RESEARCH

Recall of Brand Placement in Movies: Interactions between Prominence and Plot Connection in Real Conditions of Exposure

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ABSTRACT

A product placement can be characterized by its prominence and its plot connection. This research scrutinizes the interaction between these two elements in the context of the consumer perceptual process. The results of a survey based on 32,662 exposures to brand placements in DVD movies showed that prominent and plot connected placements lead to better brand recall (spontaneous day-after recall) than prominent placements that are not plot connected, and that the latter leads to better brand recall than plot connected placements that are not prominent. The brands appearing in non prominent and non plot connected placements are the worst recalled.

Key words: Product placement, brand, recall, movie, video.

INTRODUCTION

Product placements in movies have considerably evolved in both nature and volume in recent years (Bressoud and Lehu, 2008; Donaton, 2004; Gupta and Gould, 2007). This has been due to increased demand on the part of a movie industry in search of new models (Eliashberg, Elberse and Leenders, 2006), as well as advertisers (PQ Media, 2007; Russell and Belch, 2005). The latter are faced with the erosion of the traditional media audience and its fragmentation, making it more difficult to establish a...
useful contact with the target (Blondé and Roozen, 2007; Deloitte, 2005; Kishore, 2003; Tse and Lee, 2001). They have discovered, or rediscovered, via brand and product placements in movies, a means of communication which is generally well accepted by the public (Gould, Gupta and Grabner-Kräüter, 2000; Mckechnie and Zhou, 2003; Nebenzahl and Secunda, 1993) and which solicits or reinforces recall of the brand or product (Law and Braun, 2000; Vollmers and Mizerski, 1994). Balasubramanian dubbed this technique “hybrid” in 1994, particularly because it attempts to influence the viewer by displaying the brand in a non-commercial medium. Product placement has already been researched extensively (Karrh, 1998; McKechnie and Zhou, 2003; Russel and Belch, 2005) in studies that have focused on one or more of the placement’s characteristics, in particular its prominence (Gupta and Lord, 1998; Russell, 1998, 2002; Steortz, 1987) and plot connection (d’Astous and Chartier, 2000; Fontaine, 2002a, 2002b; Russell, 1998, 2002).

This study aspires to complete the results of previous research concerning these two key characteristics of brand placements in real conditions of exposure. The aim is to study the effects of interaction between prominence and plot connection on spontaneous recall of the brand placed in the movie. These effects were observed among home video audiences who chose their film freely and watched it in normal conditions in the privacy of their homes without knowing that they would be questioned the following day. The results obtained were intrinsically limited by the survey protocol, which favored natural viewing conditions over control of exposure. Furthermore, this study concerns several films and was administered over several months, on different days and at different times and in different video stores in order to achieve a highly diversified group of respondents and avoid a negative halo effect (Rosenzweig, 2008).

BRAND PLACEMENTS IN MOVIES

The terms brand placement and product placement are often used interchangeably (Fontaine, 2006). It is therefore necessary to specify the definition retained for this study before presenting the characteristics of a placement.

Definition

While the placement implies a contract between a brand and the movie’s producers, this is not always the case. When a contract does exist, there are three possible forms. Placement on the screen can be a service paid for by the brand. It can also be an exchange in which the brand provides products and/or logistic or financial support in exchange for presence in the movie, in a form that remains to be determined. Finally, a more marginal practice consists in free product placement. In this case, the brand provides certain products free of charge which will not necessarily be identifiable on the screen (PQ Media, 2005), but mentioned in the credits at the end of the movie. Two other cases exist outside the framework of a contract. Sometimes, the brand is simply required in the screenplay or by the director, without a placement contract, and occasionally, a brand may appear fortuitously in a shot.

In the end, whatever the form, the relationship between the product and movie producer systematically involves the brand. This is why this study uses the term brand placement, which is limited to “the presence in a movie of a brand name or a product easily identified as belonging to a given brand” (Fontaine, 2006). This presence can consist in the appearance of the brand in a scene and/or the mention of its name in dialogues (Brée, 1996; Karrh, 1998).

Characteristics of brand placements

The literature on brand placements converges to identify two major descriptive characteristics: prominence and plot connection.
Prominence is defined by Fontaine as “the capacity of the brand to attract the spectator’s attention” (2001). This capacity can be linked to, among other elements, the size and duration of the placement on the screen (d’Astous and Chartier, 2000; Fontaine, 2002a; Gupta and Lord, 1998), the number of times the brand appears in a scene (Bressoud, Lehu and Russell, 2008), as well as its location on the screen (Gupta and Lord, 1998; Lehu, 2005a). Plot connection is defined as the degree to which the brand is associated with the film’s scenario (Russell, 2002) or the connection between the product and the scenario (Russell, 1998). This translates into involvement of the brand in the story (d’Astous and Chartier, 2000; Fontaine, 2002a, 2002b; Russell, 2002), or contact with one of the movie’s main characters (Fontaine, 2002a, 2002b; Russell, 2002). This variable is close to the concept of centrality, proposed by Fontaine (2002b), and conceptualized by the role of the product in the intrigue, or for the character. It has also been referred to as “plot placement” (Dalli, 2003; Galician and Bourdeau, 2004; Russell, 1998, 2002).

A more objective criterion used to qualify brand placements is worth underlining. This concerns its audiovisual nature (Gupta and Lord, 1998; Law and Brawn, 2000; Russell, 1998). Prominence of the placement is linked to its audiovisual character. Thus, an audiovisual placement is by definition prominent, since the brand benefits from a dual presence during a single exposure; it is both seen and mentioned. The audiovisual nature of a placement and its prominence are therefore correlated.

**Different measurements of advertising effectiveness**

An advertisement can have a communications effect or sales effect, depending on whether its goal is to communicate or trigger a purchase (Dunn et al., 1990). Its effectiveness can be measured by many indicators (Kammoun, 2008), such as product and/or brand recall, contribution to improved brand image, referencing by distributors or corollary sales (Blackston, 2000; Henderson Brit, 1969; Krugman, 1977; Meyers-Levy and Malaviya, 1999). On a comparable level, the effectiveness of a placement in a movie is a variable notion depending on the author. As in advertising, effectiveness depends, in the end, on the goal the advertiser assigns to the placement.

A placement can be used to introduce a new product or brand (Russell and Belch, 2005). It can be a means of maintaining brand recall, but it can also be used to convey an image (Pardun and McKee, 1999). Finally, in certain cases, we can also speak of effectiveness when a placement succeeds in producing a favorable attitude (Fontaine, 2006) or behavior (purchase) in the spectator who has been exposed to it (Daugherty and Gangadharbatla, 2005; Stewart-Allen, 1999).

**Persuasion and brand placements**

Formation of attitudes and behaviors involves a persuasion process that includes perception and memorization as prerequisites in the framework of the classic decision-making process (Engel, Blackwell and Miniard, 1990). However, by mobilizing the Persuasion Knowledge Model (Friestad and Wright, 1994, 1995), research by Cowley and Barron (2008) has demonstrated that the mechanisms required for processing a persuasive message are not necessarily activated in the context of brand placements in television series, *a fortiori* when the placements are prominent. As soon as the individual is aware of the nature and purpose of a placement, he is quick to adopt a negative attitude, with possible repercussions of a similar nature on his behavior (Campbell and Kirmani, 2000). However, Wei, Fischer and Main (2008) have demonstrated that perceptions of efforts to persuade do not necessarily lead to negative reactions by the individual exposed. This is particularly true when familiarity with the brand is strong and the individual decodes the tactic as appropriate for the context. Concerning brand placements in movies, this information raises the question examined by the European legislature in 2007 as to whether or not the spectator should be informed *a priori* of the placements to which he is exposed (Campbell, Mohr and Verlegh, 2007).

**The central role of recall**

Besides persuasion, memorization is also a possible goal of advertising messages (Falcy, 1993). Spontaneous recall, when the consumer can cite the brands seen in a film without additional prompting,
is frequently used and recommended as a way of evaluating brand placements in research (Karrh, Brittain McKee and Pardun, 2003). Like many studies focusing on this indicator (cf. Appendices A1 and A2), the twelve experts from the Entertainment Resources & Marketing Association (ERMA)\(^1\) questioned by mail for this study confirm that the most common objective is brand recall. Three types of recall soliciting explicit memories coexist in the context of brand placements (Fontaine, 2002a, 2002b). The first is spontaneous recall, which we have defined above. The second type is prompted recall, when the consumer cites brands seen with the help of product categories present in the movie. The third type is recognition when the consumer cites brands seen with the help of a list. Prompted recall and recognition are not easily accessible, since the use of a list of brands or products is required. However, spontaneous recall is measured quickly and easily with a simple open-ended question. For all these reasons, concerning the importance and accessibility of spontaneous recall, the latter has been selected to measure the effectiveness of brand placements within this study.

CONCEPTUAL FRAMEWORK: THE PERCEPTUAL PROCESS

Factoring in attitude as a variable of a placement’s effectiveness would involve broadening the conceptual framework to include persuasion, from actual perception to the shaping of attitudes. The measurement of effectiveness selected for this study is spontaneous recall and not attitude. This is why the conceptual framework focuses on perception and memorization of the placement rather than persuasion. Recall of a brand placement involves memory and remains upstream from the shaping of attitudes (Engel, Blackwell and Miniard, 1990) and persuasion.

Perception of brand placements

Exposure activates perception through the detection of sensory stimuli (Darpy and Volle, 2007). Attention is partially conditioned by the nature of the stimulus. Several studies of persuasive communication have revealed, for example, that the large size of the stimulus encourages visual attention (Hendon, 1973; Pieters and Wedel, 2004) and its very perception (Filser, 1993). This can be applied directly to brand placements. Attention is also heightened by prominence (Gupta and Lord, 1998; Russel, 2002) and plot connection (d’Astous and Chartier, 2000; Fontaine, 2002b; Lindstrom, 2008, p. 51).

While stimuli must exceed a certain sensory threshold for the individual to perceive them, subliminal perception remains an exception (Rosen and Singh, 1992). Literally meaning “below the threshold”, its effects do not concern memorization, but beliefs, preferences or behaviors (Droulers, 2000; Theus, 2006). However, several studies emphasize that the treatment process of the information encountered in the particular case of subliminal exposure does not allow advertisers to influence attitudes or behavior (Greenwald, 1992; Greenwald et al., 1991; Pratkanis and Aronson, 1992). Brand placements in movies could correspond to subliminal stimuli as defined by Grégory (1993) when they “appear for such a duration or intensity that more than 50% of viewers are not aware of them while they are indeed received via the nervous system”. Thus, only 33% of 30,000 American consumers questioned in 2005 stated that they had noticed the brands of products used in movies (Engel, 2005). A more technical aspect can be added to complete the definition of subliminal messages: in a movie, a visual subliminal message is introduced by the insertion of a 25\(^{th}\) image, in addition to the 24 images per second, or by tachistoscopic flashes (Grégory, 1993). We shall retain this aspect of the definition, which enables a real distinction between subliminal messages and brand placements. Indeed, in most cases, brands placed in movies do not use either of these techniques (25\(^{th}\) image or tachistoscopic flashes). Thus, brand placements cannot be assimilated to subliminal messages.

Acceptance of the message refers to acceptability of brand placements. The latter is considered entertaining and well accepted by the general public (Anzai, 2003; Nebenzahl and Secunda, 1993;
Memorization of the brands placed

The final phase in the perceptual process is retention, which leads to memorization (Bagozzi and Silk, 1983; McGuire, 1976). There are several levels of memorization: sensory storage, short-term and long-term memory (Krugman, 1965; McGaugh, 1966). During sensory storage, either information does not retain attention and is lost, or it retains attention and is stored in short-term memory (Chapman, McCrary and Chapman, 1978). The processing capacity of the latter is limited, notably in the working memory space (Mayer and Moreno, 1998). It enables comprehension and acceptance of the message. Retention is reserved for long-term memory, which in theory is unlimited (Baddeley, 1997). Hence, the interest in measuring the recall the day after exposure, since this theoretically enables us to ensure that the perceptual process has resulted in long-term memorization (Costley, Das and Brucks, 1997).

Long-term memory involves implicit or explicit memorization processes (Whittlesea and Price, 2001; Law and Braun-La Tour, 2004). Implicit memory involves unconscious retention of the perceived stimulus, while for explicit memory this process in conscious (Jolibert and Didellon-Carsana, 2000). Unconscious retention in memory can itself be caused by non-conscious exposure to the stimulus (Lewicki, 1986). Explicit memorization can be measured by recall or recognition, while implicit memorization is revealed when an individual exposed to a brand name is capable of reading or spelling it more quickly than an individual who has not been exposed (Fontaine, 2002a). Implicit memorization has become increasingly important in persuasive advertising, creating a special field of research (Schumacher and Helmig, 2007). However, it is used less often than explicit memory to measure the effectiveness of brand placements.

Several studies have demonstrated the impact of explicit memory on plot-connected placements (Fontaine, 2002b; Ong and Meri, 1994) as well as prominent ones (Fontaine, 2002a; Gupta and Lord, 1998). Depending on the measurement selected for brand placement recall, the impact of the placement differs. The tables presented in Appendices A1 and A2 contain a summary of the main research work linking the effectiveness of brand placements – measured using spontaneous recall, prompted recall or recognition – to prominence and plot connection. Intervening in the level of prominence and plot connection of a brand placement, its audiovisual nature is particularly important in the context of memorization. This is notably the case of the Dual Coding Model (Paivio, 1978), which suggests that a stimulus is memorized via a double coding process (visual and verbal) that creates a network of associations much broader than simple coding, whether visual or verbal. This facilitates restitution.

RESEARCH ORIENTATIONS AND HYPOTHESES

The objective of this study is based on the need to more clearly identify the effect the interaction between prominence and plot connection of brand placements has on memorization in the context of real exposure. This translates into hypotheses founded on the conceptual framework outlined in the previous sections.

Research objective

Prominence and plot connection are recognized descriptive characteristics of brand placements. They influence the entire perceptual process associated with this means of brand communication. The effects
of a single brand placement characteristic have already been confirmed by many studies, even though contradictions persist. The effects of interaction have been revealed by certain authors, who have associated prominence and plot connection (d’Astous and Chartier, 2000; Fontaine, 2006). These interactions were studied in experimental settings and not in real exposure conditions. These experiments were based on film excerpts (d’Astous and Chartier, 2000) or short films (Fontaine, 2006) more often than not watched by students in a captive environment (d’Astous and Chartier, 2000; Fontaine, 2002a, 2002b; Gupta and Lord, 1998; Russell, 2002; Van der Waldt, Du Toit and Redelinghuys, 2007). The limitations of the validity of these viewing conditions have been identified (Peterson, 2001). Measurement of recall or recognition was performed immediately after exposure (Fontaine, 2002a, 2002b; Gupta and Lord, 1998; Russell, 2002) or by phone approximately one week later (d’Astous and Chartier, 2000). The brand placement was inserted in original short films (Fontaine, 2002a, 2002b; Russell, 2002), or the study used excerpts from real movies (d’Astous and Chartier, 2000; Garza and Callison, 2005; Gupta and Lord, 1998). These conditions enable researchers to control the means of executing brand placements. However, they also influence memorization of the placement by focusing attention on the excerpt from the movie. This occurs even when the authors have gone to great lengths to make sure the individuals whose responses are studied have no idea what the experiment is about. Some authors (Van der Waldt, Du Toit and Redelinghuys, 2007) go as far as recommending reproducing their work with “real movies” (sic).

This is why the goal of this study is to perceive how the interaction of prominence and plot connection of a placement influence memorization of the brand placed in the context of real exposure. This means highlighting the role of interactions between these two key characteristics of the placement in memorization of the message by spectators who have seen the movie in conditions that are as close as possible to real life. Spontaneous recall was measured exclusively the day after exposure in real conditions chosen by the viewer. The medium was always a movie chosen freely by the respondent and viewed in its entirety. The respondent was never informed at any time that he was taking part in a study. This research favors taking into account the complexity of brand placements and consequently privileges normal conditions of exposure and administration of a questionnaire to partially limit the halo effect (Rosenzweig, 2008). It contributes elements of external validity (Alford and Engelland, 2004; Evrard, Pras and Roux, 2003) to previous studies. However, we remain aware of the limits of internal validity inherent in the impossibility of testing all the variables linked to exposure, as is the case for any experimental design.

Hierarchy of prominence and integration

Needless to say, attention and perception are keener if the stimulus is stronger (Bundesen, 1990; Lee, 2002). The size of the brand name or product on the screen is one of the components of prominence (Fontaine, 2002a; Gupta and Lord, 1998) and also a key factor in a placement’s effectiveness (Karrh et al., 2003). Besides size, Gupta and Lord (1998) have highlighted the importance of prominence according to several other variables (cf. Appendix A1) and have concluded that the most prominent placements generate a greater number of memories.

The Persuasion Knowledge Model shows that exposure to a brand is not processed as efficiently if the individual is not aware of being exposed, since he does not allocate the resources required to process the message. By diminishing awareness of exposure to a persuasive message, since the branded product is blended into the film, plot connection can work against a placement. Furthermore, this is confirmed by d’Astous and Chartier (2000) who show that strong plot connection reduces memorization, particularly when it is measured through spontaneous recall. However, this conclusion is not shared by all research on plot connection (cf. Appendix A2), especially since plot connection encourages acceptability (DeLorme, Reid and Zimmer, 1994).

This is why, without assuming that plot connection reduces recall, it is possible to suppose that prominence, whose impact is unanimously recognized, should produce better recall than plot connection. In her preliminary results, Fontaine (2002a) suggests that the prominent placement used in her experiment generated more spontaneous memories than a central or plot-connected placement. Indeed, in her research
experiment, a bottle of Adelscott brand beer was prominently placed and not connected to the plot. It was spontaneously cited by 51.9% of respondents while the same brand, when presented in a plot-connected placement, rather than being placed prominently, was cited only 35.6% of the time.

These various studies confirm the fact that prominent and plot-connected placements generate more memories, but they do not clearly establish their interactions. Moreover, prominence should achieve higher rates of recall than plot connection. We propose to verify this by examining the following hypotheses in a context with high external validity.

**H.1:** A prominent and plot connected placement generates more spontaneous recall than a prominent placement that is not connected to the plot.

**H.2:** A prominent placement that is not connected to the plot generates more spontaneous recall than a placement that is connected to the plot but not prominent.

**H.3:** A placement that is not prominent but connected to the plot generates more spontaneous recall than a placement that is neither prominent nor connected to the plot.

These hypotheses are summarized in Figure 1.

The four types of placement made possible by combining these two characteristics, prominence and plot connection, are also ranked against each other in terms of spontaneous recall.

### RESEARCH METHODOLOGY

This section details implementation of the study. In particular, it presents the films selected and describes how data were collected from the sample. Methods of measurement and analysis are also described.

#### Research media

Shooting dedicated short films allows control over how brand placements are executed. The choice of working with real feature length movies is coherent with the idea of exposure in real, natural conditions, close to actually watching a film in a movie theater, as well as consideration of real placements. The data required to validate our research hypotheses were collected using 11 movies recently released in video format at the time of the study (*Men in Black II*, *Minority Report*, *Analyze That*, *The Banger Sisters*, *Sweet Home Alabama*, *Austin Powers in Goldmember*, *Johnny English*, *Intolerable Cruelty*, *Mr. Deeds*, *Hardball*, and *Paycheck*), and watched by respondents on rented DVDs in the privacy of their own homes without being informed that they would be asked to answer a questionnaire the following day.

The choice of American movies is justified by their leading position on the French video market at the time the data were collected, between 2003 and 2005. They represented 55% of DVD sales volume in France in 2003 and 69% in value (CNC, 2005a). Moreover, American movies are globally more profitable than French films during their second life in video format. For the same box office results, American movies are more often published and sold in video format than their French equivalents (CNC, 2005b). Finally, since American legislation is one of the most flexible in terms of product placements, it has enabled this form of communication to thrive (Schejter, 2004; Tiwsakul and Hackley, 2005). These movies are therefore more suitable for this type of research experiment. Among the movies selected, nine were comedies and two were science fiction (classification according to the French movie website www.allocine.fr). In 2007, product placements in comedies were analyzed by Jin and Villegas as capable of soliciting positive emotional responses from consumers. The type of movie – comedy or science fiction – is integrated here as a control variable, as it can influence effectiveness of the placement, just as the type of television program in which a...
placement is inserted can influence consumer responses (Dambron, 1991; Garza and Callison, 2005; Russell and Stern, 2006).

After viewing several recent movies available for rental, the ones finally selected for the study were those in which the placements were clearly describable and most of the brands placed were perceptible only once (which enabled us to specifically link viewer recall to characteristics of the placement concerned). Of the 156 placements recorded in the 11 movies, only 98 concerning 98 brands that appear only once in each movie were retained for our analysis.

The sample

Respondents were video viewers who freely chose one of the 11 movies selected in one of three video rental outlets in the Paris region, the field for our study. The questionnaire was administered when they returned the DVD, the day after they had watched it. Compared to a movie seen in a theater, DVDs make it easier to collect data and record the way placements are executed in order to define their characteristics. All individuals returning DVDs of one of the movies selected for the study in one of the three video rental outlets were systematically asked to answer the questionnaire. They were asked to take part in a study on the movie they had just returned, without being told that it was about brand placements. A total of 3,532 individuals, or more than 300 per movie, agreed to participate. Each individual was asked about only one film in order to limit the testing effect (Evrard, Pras and Roux, 2003), which could diminish the already fragile internal validity linked to a field study in real exposure conditions. Due to the characteristics of the video outlets selected, their neighborhood location and the interest of the research topic, only six individuals refused to take part in the study, saying they had no time. Participation of video store owners enabled us to conduct the study inside the outlet, which facilitated contact with potential respondents. This particularly high response rate is also due to the fact the questionnaire was quite short. However, this also meant that identification variables were not measured, other than genre, which was recorded by the interviewer. The questionnaire was administered via face-to-face CAPI (Computer Assisted Personal Interview) between 2003 and 2005 on different days of the week and during different time slots during the business hours of the video outlet. The choice of working in a real exposure setting, and not in a laboratory, involves important limitations in the way the sample is selected. In a real setting, individuals decide by themselves which film they want. It is therefore trickier to define a sample according to quotas than in a study where selected individuals view specific excerpts of movies containing the placements studied. Therefore, our study concerns an ad hoc sample of 51.42% men and 48.58% women. This does not limit the significance of our results, since they concern, all other individual characteristics aside, spectators of movies from the population studied. The sample’s large size also enables generalization of the results obtained.

Since, for a long time, numerous studies have demonstrated that repetition improves recall of advertising messages (Batra and Ray, 1986; Belch, 1982; Ehrenberg, 1974), a control variable linked to the respondent was created by asking if he or she had already seen the movie in a theater. This was done to ensure neutrality of the media, notably concerning a second exposure to the movie.

Data collection

Spontaneous recall is the measurement of choice for placement effectiveness (Galician, 2004; Karrh, 1995; Karrh et al., 2003; Lehu, 2005b; Nelson and Devathan, 2006; Turcotte, 1995). Even though Mackie and Asuncion (1990) consider recall a weak indicator of persuasion, it is still a variable that needs to be studied alongside the attitudinal effect, while bearing in mind that maximizing recall does not systematically maximize persuasion (Russell, 2002). In keeping with a conceptual framework based on the perceptual process, while excluding persuasion, we chose to focus on spontaneous recall the following day (SDAR – Spontaneous Day After Recall) as a measurement tool of brand placement effectiveness.

Spontaneous day after recall: This variable was measured with an open-ended question inviting the respondent to spontaneously cite brands he or she remembered seeing and/or hearing about in a movie. At the same time, the video store computer system enabled us to ensure that the DVD had not been rented
by the respondent for more than 24 hours, thus guaranteeing coherent measurement of SDAR. Individuals who did not abide by these rental conditions were not counted in the 3,532 respondents.

Thus, SDAR of a brand placement by the viewer is a binary qualitative variable counted as “yes” if the individual spontaneously recalls having seen the brand and can cite its name, or “no” if this is not the case.

**Prominence:** Prominence was coded by two academic experts in brand placements who viewed all 98 placements in the study. Coding was performed separately and then discussed to achieve convergence in the event of an initial disagreement. The placements were coded according to two modalities, “prominent” and “non-prominent”, bearing in mind previous conceptualizations of this variable (cf. Table 1). A placement is considered prominent if it covers a large area of the screen, is present for a long time in the shot, if no other brand is present at the same time and/or it is in the center of the picture.

These conceptualizations are particularly suited to visual placements. The coding of exclusively audio placements is more difficult. In the latter case, the definition of prominence, i.e., the capacity to attract attention (Fontaine, 2001), was predominant. This particularly concerned conditions of hearing the brand, or an audio equivalent of the area occupied by a visual, and the audio or visual presence of other brands. For example, the mention of the American MTV cable channel in a song interpreted in the movie *Austin Powers in Goldmember* was virtually inaudible. Listening conditions were marred by interference and the fact the brand name was not distinctly pronounced, but sung instead. On the other hand, the explanation of what a Game Boy is by Will Smith, star of the movie *Men in Black 2*, monopolizes the viewer’s attention. The brand is the subject of an exchange between the actors, its name is clearly pronounced several times and no other brand is present at the same time.

**Plot connection:** Plot connection of a brand placement was subject to the same dual coding procedure as prominence. The previous conceptualizations of plot connection (cf. Table 2) also helped the experts define whether a placement was “connected” or not. A placement is connected if the product is involved in the action and/or is in contact with the main character (Galician and Bourdeau, 2004; Lindstrom, 2008).

The importance of time in the plot of *Minority Report* makes the close-up of the main character’s Bvlgari watch, worn by Tom Cruise, perfectly legitimate. Linked to the action and in contact with the male lead, this placement is considered plot-connected. Just like the audio placement of Game Boy in *Men in Black 2*, described above, the brand is mentioned by the hero during a specific scene and is used to describe the ship’s wheel of the vessel he is steering. On the other hand, the off-hand mention of Air France

### Table 1. – Conceptualization of prominence

<table>
<thead>
<tr>
<th>Variables selected for coding</th>
<th>Sources</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space occupied by the brand</td>
<td>Product size</td>
<td>Fontaine, 2002a</td>
</tr>
<tr>
<td></td>
<td>Scale of product shot</td>
<td>Fontaine, 2002a</td>
</tr>
<tr>
<td></td>
<td>Visibility</td>
<td>d’Astous and Chartier, 2000</td>
</tr>
<tr>
<td>Other brands present simultaneously</td>
<td>Presence of other more prominent brands</td>
<td>Fontaine, 2002a</td>
</tr>
<tr>
<td></td>
<td>Multiple simultaneous placements</td>
<td>Gupta and Lord, 1998</td>
</tr>
<tr>
<td>Duration brand is displayed</td>
<td>Duration brand is displayed</td>
<td>Fontaine, 2002a</td>
</tr>
<tr>
<td></td>
<td>Placement time</td>
<td>d’Astous and Chartier, 2000</td>
</tr>
<tr>
<td>Brand location</td>
<td>Position</td>
<td>Gupta and Lord, 1998</td>
</tr>
</tbody>
</table>
by the gangsters in Analyze That was considered irrelevant by the two experts as the brand was not cited by the star of the movie and was not linked to the other characters, the time, place or the story itself.

Table 3 shows the number of placements with different possible combinations of these two modalities and characteristics, or 2 x 2 combinations. The number of placements corresponds to those indentified as presenting a specific combination by the experts in charge of coding: 98 placements were judged according to these two characteristics, or 196 evaluations. Twenty-one evaluations, or 11%, were subject to discussion before reaching a final agreement that satisfied both experts. The number of observations corresponds to the number of video viewers questioned on placements for one combination.

Table 3 confirms that collecting observations in the field limits control of the research model for the 98 placements corresponding to the 2 x 2 combinations recorded. Even if the experiment plan is complete, non-prominent and plot-connected placements are rare. A laboratory experiment plan would have enabled us to balance the different types of placement. In the case of our survey in the field, the research model is complete, but the number of placements observed in each case is not balanced.

Processing the statistics

By collecting data concerning brand placements in 11 movies, with an average of nine brands each, from 320 video viewers on average per film, the sample created from the dataset includes 32,662 observations. Each of these observations represents a viewer exposed to a brand that he has either memorized or not. The variables associated with these observations are those linked to the brand placement, such as its characteristics, prominence and plot connection, the type of movie (control variable), nationality of the brand (control variable) and the number of brands placed in the movie (control variable). These observations also include variables linked to the video viewer such as SDAR and whether or not he or she had seen the movie before in a theater (control variable).

A logit model with interaction effects enabled us, in an initial phase, to validate the explanatory character of the variables selected for recall of the brand placed. Several explanatory variables were qualitative and were allocated a regression coefficient for each modality. Through construction, the sum of the coefficients allocated to the modalities of the variable is null. These variables are control variables, specified above, and the interaction effects resulting from the 2 x 2 combinations of prominence and plot connection. A hypothesis is confirmed when the standardized coefficients (beta) of the regression are ranked according to the assumed direction of the hypothesis and their difference is significant after a Wald test. The order of these coefficients reflects the rating of the spontaneous recollection. The rating is the probability of occurrence of the event divided by the probability of its non-occurrence. In this case, it is the probability of spontaneous recall of the brand placement over the probability of not recalling it. The higher the coefficient, the higher the rating of the spontaneous recollection and therefore the higher the probability of recall.

Table 2. – Conceptualization of plot connection

<table>
<thead>
<tr>
<th>Variables selected for coding</th>
<th>Sources</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product involved in the action</td>
<td>Role of the product in the intrigue; Role of the product in the situation</td>
<td>Fontaine, 2002a, 2002b; Ong and Meri, 1994</td>
</tr>
<tr>
<td>Related to the context of the movie</td>
<td>Ong and Meri, 1994; Russell, 2002</td>
<td></td>
</tr>
<tr>
<td>Product in contact with the main character</td>
<td>Role of the product for the character; Type of character associated with the product</td>
<td>Fontaine, 2002a, 2002b</td>
</tr>
<tr>
<td>Character identified with the brand</td>
<td>Russell, 2002</td>
<td></td>
</tr>
</tbody>
</table>
RESULTS AND DISCUSSION

Descriptive statistics of the database used are presented before the results concerning the confirmation of our hypotheses.

Preliminary results

The rate of spontaneous recall was 4.2%. This means that out of 32,662 observations, only 1,382 correspond to a memorized exposure. The number of brands considered ranged from four to 22 per movie, with an average of 12 per movie. Statistically, 86.7% were international brands; 15% of respondents had already seen the movie in a theater before renting the DVD; 39.8% of the 98 placements studied were prominent and 32.6% were plot-connected.

A logit regression with interaction effects was run to modelize SDAR of the brand placed. A test of independence between the main explanatory variables – prominence and plot connection – enabled us to conclude that there was a statistical link between them (Chi-square test, p < 5%). This is why, to avoid multicollinearity, simple effects of each of these correlated variables were not included in the logit regression. Only their interaction was introduced in the model.

By evaluating the impact of their exclusion from the model, the type 3 analysis (cf. Table 4), equivalent to an ANCOVA variance analysis, enabled us to confirm the contribution of each variable selected for SDAR. These control variables had indeed played their role. The significativity of interaction between prominence and plot connection authorizes the study of recall according to the four modalities defined by crossing two values for prominence with two for plot connection, in keeping with our hypotheses.

Mcfadden’s $R^2$ equals 0.182, attesting to the goodness of fit of the data with the model defined by the logit regression.

Hierarchy of prominence and integration

Table 5 presents the beta coefficients of the logit regression and their significativity.

First, we should note that the control variable “genre” had a significant effect, but the opposite of what was expected. Comedy does not promote spontaneous recall more than science fiction.

Hypothesis H.1 is confirmed. The standardized coefficient of interaction between prominence and plot connection ($\beta = 0.353$) is greater (comparison test; p < 0.01) than that obtained for interaction between prominence and absence of plot integration ($\beta = 0.255$). A prominent and plot-connected placement generates more spontaneous recollections than a prominent placement that is not connected to the plot. Similarly, hypothesis H.2 is confirmed. This is a central hypothesis because it attributes a more important role to prominence than plot connection in spontaneous recall of the brand placed. A prominent placement that is not connected to the plot ($\beta = 0.255$) triggers more spontaneous memories (comparison test; p < 0.01) than a placement that is not prominent but connected to the plot ($\beta = -0.175$). Therefore, if it is not possible to create a placement that is both prominent and plot-connected, it is better to favor prominence over plot connection. Finally, hypothesis H.3 is also confirmed. Connection of the brand to the plot improves recall when the placement is not prominent. A placement that is not prominent but connected to the plot ($\beta = -0.175$) triggers more spontaneous recollections.
memories (comparison test; p < 0.01) than a placement that is neither prominent nor connected to the plot (β = −0.433). The different values of each brand placement’s characteristics are organized according to the proposed hierarchy. To sum up, a prominent and plot-connected placement is more easily recalled than a prominent placement that is not connected to the plot, which, however, is more easily recalled than a non-prominent and plot-connected placement, which still achieves better results than a non-prominent and non-connected placement. Adding simple effects of prominence and plot connection to the interaction effect in the logit regression results in the same conclusion.

The importance of prominent placements and, to a more limited degree, plot-connected placements, confers nomological validity to the variables “prominence” and “plot connection” as they were measured through dual coding. The link with recall corresponds to results from previous studies (Batra and Ahtola, 1990; Evrard, Pras and Roux, 2003). This means that the expected link between the theoretical constructs and an observable variable has been confirmed (Cronbach and Meehl, 1955).

**Limitations and avenues for future research**

Not all the characteristics of a placement were taken into account in this study, which has focused on prominence and plot connection. While certain control variables have been integrated, others are absent from this research such as, for example, reputation or brand image before the placement. This indicator is not readily available and would require either collecting additional data or making an approximation based on sales levels before release of the movie featuring the brand placement. However, a brand’s reputation can encourage recall of its presence in a movie (Brennan and Babin, 2004).

The approach chosen for collecting data, in the field rather than in an experimental setting, has limitations that reduce the internal validity of the study. The first is a selection bias, or a lack of control over

<table>
<thead>
<tr>
<th>Variable</th>
<th>d.f.</th>
<th>Chi-square (Wald)</th>
<th>Significativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of brands placed in the movie</td>
<td>1</td>
<td>516.648</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>American vs. International brand</td>
<td>1</td>
<td>345.814</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Movie seen in theater</td>
<td>1</td>
<td>2737.053</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Genre</td>
<td>1</td>
<td>380.423</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Prominence × Plot connection</td>
<td>3</td>
<td>3872.543</td>
<td>&lt; 0.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi-square (Wald)</th>
<th>Pr &gt; Chi-square</th>
<th>Bêta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of brands placed in the movie</td>
<td>516.648</td>
<td>&lt; 0.01</td>
<td>−0.183</td>
</tr>
<tr>
<td>International brand</td>
<td>345.814</td>
<td>&lt; 0.01</td>
<td>0.143</td>
</tr>
<tr>
<td>American brand</td>
<td>345.814</td>
<td>&lt; 0.01</td>
<td>−0.143</td>
</tr>
<tr>
<td>Movie seen in theater – no</td>
<td>2737.053</td>
<td>&lt; 0.01</td>
<td>−0.338</td>
</tr>
<tr>
<td>Movie seen in theater – yes</td>
<td>2737.053</td>
<td>&lt; 0.01</td>
<td>0.338</td>
</tr>
<tr>
<td>Genre – Comedy</td>
<td>380.423</td>
<td>&lt; 0.01</td>
<td>−0.152</td>
</tr>
<tr>
<td>Genre – Science fiction</td>
<td>380.423</td>
<td>&lt; 0.01</td>
<td>0.152</td>
</tr>
<tr>
<td>Prominent × Plot-connected</td>
<td>2335.947</td>
<td>&lt; 0.01</td>
<td>0.353</td>
</tr>
<tr>
<td>Prominent × Non-connected</td>
<td>724.508</td>
<td>&lt; 0.01</td>
<td>0.255</td>
</tr>
<tr>
<td>Non-prominent × Plot-connected</td>
<td>210.144</td>
<td>&lt; 0.01</td>
<td>−0.175</td>
</tr>
<tr>
<td>Non-prominent × Non-connected</td>
<td>1701.074</td>
<td>&lt; 0.01</td>
<td>−0.433</td>
</tr>
</tbody>
</table>
studies, performed in an experimental setting, often
rence can be understood when we note that previous
Belch, 2005), which is not the case here. This diffe-
techique enables good recall of brands (Karrh,
Indeed, studies on product placements agree that this
tage of SDAR at only 4.2% raises several questions.
limited explanation of recall by type of placement, since this was not the only factor
varied. There is also a history effect (Séville,
technology would be interesting to develop in complementary
limited to the perceptual process that results in

dual involvement (Petty and Cacioppo, 1979), which
memorization, or not, according to McGuire’s model
(meaningful) caused by a brand placement are legendary
studies applied to brand placements in movies.
Furthermore, recall does not systematically trigger a
and inspire advertisers, such as the Ray Ban sun-
immediately caused by a brand placement are legendary
and adjust for it. Moreover, since the samples were not paired,
viewers subject to one type of placement were not
similar to those who were not exposed to the same
type of placement. This limits explanation of recall
by type of placement, since this was not the only factor
that varied. There is also a history effect (Séville,
was sometimes tricky, especially audio placements,
even if the dual coding procedure tended to reduce
subjectivity. The use of “real” movies also forced us
to use the brands present in them without being able
to design an ad hoc research model, notably in the form
of an experiment plan. In the end, this limitation
was partially compensated by the advantage of having
the movies viewed in real conditions. This contextual
factor bolsters the external validity of the study
(Calder et al., 1982). In moderating the arguments of
Winer (1999) in favor of systematically enhancing
external validity, Lynch (1999) warns against a hasty
generalization based on external validity alone. In the
case of this study, we consider it first and foremost as
dual involvement, along with previous research, in keeping with our objective.

Beyond these limitations, establishing a percentage
of SDAR at only 4.2% raises several questions. Indeed, studies on product placements agree that this
technique enables good recall of brands (Karrh, Brittain McKee and Pardun, 2003; Russell and Belch, 2005), which is not the case here. This difference can be understood when we note that previous studies, performed in an experimental setting, often concerned prominent placements. When this was not
the case, the subject was often exposed to an excerpt from a movie, in a laboratory, and his recollection was generally measured immediately after exposure. Compared to these experimental conditions, allowing
control of measurements and the research model, our study in the field in real conditions focused on spontaneous recall the day after exposure and, 60% of the
time, non-prominent placements. These differences contribute to explaining the low average rate observed for SDAR. An interesting area for further study
would be to compare the data collected in real settings and data collected after exposure in a laboratory
to excerpts from the same movies with the same placements.

Our study measures spontaneous recall of a brand
placement as an indicator of its effectiveness. Prompted recall was not measured, which is a limitation
in the study of perception and memorization. Furthermore, the response mechanisms called into
play according to the characteristics of the placement
are not the same, depending on whether the recollection
involves vision or hearing. Different areas of the
brain are solicited by visual and audio stimuli
(Bushara et al., 1999), which supposes information is
coded differently (Paivio, 1978). Hence, using a
single indicator for different response systems has its
limitations, particularly concerning the external validity of this study (Lynch, 1982). It was voluntarily
limited to the perceptual process that results in
memorization, or not, according to McGuire’s model
(1976). Other models introduce, in particular, individual
involvement (Petty and Cacioppo, 1979), which
would be interesting to develop in complementary
studies applied to brand placements in movies.
Furthermore, recall does not systematically trigger a
purchase. This behavioral measure of a product placement’s effectiveness (Lehu, 2006; Russell and Belch,
2005) is not always the primary objective of the advertiser. However, sharp increases in sales un-
deniably caused by a brand placement are legendary
and inspire advertisers, such as the Ray Ban sunglasses worn by Tom Cruise in Risky Business
(1985), whose annual sales jumped from 18,000
units to 360,000 (Freeman, 2007). Omega witnessed
sales of its Seamaster watch grow 40% after adorning
the wrist of Pierce Brosnan in GoldenEye
(Stewart-Allen, 1999). More recently, Batman’s suit
in The Dark Knight (2007) created unprecedented
commercial interest in the Precious Collections brand of men’s underwear (Emling, 2008). Changes in behavior are easy to measure by a global spike in sales, especially when it is exceptional: a 4,000% increase in sales of Etch A Sketch toys, considered obsolete, after appearing in the movie Toy Story in 1995 (Lehu, 2006). This effect is more difficult to demonstrate when it is discrete. In the case of fast-moving consumer goods, we could compare results of distributor panel data side by side with ticket sales for a movie theater in the same shopping area. We could get an aggregated view of effectiveness, in behavioral terms, of a brand placement. The same objective, but with an individual approach, could be pursued for television broadcasts, by comparing audience measurement tools and analysis of consumer panel data. Household consumption could be linked to movies seen at home during the previous days. This type of analytical tool has already been used to demonstrate the complementarity of television advertising and direct marketing campaigns (Battais, 2003).

While our study focuses exclusively on characteristics of brand placements in movies, variables linked to the audience could be added, in addition to the control variable used, which concern the home video viewer. We can also mention the perceived congruence between the placement and the media (Edwards, Li and Lee, 2002; Moore, Stammerjohan and Coulter, 2005; Russel, 2002). Finally, in our study the viewer could have seen a movie for the first time at home or could have seen it in a theater first, which raises the question of how movies are watched at home and the viewer’s experience (Hackley and Tiwsakul, 2006; Lehu and Bressoud, 2008). Private viewing conditions vary from one home to another, while those in a theater are rather uniform for the entire audience. Moreover, there are potentially more sources of distraction in a private home than in a movie theater (McKechnie and Zhou, 2003). Research on the spectator could also be completed by a study of intrapersonal characteristics (Fontaine, 2002a; Morton and Friedman, 2002).

CONCLUSION

This study has focused on analyzing the characteristics of a brand placement in movies, through an application to DVDs. By founding this work on real feature films, viewed in a natural setting and a sample of 32,662 observations, this study has confirmed the role of the main characteristics of brand placement in movies in terms of recall by home video viewers of the brands placed. Contrary to the recommendations of Lindstrom (2008), the results demonstrate the interest of favoring prominence over plot connection, which remains, however, an important characteristic of brand placements.

These results are far from constituting a final episode in the analysis of brand and/or product placements in movies. Evolutions in communication and media almost naturally encourage the development of this new form of infiltration by brands, which aspire to continue transmitting their messages, while adapting to a new technical and sociocultural environment (Nelson, 2008). This article contributes to confirming the growing, and clearly legitimate, interest of advertisers in brand placements today. It also confirms their technical potential, providing their characteristics are completely mastered, mastery that must also be devoted to the ethical use of this communications technique (Brennan, Rosenberger and Hementia, 2004; Gupta and Gould, 1997; Hudson and Hudson, 2006), in order to avoid negative audience reactions (Hackley, Tiwsakul and Preuss, 2008; Krider, 2006; Schmoll et al., 2006).

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Appendix A1. – Brand recall and prominence of brand placements in movies

<table>
<thead>
<tr>
<th>Conceptualization</th>
<th>Variables explained</th>
<th>Results</th>
<th>Method</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of exposure</td>
<td>Recognition</td>
<td>Audiovisual and prominent &gt; visual and prominent</td>
<td>N = 98 students (movie 1 = 54, movie 2 = 44) Entire movie (in class) Comparison of test subjects – McNemar test</td>
<td>Brennan and Babin, 2004</td>
</tr>
<tr>
<td>Cumulative duration of exposure; placement at the center of the screen; placement size</td>
<td>Spontaneous recall</td>
<td>Strong prominence &gt; weak prominence</td>
<td>N = 32,662 observations Entire movies (DVDs viewed at home) Logistic regression</td>
<td>Bressoud, Lehu and Russell, 2008</td>
</tr>
<tr>
<td>Visibility; placement time</td>
<td>Spontaneous recall</td>
<td>Strong prominence &gt; weak prominence</td>
<td>N = 103 students Excerpts from movies Recall measured by phone one week later Logistic regression with interactions</td>
<td>d’Astous and Chartier, 2000</td>
</tr>
<tr>
<td>Distinctive character of the product; type of visual presence; scale of the product shot; depth of field; movement; length of display; degree of visualization; brand visibility; brand color; Number of items with the same brand in the shot; Presence of other prominent brands</td>
<td>Spontaneous recall</td>
<td>Strong prominence &gt; weak prominence</td>
<td>N = 378 students Short movie Logistic regression</td>
<td>Fontaine, 2002a</td>
</tr>
<tr>
<td>Prominent: visible in size and/or position, part of the intrigue</td>
<td>Spontaneous recall</td>
<td>Strong prominence &gt; weak prominence</td>
<td>N = 274 students Excerpts from movies Comparison of test subjects-Chi-square test</td>
<td>Gupta and Lord, 1998</td>
</tr>
<tr>
<td>Non-prominent: small size, in the background, multiple simultaneous placements, short exposure time</td>
<td>Prompted recall</td>
<td>Strong prominence &gt; weak prominence</td>
<td>N = 220 students Video excerpts from movies and television shows Wilcoxon signed-rank test</td>
<td>Van der Waldt, Du Toit and Redelinghuys, 2007</td>
</tr>
<tr>
<td>Conceptualization</td>
<td>Variables explained</td>
<td>Results</td>
<td>Method</td>
<td>Authors</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------</td>
<td>---------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Placement linked to the scene; fully integrated in the movie; well placed; related to the context of the movie; obvious The nature of plot connection is provided by the viewer (Likert scale and factor analysis)</td>
<td>Spontaneous recall Recognition</td>
<td>Strong plot connection&lt;weak plot connection</td>
<td>N = 103 Excerpts from movies Recall and recognition measured by phone one week later Logistic regression with interactions</td>
<td>d’Astous and Chartier, 2000</td>
</tr>
<tr>
<td>Role of the product in the intrigue; role of the product for the character; type of character associated with the product; visualization of the product by the actor; emotional reaction triggered by the product</td>
<td>Spontaneous recall Prompted recall Recognition</td>
<td>Strong plot connection&gt;weak plot connection</td>
<td>N = 232 students Short movie Logistic regression</td>
<td>Fontaine, 2002b</td>
</tr>
<tr>
<td>Brand playing a role in the scenario</td>
<td>Spontaneous recall</td>
<td>Strong plot connection&gt;weak plot connection</td>
<td>N = 74 Two real movies shown in a theater Theater exit interviews Means tests</td>
<td>Ong and Meri, 1994</td>
</tr>
<tr>
<td>Weak plot connection: off-hand mention of the brand or short appearance</td>
<td>Recognition</td>
<td>Connected visual&gt;non-connected visual Plot connection does not affect audio placements</td>
<td>N = 150 students Original short movie ANOVA with interaction</td>
<td>Russell, 2002</td>
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