
            maid <- ''
            if (nrow(maidenformOther) > 0){
              for (row in maidenformOther$Image.Reference) {
                maid <- paste0(maid,"<img src='https://s3.eu-west-2.amazonaws.
com/maidenform/allImages/",row,".jpg'>")
              }
            }
            else {maid <- "There were no non-Dream Maidenform ads this year."}


          #Year Events
```

```
            if(nrow(events[events$year == y,]) > 0){
            yearevents <- paste(events[events$year==y,"content"], collapse="")
}
          else {yearevents<- "No significant events have been recorded for thi
s year yet."}


          #Year paste
            year <- paste0("<div class='year' id='",y,"'>",y,"</div><div class
='events'>")
            year <- paste0(year,"<div class='yearevents'><span>Notable events<
/span>",yearevents,"</div>")
            year <- paste0(year,"<div class='competitors'><span>Competitor ads
</span>",comp,"</div>")
            year <- paste0(year,"<div class='maidenformOther'><span>Other Maid
enform ads</span>",maid,"</div>")
            year <- paste0(year,"</div>")
            ads <- "<ul>"


            for (line in subset(dreams.master[order(dreams.master$start),], ye
ar == y)$content) {
              ads <- paste(ads,line)
            }
            print(ads)


            ads <- paste(ads, '</ul>')
            year <- paste(year,ads)


            years <- paste(years,year)
          }
              HTML(years)
      })


        ########################################
        #-- INDUSTRY
        ########################################
        output$Industry.Welcome <- renderUI({
          HTML("<p>The beauty of this dataset is that it captures all the bra
and girdle ads that were published between 1949 and 1969. Below, you will find
a graph that shows the number of observations per brand each month.</p><p>Beca
use hundreds of brands were recorded, you can only choose amongst Maidenform's
top nine competitors (identified through archival research and frequency). The
rest of the competitors have been lumped into the 'other' category.</p>")
        })
```

```
          output$Competitors <- renderPlot({


            competitors <- allAds %>%
              filter(Date >= input$Industry.Year[1],
                     Date <= input$Industry.Year[2],
                     is.na(Department.Store),
                     Publication %in% publications.tobeused) %>%
              mutate(MainCompetitors = ifelse(Brand %in% main.Competitors,Brand,
"other")) %>%
              filter(
                MainCompetitors %in% tolower(input$MainCompetitors)) %>%
              mutate(YearMon = as.yearmon(Date)) %>%
              mutate(MonthGroup = case_when(
                month(YearMon) %in% c(3,4,5,9,10) ~"high",
                month(YearMon) %in% c(2,6,8,11) ~"mid",
                month(YearMon) %in% c(1,7,12) ~ "low")) %>%
              group_by(MainCompetitors,YearMon, MonthGroup) %>%
              count(YearMon)


            competitors$MainCompetitors <- factor(competitors$MainCompetitors, l
evels=c(main.Competitors,"other")) # Levels rearrangement so that Maidenform i
s on top
            palette <- brewer.pal(12, "Paired")
            palette[6] <- c("#475e6e") #Replace red
            colours <-   c(maidenform.Color,palette[1:length(main.Competitors)])
            names(colours) <- c(main.Competitors,"other")


            comp <- ggplot(competitors, aes(YearMon, n, color=MainCompetitors))+
              geom_point(size=2, alpha=0.9, shape = 21, fill = "transparent",str
oke=1)+
              ylab("Number of ads")+
              xlab("")+
              scale_x_yearmon(format = "%b %Y") +
              scale_color_manual(values=colours)+
              scale_shape_manual("Expected frequency", values = c(16,17,8))+
              theme_bw()


            if(input$yAxisFixed){
              comp <- comp + coord_cartesian(ylim=c(0,input$yAxis))
            }
```

```
            if(input$FacetCompetitors){
              comp <- comp + facet_wrap(~MainCompetitors)
            }
            comp
          })

          observeEvent(input$AllCompetitors, {
            if(input$AllCompetitors == T){
              choice <- c(capFirst(main.Competitors),"Other")
              updateCheckboxGroupInput(session,"MainCompetitors","Competitors",
choices = choice,selected = choice)
              shinyjs::disable("MainCompetitors")
              }
            else {
              shinyjs::enable("MainCompetitors")}
          })

          ########################################
          #-- DREAMS
          ########################################
        output$Dreams.Welcome <-renderUI({
          HTML("<p>The Dreams did not appear uniformly across time. Adjust param
eters on the left according to various characteristics: format, publication, an
d date.</p>
               <p>The red dots indicate the number of unique executions ran in t
hat year; the bars indicate the total count of observations (i.e., how often t
hese executions were repeated across publications).</p>")
        })

        publicationSet <- reactive({
            if (input$Dreams.Incomplete){unique(maidenform$Publication)}
            else{publications.tobeused}
          })

        output$Dreams.Plot <- renderPlot({

        maidenform <- maidenform %>%
            filter(Date >= input$Dreams.Year[1],
                   Date <= input$Dreams.Year[2],
                   Publication %in% publicationSet())
```

```
      dreamsUnique <- maidenform[which(maidenform$Campaign=="dreams"),] %>%
          ddply("Tagline",summarise,start=(toString(min(Date))),end=(toString
(max(Date)))) %>%
          mutate(Year = format(as.Date(start, '%Y'),"%Y")) %>%
          count(Year)


      dreamsPlot <- ggplot(maidenform,aes(x=Year)) +
        scale_alpha(guide=FALSE)+
        xlab("Year")+
        ylab("Number of Dream ads")+
        theme_bw()+
        theme(legend.position = "bottom")


      if(input$Dreams.OtherCampaigns){
        dreamsPlot <-  dreamsPlot +
          geom_histogram(data=maidenform, stat = "count", position="dodge", ae
s(alpha=0.7, fill=Dream))+
          scale_fill_manual(name=NULL, labels=c("Other campaigns","Dreams"),va
lues=c("navajowhite3","red"))
      }


      else{
        dreamsPlot <-  dreamsPlot + geom_histogram(data = maidenform[which(mai
denform$Dream == TRUE),], stat = "count", colour="white", aes(alpha=0.7, fill=
"red"))+
          guides(fill=FALSE)
      }


      if(input$Dreams.Format == "Publication"){
      dreamsPlot <- dreamsPlot +
        facet_wrap(~Publication,ncol=2)}


      if(input$Dreams.Format == "Format"){
        dreamsPlot <- dreamsPlot +
          facet_wrap(~format,ncol=3)}


      if(input$Dreams.Unique){
      dreamsPlot <- dreamsPlot +  geom_point(data=dreamsUnique,aes(as.numeric(
Year), y=n, color="red"))+
        scale_color_manual(label="Number of unique Dream executions",name=NULL
, values="red", guide=FALSE)
      }
```

```
        dreamsPlot
        })



          ######################################
          #-- WINDOW DISPLAYS
          ######################################


        output$Windows.Welcome <- renderUI({
          HTML("<p>Street advertising, window displays, exhibitions, and other p
ublic displays related to the Dreams popped up around the world. Some were re-
enactment of Dream executions, others were re-imaginations. These records come
mainly from photographs held at the Maidenform Archives, or from articles in t
he <i>Maidenform Mirror</i> and the <i>Maidenforum</i>. Note that this collect
ion is by no means complete.</p>")
        })


        output$Windows.Warning <- renderUI({
          HTML("<span class='help'><i class='fa fa-warning'></i> Please note tha
t for now, locations and dates are approximate, unless the city and year are c
learly specified. If only the country of the window display is known, the disp
lay is shown in the middle of the country. Also note that if a display has bee
n tagged as running in a decade (e.g., '1950s'), it will not show up if the da
te range selected is shorted than the entire decade. </span>")
        })


        markersFiltered <- reactive({
          filter(windows,
                 Type %in% input$Windows.Type,
                 Start >= input$Windows.Year[1],
                 End <= input$Windows.Year[2])
        })



        placeColours <- colorFactor(
          palette = "Paired",
          domain = windows$Type
        )


        output$Map <- renderLeaflet({


        leaflet(data = markersFiltered(), options=leafletOptions(maxZoom = 7)) %
>%
```

```
    addTiles() %>%
    setView(0,0,1) %>%
    addLegend("bottomleft", pal = placeColours, values = ~Type,
              title = "Display type",
              opacity = 0.7)%>%
    addCircleMarkers(~Long, ~Lat,radius = 6,
                     color = ~placeColours(Type),
                     stroke = FALSE,
                     fillOpacity = 0.7,
                     layerId= ~ID)

})

observe({

  leafletProxy("Map", data = markersFiltered()) %>%
    clearMarkers() %>%
    addCircleMarkers(~Long, ~Lat,radius = 6,
                     color = ~placeColours(Type),
                     stroke = FALSE,
                     fillOpacity = 0.7,
                     layerId= ~ID)
})

observe({
  click<-input$Map_marker_click
  if(is.null(click))
  {  output$Windows.Detail<-renderText({HTML("<p>Click on a marker to se
e details.</p>") })}
  else{output$Windows.Detail<-renderUI({
    popup <- windows[which(windows$ID == click$id),"Popup"]
    HTML(popup)
  })}
})
}
```

ui.R

```
# Data
```

```
source("data/setupData.R")
source("data/setupFunctions.R")
print(str(allAds))

#Libraries
library(shinythemes)
library(shinycssloaders)
library(leaflet)



## ui.R ##
ui <- fluidPage(
  theme = shinytheme("journal"),
  tags$head(
    tags$link(rel = "stylesheet", type = "text/css", href = "style.css")
,
    tags$link(rel = "stylesheet", type = "text/css", href = "https://cdn
js.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css"),
    tags$title("Dreamatic Undergarments")
  ),
  shinyjs::useShinyjs(),
  titlePanel("Dreamatic Undergarments", windowTitle = "Dreamatic Underga
rments: Web Appendix"),
  ("A web appendix about the Maidenform Dreams campaign 1949-1969"),
  br(),
  br(),

  navbarPage(
    ">",



    ######################################
    #-- WELCOME
    ######################################
    tabPanel("Welcome",
             fluidPage(
               mainPanel(
                 br(),
                 htmlOutput("Welcome.Welcome"),
                 br(),
                 wellPanel(htmlOutput("Welcome.Contents")),
```

```
                htmlOutput("Welcome.Prototype")
              ),
              column(3, imageOutput("Welcome.Dream"))
            )),


        ######################################
        #-- EXPLORE
        ######################################
        tabPanel(
          "Explore",
          # Sidebar area
          sidebarLayout(
            position = "right",
            sidebarPanel(
              (
                "Play with the options below to see how the distribution of
observations change."
              ),
              br(),
              br(),

              #Year slider
              icon("calendar", class = NULL, lib = "font-awesome"),
              tags$b("Dates"),
              br(),
              sliderInput(
                "Explore.YearInput",
                NULL,
                min = as.Date("1947-01-01"),
                max = as.Date("1970-12-31"),
                step = 365,
                value = c(as.Date("1947-01-01"), as.Date("1970-12-31")),
                animate = TRUE,
                timeFormat = "%Y"
              ),

              hr(),

              #Publication sources
```

```
                fluidRow(
                  column(
                    6,
                    icon("newspaper-o", class = NULL, lib = "font-awesome"),
                    tags$b("Source"),
                    br(),
                    checkboxGroupInput(
                      "Explore.Source",
                      NULL,
                      choices = c("Mademoiselle",
                        "Harpers Bazaar",
                        "Vogue", "Incomplete publications"),
                      selected = c("Mademoiselle", "Harpers Bazaar", "Vogue"),
                      inline = FALSE
                    )
                  ),
                  column(
                    6,
                    #Facet
                    icon("th-large", class = NULL, lib = "font-awesome"),
                    tags$b("Facet"),
                    br(),
                    tags$span(
                      class = "help",
                      "Separate out the plot into multiple plots for easy comp
arison."),
                    radioButtons(
                      "Explore.Facet",
                      NULL,
                      choices = c("Yes" = TRUE,
                                  "No" = FALSE),
                      selected =
                        FALSE,
                      inline = TRUE
                    )
                  )
                ),

                hr(),
                fluidRow(
```

```
                    column(
                      6,
                      #Data includes
                      icon("plus-square-o", class = NULL, lib = "font-awesome"),
                      tags$b("Include..."),
                      br(),
                      checkboxInput("Department", "Department Store Ads", value
= FALSE),
                      checkboxInput("Maidenform", "Only Maidenform Ads", value =
FALSE)
                    ),

                    column(
                      6,
                      #Dodge
                      icon("eyedropper", class = NULL, lib = "font-awesome"),
                      tags$b("Separate Maidenform"),
                      br(),
                      tags$span(class = "help", "Separate out the Maidenform ads
for easy comparison."),
                      radioButtons(
                        "Explore.SeparateBars",
                        NULL,
                        choices = c("Yes" = TRUE,
                                    "No" = FALSE),
                        selected =
                          TRUE,
                        inline = TRUE
                      )
                    )
                  ),
                  hr(),

                  #Bin width
                  icon("bar-chart", class = NULL, lib = "font-awesome"),
                  tags$b("Width of bins (months)"),
                  br(),
                  tags$span(
                    class = "help",
                    "This setting allows you to choose how many months are repre
sented by one bin, offering more or less granularity to the plot. The look of t
```

```
he plot can change drastically when changing these settings. Try a smaller bin
width to see more cyclicality."
                ),
                br(),
                radioButtons(
                  "BinWidth",
                  NULL,
                  choiceNames = c("1", "3", "12"),
                  choiceValues = c(1 /
                                     12, 1 / 4, 1 / 1),
                  selected = 1 / 1,
                  inline = TRUE
                )
              ),

              mainPanel(
                htmlOutput("Explore.Welcome"),
                ("Number of observations included in the plot: "),
                textOutput("Explore.NumberObservations"),
                br(),
                plotOutput("allObservations"),
                br(),
                (
                  "Below is a random and simplified sample of five observation
records."
                ),
                br(),
                br(),
                tableOutput("SampleObservations")
              )
            )
          ),

          ######################################
          #-- GAPS
          ######################################
          tabPanel(
            "Gaps",
            mainPanel(
              htmlOutput("Gaps.Welcome"),
```

```
    plotOutput("Gaps.Plot"),
    br(),
    htmlOutput("Gaps.Explanation")
  ),
  sidebarPanel(
    textOutput("Some features to play around with"),
    icon("newspaper-o", class = NULL, lib = "font-awesome"),
    tags$b("Publication type"),
    br(),
    checkboxGroupInput(
      "PubType",
      NULL,
      choices = c("Magazine", "Newspaper"),
      selected = c("Magazine", "Newspaper"),
      inline = TRUE
    ),
    hr(),
    icon("gear", class = NULL, lib = "font-awesome"),
    tags$b("Only include..."),
    br(),
    radioButtons(
      "Completeness",
      NULL,
      choices = c(
        "Show all" = "showall",
        "Publications marked 'complete'" = "complete",
        "Publications marked 'promising'" = "promising",
        "Publications used in the analysis" = "inuse"
      ),
      selected = "showall"
    ),
    hr(),
    icon("dot-circle-o", class = NULL, lib = "font-awesome"),
    tags$b("Show data points"),
    br(),
    radioButtons(
      "showObs",
      NULL,
      choices = c("Yes", "No"),
```

```
      selected = "Yes",
      inline = TRUE
    )
  )
),

#######################################
#-- INDUSTRY
#######################################
tabPanel(
  "Industry",
  sidebarLayout(
    position = "right",
    sidebarPanel(
      #Year slider
      icon("calendar", class = NULL, lib = "font-awesome"),
      tags$b("Dates"),
      br(),
      sliderInput(
        "Industry.Year",
        NULL,
        min = as.Date("1947-01-01"),
        max = as.Date("1970-12-31"),
        step = 365,
        value = c(as.Date("1947-01-01"), as.Date("1970-12-31")),
        timeFormat = "%Y",
        animate = TRUE
      ),

      hr(),
      fluidRow(
        column(
          6,
          icon("bolt", class = NULL, lib = "font-awesome"),
          tags$b("Competitors"),
          br(),
          checkboxGroupInput(
            "MainCompetitors",
            NULL,
```

```
            choices = c(capFirst(main.Competitors), "Other"),
            selected = c("Maidenform")
          ),
          checkboxInput("AllCompetitors", "All", FALSE)
        ),
        column(
          6,
          #Facet
          icon("th-large", class = NULL, lib = "font-awesome"),
          tags$b("Facet"),
          radioButtons(
            "FacetCompetitors",
            NULL,
            choices = c("Yes" = TRUE,
                        "No" = FALSE),
            selected = TRUE
          )
        )
      ),

      hr(),
      icon("arrows-v", class = NULL, lib = "font-awesome"),
      tags$b("Y axis"),
      br(),
      tags$span(
        class = "help",
        "Choose Fluid if you want to change the limit of the y-axis
yourself."
      ),
      br(),
      radioButtons(
        "yAxisFixed",
        NULL,
        choices = c("Fixed" = TRUE,
                    "Fluid" = FALSE),
        selected = FALSE,
        inline = TRUE
      ),

      conditionalPanel(
```

```
        condition = "input.yAxisFixed == 'TRUE'",
        sliderInput(
          "yAxis",
          "Y axis height",
          min = 5,
          max =
            50,
          step = 5,
          value = 10,
          animate = TRUE
        )
      )
    ),

    mainPanel(
      htmlOutput("Industry.Welcome"),
      plotOutput("Competitors", height =
                   "700px")
    )
  )
),

tabPanel(
  "Dreams",
  sidebarLayout(
    position = "right",
    sidebarPanel(
      #Year slider
      icon("calendar", class = NULL, lib = "font-awesome"),
      tags$b("Dates"),
      br(),
      sliderInput(
        "Dreams.Year",
        NULL,
        min = as.Date("1947-01-01"),
        max = as.Date("1970-12-31"),
        step = 365,
        value = c(as.Date("1947-01-01"), as.Date("1970-12-31")),
        timeFormat = "%Y",
```

```
  animate = TRUE
),

hr(),
icon("star", class = NULL, lib = "font-awesome"),
tags$b("Show # unique executions"),
br(),
radioButtons(
  "Dreams.Unique",
  NULL,
  choices = c("Yes" = TRUE,
              "No" = FALSE),
  selected = TRUE,
  inline = TRUE
),
hr(),
icon("star", class = NULL, lib = "font-awesome"),
tags$b("Show other Maidenform campaigns"),
br(),
radioButtons(
  "Dreams.OtherCampaigns",
  NULL,
  choices = c("Yes" = TRUE,
              "No" = FALSE),
  selected = TRUE,
  inline = TRUE
),
hr(),
icon("th-large", class = NULL, lib = "font-awesome"),
tags$b("Facet by..."),
br(),
radioButtons(
  "Dreams.Format",
  NULL,
  choices = c("Publication",
              "Format", "None"),
  selected = "None"
),
hr(),
```

```
      icon("gears", class = NULL, lib = "font-awesome"),
      tags$b("Include incomplete sources"),
      br(),
      radioButtons(
        "Dreams.Incomplete",
        NULL,
        choices = c("Yes" = TRUE,
                    "No" = FALSE),
        selected = FALSE,
        inline = TRUE
      )
    ),
    mainPanel(
      htmlOutput("Dreams.Welcome"),
      plotOutput("Dreams.Plot", height =
                   "700px")
    )
  )
),

########################################
#-- TIMELINE
########################################
tabPanel("Timeline",
         fluidRow(
           column(1, sidebarPanel(
             style = "position:fixed; font-size:0.8em;",
             ("Go to..."),
             htmlOutput("Timeline.Scroll")
           )),
           column(11, mainPanel(
             htmlOutput("Timeline.Welcome"),
             br(),
             htmlOutput("timeline"),
             width = 12
           ))
         )),

########################################
```

```
#-- WINDOW DISPLAYS
#####################################
tabPanel(
  "Window Displays",
  htmlOutput("Windows.Welcome"),
  sidebarLayout(
    position = "right",
    sidebarPanel(width = 5,
                 htmlOutput("Windows.Detail")),

    mainPanel(width = 7,
              leafletOutput("Map"),
              br(),
              htmlOutput("Windows.Warning"),
              br(),
              fluidRow(
                column(
                  6,
                  #Year slider
                  icon("calendar", class = NULL, lib = "font-awesome
"),
                  tags$b("Dates"),
                  br(),
                  sliderInput(
                    "Windows.Year",
                    NULL,
                    min = as.Date("1947-01-01"),
                    max =
                      as.Date("1970-12-31"),
                    step = 365,
                    value =
                      c(as.Date("1947-01-01"), as.Date("1970-12-31")
),
                    animate = TRUE,
                    timeFormat = "%Y"
                  )
                ),
                column(
                  6,
                  #Type of window
```

```
                                icon("binoculars", class = NULL, lib = "font-awesome"),
                                tags$b("Display Type"),
                                br(),
                                checkboxGroupInput(
                                  "Windows.Type",
                                  NULL,
                                  choices = c(unique(windows$Type)),
                                  selected = c(unique(windows$Type))
                                )
                              )
                            ))
                    )
                )
            )
        )
```