

# The Role of Imagery in the Processing of Visual and Verbal Package Information

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The processing of visual and verbal components of marketing communications has received considerable attention in recent years. Most of this research has focused on the superiority of memory for visual elements versus verbal copy or interactive versus noninteractive pictures. The present study sought to replicate more directly the stimuli in the marketing environment by comparing package designs that include both visual and verbal components. The effects of processing mode (imagery versus nonimagery) on consumer responses to visual and verbal package information were investigated. Three types of designs were compared including one that was verbally dominant and two that were visually dominant versions conveying brand attributes or the consumption experience. Brand attitudes, attitudes towards the package, and purchase intentions were affected by the interaction of the package design and processing mode. Imagery also generated more thoughts about abstract brand attributes than did nonimagery processing, especially for the visually dominant package design. Implications and suggestions for future research are offered.

A combination of verbal and nonverbal information is used in the majority of marketing and advertising communications including print ads, packages, television and radio commercials, and point-of-purchase displays. In most of these communications, the nonverbal information is conveyed via visual components, and many provide little product-relevant information. Despite the prevalence of nonverbal persuasion cues in marketing and advertising communications, the empirical research focusing on the effects of such cues on consumer information processing has been limited in scope. Furthermore, current theories of persuasion tend to neglect the role of these nonverbal message elements by assuming that attitudinal and behavioral responses are based on the processing of verbal information.

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In general, these models also assume that individuals translate visual and emotional elements of marketing communications into verbal product-related information. This is most consistent with the propositional representation approach (Anderson & Bower, 1973) that suggests that all knowledge can be expressed in a single uniform representation, the proposition. More recently, Anderson (1983) incorporated nonpropositional cognitive units into his framework, but it is still uncertain whether or not individuals may in fact store images rather than verbal propositional networks in memory (MacInnis & Price, 1987). Imagery processing refers to a distinct way of representing information that is much like picturing and unlike describing (Fodor, 1981). Discursive or descriptive information processing is best characterized as language-like. Although imagery appears to be widely accepted, being able to generate images does not automatically imply that knowledge is stored as images (Yuille & Catchpole, 1977). In the past, researchers have confounded processing mode (imagery versus discursive) with cognitive elaboration (i.e., the extent to which new information is integrated with existing knowledge structures) by associating imagery processing with low levels of elaboration of message cues and discursive processing with deep elaboration (MacInnis & Price, 1987).

Imagery is also often associated with the processing of pictorial information. Past research on the effects of pictorial elements in advertisements has typically compared verbal messages with messages that combine pictorial and verbal information, with a tendency to focus on print ads. In reality, marketers and advertisers attempt to persuade their audiences via communications that in some way integrate visual and verbal stimuli across the various available media forms. One approach that has been shown to be effective is to combine verbal copy with an interactive picture that represents the brand name and the product in the pictorial format (Lutz & Lutz, 1977).

Little empirical attention has been directed at how consumers process visual/verbal package information and how such processing influences brand preferences and behavioral patterns. Packages convey important information about products and can be thought of as point-of-purchase advertising. According to a recent pilot study conducted by the Point of Purchase Advertising Institute, more than 80% of purchase decisions are made in-store (Vartan & Rosenfeld, 1987, p. 36). This indicates that packages not only protect their contents, but may also offer marketers a vital promotional opportunity.

Variations between imagery and nonimagery processing of product information have important implications for marketers. Different information may receive differential processing effort, the same or similar information may be processed differently, and/or consumer reactions to the information may vary. It would stand to reason that packages which present information in a manner in which it can be most effectively pro-

cessed should be more likely to impact consumers (favorably) in the brief time spent at the point of purchase.

The prevalence of visual and verbal cues in marketing communications suggests that more attention is needed to determine how they can be most effectively integrated (Houston, Childers & Heckler, 1987). Therefore, the purpose of this study was to examine the effects of visual and verbal elements of packages on consumers' product evaluations and purchase intentions. In addition, two types of visual information were employed to examine whether consumers react more favorably to product attribute information or information about the consumption experience. The influence of processing mode was included by encouraging subjects to process in an imagery or nonimagery mode while evaluating a set of consumer product packages. The results of this study shed light upon how consumers process verbal and nonverbal cues in the pervasive marketing arena of packaging.

#### *Previous Research Regarding Promotional Stimuli*

The literature on picture-word effects is most prevalent in the cognitive psychology discipline (see Lutz & Lutz, 1978, or Paivio, 1969, 1971, for reviews). Because of the scope of the research presented here, discussion will be limited to research involving promotional stimuli.

The memory and attitudinal effects of visual and verbal elements of advertisements have received substantial attention. Evidence supports the superiority of memory for pictures as compared to words and the superiority of memory for interactive versus noninteractive pictures (e.g., Childers & Houston, 1974; Edell & Staelin, 1983; Kisielius, 1982; Lutz & Lutz, 1977; Shepard, 1967).

A comparison of framed pictures (i.e., messages that include verbal material equivalent to visual content), unframed pictures (i.e., pictures that are unrelated to the verbal copy), and verbal descriptions alone demonstrated that framed pictures performed better on the recall measures than did unframed pictures, but, contrary to expectations, no differences between the framed pictorial version and the verbal content descriptions emerged (Edell & Staelin, 1983). Further analyses of brand evaluative thoughts conflicted with Kisielius' (1982) conclusion that pictures and sentences produced less favorable attitudes than did sentences alone due to increased counterarguments. In an effort to elaborate on the conditions leading to a picture superiority effect, Childers and Houston (1984) found that sensory level processing of pictorial stimuli in telephone yellow page ads produced superior immediate recall, but no differences occurred when the pictures were processed semantically. A picture superiority effect for the delayed recall measures was identified under both levels of processing, however. More recently, Houston et al. (1987) conducted three experiments (using the same pictorial images developed for the

1984 study) that verify superior memory for advertisements composed of interactive pictures and discrepant verbal information.

Lutz & Lutz (1977) found that the consumer's prior knowledge of the product may interact with the relationship between verbal and visual information. For example, in cases where consumers had little prior knowledge of the brand, pictures facilitated learning more than verbal cues did. The effectiveness of the picture, however, may be dependent upon how closely the picture and the verbal information are related. Seemingly unrelated pictures have been shown to attract attention and set a pleasant mood in which products were evaluated more favorably (Lutz & Lutz, 1978). In their 1981 study, Mitchell and Olson compared four advertisements which varied in terms of affective content and their emphasis on verbal and visual elements. The authors concluded that brand-related judgments can be influenced by visual components of ads based on their finding that different levels of affect towards the ad resulted in variations in brand attitudes.

Lutz and Lutz (1978) cite earlier studies in which replacing some of the verbal information with pictures positively enhanced learning. When pictures completely replaced the verbal text, however, they found that using these visual stimuli did not necessarily facilitate comprehension. This may be partially associated with the theoretical notion that while visual and verbal information may not be stored in memory differently, visual processing may be translated into and stored in a verbal representation (Lutz & Lutz, 1978; Houston et al., 1987). More recently, Kisielius (1982) reported that verbal information presented with a pictorial representation of the verbal content was more easily recalled than the verbal material alone. The addition of pictures also enhanced or reduced brand attitudes depending on the relative favorableness of the information conveyed by the picture.

While present in the same package, visual and verbal elements may serve completely different purposes in the evaluation process. According to Bolen's (1984) research, pictorial elements such as artwork in advertisements generally attracted attention and were noticed before verbal information. As in print advertisements, the first duty of a package appears to be that of getting the consumer's attention and setting his/her expectations for the contents of the verbal elements. It has been suggested that the visual elements may act as an "advance organizer" for the verbal elements (Alesandrini, 1982; Houston et al., 1987). Mitchell and Olson (1981) propose that visual information that is not directly related to the product is converted into a verbal understanding of the brand. At the same time, verbal content of an ad may stimulate intense affective responses, perhaps because of imagery (cf. Paivio, 1971).

Although consumer behaviorists have directed attention at the effects of different pictorial formats (e.g., Lutz & Lutz, 1977), the relative effectiveness of using visual elements in packages that elicit experiential thoughts

of consumption has not been investigated. Typically, the pictorial components of these promotional tools are designed to merely illustrate the product, to convey one or more of the brand's attributes, or to attract attention. Print ads containing experiential visual images did enhance copy recall, attitudes toward the ad, and purchase intentions more than did product-only pictures (Homer & Kahle, 1988).

Perhaps the program of research most directly related to the present study began with Puto and Wells (1984) who distinguished between "informational" and "transformational" advertising. They refer to "informational" advertising as that which "provides consumers with factual (i.e., presumably verifiable), relevant brand data in a clear and logical manner such that they have greater confidence in their ability to assess the merits of buying the brand after having seen the advertisement" (1984, p. 638). On the other hand, "transformational" advertising "provides the consumer with an experience that is different from the consumption experience that would normally be expected to occur without exposure to the advertisement" (1984, p. 638). The transformation occurs when an advertisement is related by the consumer to the experience of owning or consuming the advertised brand. The concept of "transformational" advertising discussed by Puto and Wells (1984) was associated with the televised media, but the notion of "experiential" visuals may also prove to be a powerful persuader when conveyed via package designs. It appears logical that the ultimate persuasiveness of these communications will depend on the particular mode of processing evoked by the individual consumer.

### *Imagery and the Consumption Experience*

Traditionally, imagery has been examined in terms of low levels of elaboration and in opposition to discursive processing. However, imagery and discursive evaluations are both more accurately described on an elaboration continuum and are not mutually exclusive. The low end of the continuum involves basic responses such as recalling a brand's verbal label and image. At the high end are discursive choice strategies as well as experiential types of imagery processes such as fantasies, daydreams, and visual problem-solving (MacInnis & Price, 1987).

Much of the imagery processing research (see Lutz & Lutz, 1978, and MacInnis & Price, 1987, for reviews) postulates that imagery processing stimulates more cognitive elaboration and is facilitated by visual cues. A pictorial image contains more cues, and additional storage locations and pathways develop in memory, which increases the likelihood of retrieval in later tasks (Kisielius, 1982). In a similar vein, Paivio (1971, 1986) proposes dual coding systems that are available for processing visual and verbal information. These verbal and nonverbal systems are functionally independent, but can also act together. Imagery processing is most likely when objects or pictures (rather than words) are used as stimuli and when

instructions to image the stimuli are provided (Paivio, 1986).

Evidence also suggests that good visualizers are more accurate in recalling pictures and concrete words (Marks, 1973; McKelvie & Demers, 1979) than are those with vague and dim images, but little is really known about the relative impact of imagery in consumption contexts (MacInnis & Price, 1987). In an extensive review of the role of imagery in information processing, MacInnis and Price (1987) propose that imagery is likely to have a positive impact on incidental learning, to encourage within-brand product evaluation strategies, to impact how missing attribute information is approached, to bias estimates of outcome likelihoods, to affect purchase intentions and timing of purchases, and to offer a positive emotional experience that can substitute for consumption.

Consumers are able to use imagery and discursive methods of evaluation differently, but together. For example, discursive evaluations may be more useful in narrowing the options from an entire class of products, and imagery facilitates yes or no decisions about one of the brands or between the remaining few. Imagery is therefore holistic and lends itself to decisions which focus on a single brand (MacInnis & Price, 1987). Imagery processing stimulates the consumer's use of sensory perceptions such that, instead of merely processing product attributes, the consumer focuses on possible outcomes and sensory experiences of using the brand as decision making criteria. Imagery of the consumption experience should be motivated by communications incorporating experiential visuals.

Not only can visual elements evoke images, but words used in a package's copy also have the ability to generate images and can thereby become a part of the brand's "personality." When other variables such as frequency and meaningfulness were held constant, words high in imagery value were found to be better remembered than those of low imagery value (Lutz & Lutz, 1978; Paivio, 1971). One example of how packaging and product image are interrelated is found in the cosmetics industry. Marketers in this industry follow fashion trends closely in their packaging. Designer cosmetics and perfumes, for example, often use the same logos as found on the designer labels, thereby evoking the designers' "look" and associating use of these products with the image of the designers' styles.

The present study examined the effects of imagery on consumers' processing of visual and verbal package information. Giving instructions to imagine as a method of influencing subjects' processing styles has proven effective in influencing their evaluations of stimuli (e.g., MacInnis & Price, 1987; Paivio, 1971). In a review of the relevant literature, Paivio (1971) concludes that imagery instructions are effective and that the effects resemble picture effects. An advantage of an instructional approach is that self-generated images may be more "bizarre" and personally meaningful, but inducing imagery via written words may be problematic. In contrast, Rossiter (1982) found that presenting subjects with high

imagery visuals was more effective in facilitating imagery processing than were instructions to imagine. However, questions remain as to whether or not in that study the instructions were delivered correctly. Both of these methods are utilized in the current study.

### *Theoretical Justification and Hypotheses of the Current Study*

The influence of experiential visuals in print communications has not received attention in the marketing/advertising literature. The most closely aligned concept is that of "transformational advertising" but this has only been applied to the television media: "...television commercials are capable of functioning as a transformational medium. The application of this to other media remains an important and open question" (Puto & Wells, 1984, p. 643). Similarly, imagery has not been manipulated in an empirical investigation of the relative effectiveness of marketing stimuli. Because of the lack of precedent theoretical frameworks, a collection of information processing theories has been employed to develop and rationalize the guiding hypotheses.

As mentioned earlier, past research has confounded processing mode (imagery versus discursive) with cognitive processing level (high versus low elaboration) by associating low elaboration with imagery and high elaboration with discursive processing (MacInnis & Price, 1987). As presented by MacInnis and Price, processing mode can be described on an elaboration continuum. At the low end are simple responses such as retrieval of verbal labels and at the high end are imagery processes such as counterarguments and visual problem solving (Hilgard, 1981; Richardson, 1983). This would be consistent with the evidence that imagery processing (often dominated by processing of visual cues) requires significant elaboration and enhances learning and retrieval due to the resultant multiple cues. If a visual image is successful at generating experiential thoughts (i.e., thoughts of experiences that may be expected from ownership of the advertised brand), then it is conceivable that product-related knowledge networks and experiential knowledge networks would be richer and more extensive, thereby increasing their accessibility and retrieval from memory. In a similar vein, Puto and Wells (1984) postulate that transformational commercials facilitate selective recall of past experiences associated with the same emotional state.

As stated earlier, imagery is facilitated with objects or pictures and imagery inducements. Verbal representational processing is more apt to be activated when words serve as stimuli and when instructions to perform the task verbally are provided (Paivio, 1986). It has been demonstrated that consumers retrieve information in a form consistent with how it was encountered (Bettman & Kakkar, 1977). Therefore, it is expected that individuals will process information more effectively when it is similar to their mode of processing. Elaborated imagery also affects intentions to act

(Cautela & McCullough, 1978; Gregory, Cialdini & Carpenter, 1982). This implies that individuals who imagine themselves using a product while examining its package should indicate enhanced brand attitudes and purchase intent. However, when verbal stimuli dominate the processing environment and imagery is not induced, persuasive efforts will also be effective. In line with the previous discussion, we propose that:

**H1:** Packages that are verbally dominant will be evaluated more favorably by those using a nonimagery processing mode, and visually dominant, experiential packages will be rated more favorably by those using an imagery processing mode.

**H2:** Packages that are verbally dominant will produce more favorable brand attitudes and purchase intentions among those using a nonimagery processing mode, and visually dominant, experiential packages will produce more favorable brand attitudes and purchase intentions among those using an imagery processing mode.

Sufficient evidence exists demonstrating that pictures in ads serve as learning facilitators, especially for interactive pictures (e.g., Lutz & Lutz, 1978). Replacing some of the verbal copy in an ad with its pictorial representation is effective at enhancing learning, but merely duplicating the verbal content may not be beneficial (Lutz & Lutz, 1978; Rigney & Lutz, 1976). Edell and Staelin (1983) report that ads with pictures and verbal elements providing the same information (i.e., "framed") result in better copy recall scores than do those with "unframed" pictures, but are not better than verbal-only ads. However, Houston et al. (1987) report superior memory for advertisements composed of interactive pictures and discrepant verbal information.

The relative performance of ads with visual/verbal components that convey similar versus additional information appears inconclusive. To the extent that experiential visuals provide useful information that supplements the verbal information, we believe they will be more persuasive than packages whose visual components merely duplicate the verbal components. When the visual and verbal cues provide different information, processing becomes more rewarding and useful. That is, the individual learns more from allocating elaborative effort to the processing of the visual and verbal information. Thus,

**H3:** Visually dominant, experiential packages will enhance evaluative judgments more than will visually dominant packages that convey brand attribute information.

Persons using an imagery mode of processing will tend to focus on more inclusive "image-type" information because of the holistic nature of imagery. Consequently, imagery will result in less emphasis on specific, individual brand-related attributes. If more specific attributes are processed, imagers are more prone to combine them into a more general concept. In contrast, a nonimagery mode is characterized by a more descriptive process in which specific brand attributes are treated/stored as separate entities.

Similarly, brand-related attributes vary along an abstract/concrete continuum. Abstract attributes are more general and inclusive, implying a



summarization of information (Johnson, 1984; Johnson & Fornell, 1987). These abstract attributes also tend to apply to a broader range of product categories (e.g., "entertainment" can describe listening to a concert, sailing, going to a movie, etc.). As a result, we expect that:

H4: Individuals using an imagery processing mode will elicit more thoughts about abstract brand attributes than will those using a nonimagery processing mode.

Because visually dominant designs alone should facilitate enhanced levels of visual thinking (Paivio, 1971), the impact of imagery on the level of abstract brand attributes mentioned should be greatest for those exposed to the verbally dominant package design (which will not stimulate visual thinking by itself). When the package information is overwhelmingly verbal, the imagery-eliciting efforts will act to "redirect" processing towards an imagery mode. Without such imagery enhancement, however, the verbal information will motivate individuals to process the information in a manner consistent with the presentation format (i.e., verbally).

H5: Imagery will have a greater impact on the stimulation of thoughts about abstract brand attributes for the verbally dominant design as compared to the two visually dominant designs.

The predominant memory effects studied in past marketing-related research have been recall of ad elements and brand/product names, with a reliance on stimuli possessing interactive pictures and concrete brand names. Names that are concrete and picturable should be more memorable than low imagery verbal representations such as abstract words or proper names (Lutz & Lutz, 1978). Good visualizers are more accurate than vague imagers in recalling pictures and concrete words (Marks, 1973; McKelvie & Demers, 1979). While Houston et al. (1987) found no differences in brand name and product recall for noninteractive ads, verbal/visual dominance was controlled. Imagery processing does tend to enhance elaborative effort, thus increasing the probability that an image and verbal tag are stored in memory. Furthermore, imagery is facilitated when at least one item of a stimulus pair is concrete. Examination of a package for a familiar product category should enable storage of a concrete image. To the extent that imagers also attach a brand name verbal representation to this image, brand and product recall will be enhanced. Therefore, we expect:

H6: Brand name and product recall will be greater for those in an imagery processing mode than for those in a nonimagery processing mode.

## Method

### *Stimulus Materials*

Test packages were designed for two product classes, chocolate candy bars and single-serve aseptic packages of orange juice. These products were chosen because they represented two categories of food products which the student sample was likely to use and be familiar with. Proper

names ("Bower's" Chocolate and "Morgan's" Orange Juice) were used because it was felt that they would be less likely to convey brand attribute information. A small convenience sample verified that these names were unknown to them (not actual brand names for chocolate or orange juice), that the names "sounded" appropriate for their respective products, and that the names themselves did not convey brand attributes.

The visual and verbal components of the package design were manipulated to create three formats: two visually dominant (one conveyed brand attributes and one suggested the consumption experience for the brand) and one verbally dominant. Other test package variables were controlled to ensure that the differences between groups were attributed to the visual or verbal dominance and/or to the differences between visual representations of product attributes and the consumption experience. Color, the visual elements included, brand names, attributes mentioned, placement within the design, shape, package size, and materials used in all test packages were held constant. Each package label was designed using two colors plus black and white, with these colors held constant within each product class. The visual elements and featured attributes were not markedly different across designs and verbal information was the same for all executions of each brand. Only the relative prominence of the verbal/visual elements and the details of the visual elements were altered. Prices for the items were omitted to control for the effects of subjects basing their evaluations of the products solely on price.

Actual package designs for the test packages were derived from research into previous and existing packages within the two product classes. Surveys of trends in both chocolate and orange juice packages were conducted to assist in choosing which visual elements and brand attributes to include. The chocolate package promoted the candy bar as being thick, made from the finest ingredients, having a rich creamy taste, and made from select cocoa beans. Naturally sweet, fresh-picked oranges, no sugar or preservatives added, and sun-ripened oranges were the attributes featured on the orange juice package. Ingredients, weight, and a UPC code were also depicted on each package for both products.

The verbal copy remained constant across the three package designs for each product category, except for the size of the print. In the verbally dominant version, the type was sufficiently large to dominate the package and included only small visuals. For example, three small oranges and a small glass were clustered together under the brand name. The visually dominant versions featured the verbal information in small type so as to emphasize the visual elements. To convey brand attributes, one package pictured sun-ripened oranges and a glass of fresh-squeezed orange juice. In the second visual design, the experience of drinking a glass of orange juice was suggested in a pictorial image reflecting fresh, mouthwatering, succulent juice flowing endlessly from an oversized orange on a sunny morning.

These manipulations were replicated for the chocolate package. The verbally dominant version featured the brand information in large type with a small piece of chocolate. The visual brand attribute elements (e.g., cocoa beans and a midsection view of a chocolate bar) encompassed one of the visually dominant package designs. The experiential visual reflected being almost engulfed by an everflowing sea of smooth melted chocolate flowing from a ladle, along with a floating chunk of creamy chocolate.

Efforts were made to make the test packages authentic and believable in appearance. Actual products were enclosed within the fabricated labels (professionally produced) to achieve realistic sizes, shapes, and weights.

### *Pilot Study*

An independent sample of 25 undergraduate students voluntarily participated in an evaluation of the experimental package designs. These students were members of the same population as those who then participated in the main experiment. The pilot study was conducted to ascertain whether perceptions of these designs varied in conveying product attributes or the consumption experience, and in their visual and verbal dominance. Subjects were shown each of the six designs and completed a series of semantic-differential and Likert-type scales after each product examination. Specifically, each respondent evaluated each design in terms of whether it conveyed information primarily visually or verbally, and whether it presented product attribute or consumption experience information. Subjects also assessed the total amount of information conveyed by each package.

*Chocolate Bar Package.* Paired *t* tests indicated that the experiential visual was rated as "suggesting the experience of eating the chocolate" more highly than were the verbally dominant ( $p = .002$ ) or the visually dominant brand attribute packages ( $p < .10$ ). Because the latter distinction was not as large as desired, the attribute package design was modified to increase the attribute emphasis prior to the main experiment. The brand attribute visual did, however, convey the attribute "cocoa beans" more than either of the other two packages did ( $p < .001$ ). The experiential design was rated highest in terms of describing the product's use while the mean ratings for the visual brand attribute and verbal designs were equivalent. These results, however, were not significant at the  $p = .05$  level. As was desired, subjects felt that both the experiential and product attribute designs relied more on pictures to tell about the product than did the verbally dominant design ( $p < .001$ ). When evaluating whether the visuals suggest that the chocolate is made from the finest ingredients, subjects reported higher mean ratings for the product attribute design than for either the experiential or verbal designs. The experiential visual design conveyed that the "chocolate melts in your mouth" more than did either the verbally dominant or visual brand attribute packages ( $p < .001$ ).

**Orange Juice Package.** The experiential design conveyed "the experience of drinking the orange juice" more successfully than did the other package designs ( $p < .001$ ), which were not significantly different from each other. In terms of "brand attributes conveyed pictorially," subjects rated both visually dominant packages as essentially equivalent to each other, yet different from the verbally dominant package ( $p < .001$ ). The brand attribute visual was modified to alleviate this discrepancy from our expectations. Both visually dominant packages relied more on pictures versus words than did the verbally dominant package ( $p < .001$ ), but the size of the visual brand attribute design was enlarged to make the two visually dominant packages more "equal" along this dimension. The verbally dominant package used verbal elements to convey "fresh-picked" more than either of the visually dominant packages ( $p < .001$ ).

The final package designs were slightly modified to ensure that the manipulations would be maximally effective in the main experiment, that is, the verbal elements in the verbally dominant package were enlarged and the visual elements of the two visual packages were equalized.

### **Subjects**

A sample of 231 students enrolled in undergraduate advertising courses were randomly assigned to one level of each of the experimental manipulations (package design and processing style). All subjects participated voluntarily.

### **Procedure**

Processing styles were manipulated by providing differing instructions among the sample groups designed to induce either imagery (two levels) or nonimagery processing (one level). To induce visual imagery processing, subjects either were told to imagine (mentally visualize) the package information or were shown a series of ten slides of paintings and advertisements judged to be high in visual imagery (approximately equal numbers received each imagery manipulation). The other half of the students, who received no such imagery instructions or picture presentation, constituted the nonimagery group. Package type was manipulated within the stimuli materials as discussed previously.

All subjects were shown six packages in the same setting and were told that the study was part of a research investigation of consumer preferences for some test packages. After administration of the instructions (or slide presentation), small groups of approximately eight respondents each evaluated the six packages. Each individual examined the set of packages apart from other respondents. The research setting was arranged such that all versions of the experimental packages could be evaluated by participants during one session without their awareness of any variations (multiple package sets). Each subject saw one version of each of the two

experimental packages, that is, either the verbally dominant or one of the visually dominant versions for both the chocolate bar and the orange juice. In an attempt to simulate the actual purchase situation, handling of the packages was permitted and subjects were instructed to examine packages as they would in an actual purchase situation. Subjects examined the packages in left to right order. This was done so that they would examine the chocolate bar last, in the hope of producing more accurate thought-listing assessments for that product (Wright, 1980).

Included in each set of packages were four bogus packages for various product categories and the two test packages that contained the visual/verbal design manipulations. The bogus products represented product categories different from the experimental brands. Packages which looked as though they could be experimental were deliberately included as decoy brands to aid in disguising the experimental packages. The same bogus packages were used in all treatments.

Following the subjects' self-paced exposure to the packages, questionnaires were administered. Each participant completed the questionnaire in isolation to avoid awareness of others' behaviors, etc. Subjects were questioned about all packages including the bogus ones to minimize the likelihood of demand characteristics which might have resulted from their knowing which packages were being tested. The items (rated on 9-point scales) on the questionnaire included questions designed to measure responses in terms of attitudes toward the package (like/dislike and attractive/unattractive), brand attitudes (good/bad, like/dislike, and superior/inferior), and purchase intentions (will/will not buy, will/will not try). Prior to these evaluative judgments, unaided product and brand name recall were measured.

The first questionnaire item asked respondents to list the thoughts that went through their mind while examining the chocolate bar package. Subjects were given two minutes to complete this task. These cognitive responses were coded by two judges as either thoughts about the package (positive, negative, or neutral), thoughts about the brand (positive, negative, or neutral), or other thoughts. The brand-related thoughts that referred to brand attributes were then categorized as either "abstract" or "concrete." Abstract attributes referred to more holistic or image-oriented attributes (e.g., fun and enjoyment), whereas concrete attributes were related to specific brand attributes (e.g., sugar content). The coding scheme resembled that used by Bettman and Sujun (1987). Any disagreements between coders were resolved by discussion.

The brand and package evaluation scales (e.g., brand attitudes and attitudes towards the package) were created from the orange juice measures for fear that the thought-listing task might have "sensitized" the respondents to any additional questions about the chocolate bar.

At the end of the experiment, all participants were debriefed and thanked for their cooperation.

## Results

### *Manipulation Checks*

For the chocolate bar package, main effects for package type emerged for each manipulation check item in the main experiment: "the words conveyed the attribute of thickness,"  $F(2, 223) = 4.446, p = .013$ ; "visuals suggested the consumption experience,"  $F(2, 225) = 3.718, p = .026$ ; "the package used visuals to tell about the brand,"  $F(2, 225) = 14.225, p < .001$ ; "the words suggested the attributes of rich and creamy,"  $F(2, 225) = 11.533, p < .001$ ; and "the visuals showed the product plus product information,"  $F(2, 225) = 3.234, p = .004$ . All these measures behaved as expected in terms of direction and paired comparisons.

A main effect for package type also emerged for each of the orange juice manipulation check items: "pictures suggest the experience of drinking the orange juice,"  $F(2, 225) = 4.99, p = .008$ ; "the package suggests sun-ripened oranges,"  $F(2, 225) = 3.20, p = .04$ ; "the package used visuals to tell about the brand,"  $F(2, 225) = 8.53, p < .001$ ; and "the words suggest the attribute fresh-picked,"  $F(2, 225) = 5.35, p = .005$ . Examination of the cell means for each of these items indicated that the design manipulations were effective. Furthermore, the packages were not judged significantly different in terms of amount of information portrayed, thus eliminating a quantity of information explanation.

As a manipulation check for imagery/nonimagery processing mode, each participant responded to "I imagined my reaction to the packages." As desired, an interaction between processing mode and package type was identified,  $F(4, 222) = 2.56, p < .05$ . The package design and the nonimagery/imagery instructions (picture exposure) that represented the two aspects of the manipulation were revealed by the interaction. As reported by previous researchers (e.g., Paivio, 1971, 1986) the visual/verbal format of the package design and the imagery eliciting efforts enhanced tendencies towards imagery or nonimagery processing.

Preliminary analyses between the two groups of visual imagery processors (those who saw the highly visual print ads, and those who received instructions to imagine their reactions if they saw the packages in a store) did not produce significantly different results for the dependent variables. As results for these groups were so similar, they were pooled and treated as one imagery processing group for all subsequent analyses.

### *Overall MANOVA Results*

The individual measures of attitudes towards the package, brand attitudes, and behavioral intent were summed to create construct scales. These were found to display respectable levels of reliability (coefficient alpha = .84, .81, and .83, respectively). These scale measures were subsequently incorporated in a MANOVA with the two independent variables (i.e., package type and processing mode). This analysis identified a significant

main effect (Wilk's lambda = .940,  $F(6, 448) = 2.334, p < .05$ ) for package type and a significant two-way interaction between package and processing types (Wilk's lambda = .936,  $F(6, 446) = 3.297, p < .005$ ).

The univariate ANOVAs and planned comparisons among individual cell means were examined to assess the remaining evaluative judgment hypotheses. A summary of the ANOVA statistics and the individual treatment means are summarized in Figures 1, 2 and 3 and Tables 1 and 2.

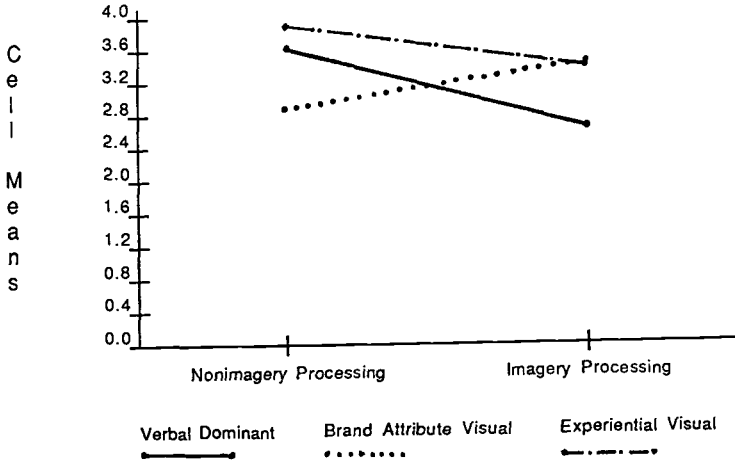


Figure 1. Attitude toward the package.

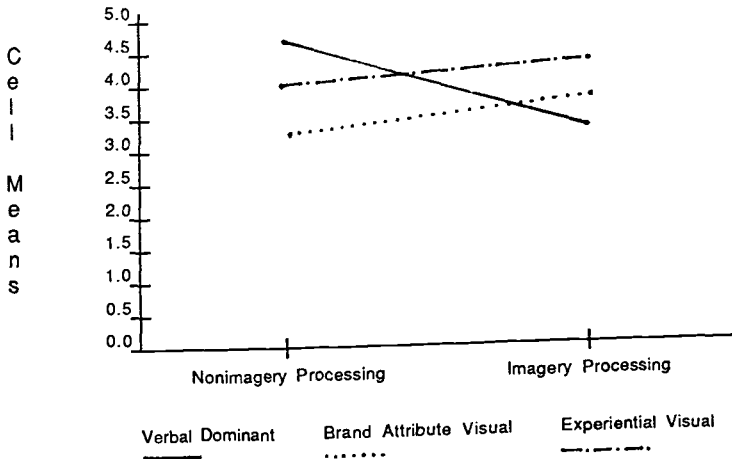


Figure 2. Brand attitudes.

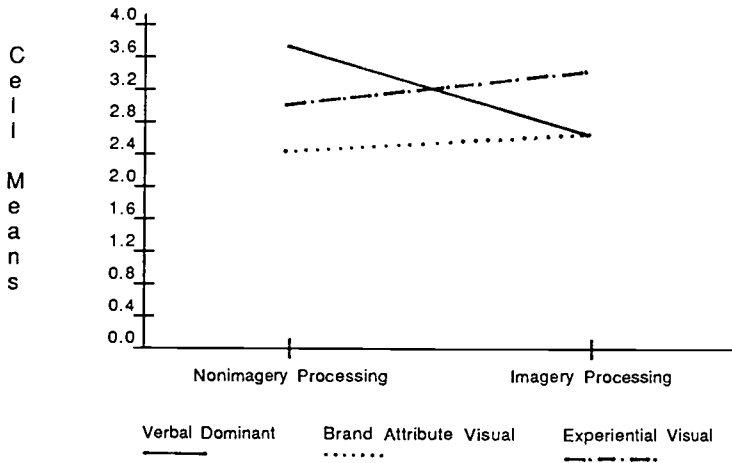


Figure 3. Purchase intentions.

Table 1  
Summary of ANOVA Statistics

|                                    | F value | p value |
|------------------------------------|---------|---------|
| <i>Attitude Toward the Package</i> |         |         |
| Picture Type                       | 1.61    | .203    |
| Processing Mode                    | 1.14    | .287    |
| Picture x Mode                     | 2.87    | .059    |
| <i>Brand Attitudes</i>             |         |         |
| Picture Type                       | 3.35    | .037    |
| Processing Mode                    | 0.77    | .381    |
| Picture x Mode                     | 6.48    | .002    |
| <i>Purchase Intentions</i>         |         |         |
| Picture Type                       | 3.22    | .042    |
| Processing Mode                    | 0.59    | .444    |
| Picture x Mode                     | 3.38    | .036    |

### Attitudes Towards the Package

A marginally significant interaction between processing mode and package type,  $F(2, 225) = 2.87$ ,  $p = .06$ , emerged for attitudes towards the package. Upon examination of the treatment means, support for H1 and H3 is only partially evidenced. The experiential package ( $M = 3.68$ ) was rated more favorably than the visual brand attribute package ( $M = 3.17$ ), but not sufficiently to support H3.

In addition, the imagery processors rated the visually dominant packages ( $M = 3.45$ ) higher than the verbally dominant package ( $M = 2.66$ ), but the nonimagery group rated the verbally dominant and experiential packages equally, thereby only partially supporting H1.



Table 2  
 Summary of Cell Means for the Evaluative Measures

|                                    | Imagery Processing | Nonimagery Processing |
|------------------------------------|--------------------|-----------------------|
| <i>Attitude Toward the Package</i> |                    |                       |
| Verbal Dominant                    | 2.66               | 3.64                  |
| Brand Attribute Visual             | 3.46               | 2.90                  |
| Experiential Visual                | 3.45               | 3.94                  |
| <i>Brand Attitudes</i>             |                    |                       |
| Verbal Dominant                    | 3.36               | 4.73                  |
| Brand Attribute Visual             | 3.78               | 3.31                  |
| Experiential Visual                | 4.39               | 4.08                  |
| <i>Purchase Intentions</i>         |                    |                       |
| Verbal Dominant                    | 2.60               | 3.74                  |
| Brand Attribute Visual             | 2.60               | 2.42                  |
| Experiential Visual                | 3.42               | 3.02                  |

### *Brand Attitudes*

As expected, the visually dominant experiential package ( $M = 4.25$ ) produced more favorable brand attitudes than the visually dominant brand attribute package,  $M = 3.54$ ,  $F(2, 225) = 3.35$ ,  $p < .05$ , supporting H3. Impressive support was also found for the second hypothesis in terms of brand attitudes,  $F(2, 225) = 6.48$ ,  $p < .005$ . Specifically, imagery processors who saw the experiential package reported more affect for the brand ( $M = 4.39$ ) than with either other package, and nonimagery processors displayed the highest brand affect when shown the verbally dominant package ( $M = 4.73$ ).

### *Purchase Intentions*

Similar findings emerged for purchase intent. That is, the experiential package ( $M = 3.23$ ) enhanced purchase intentions relative to the visual brand attribute package ( $M = 2.51$ ) as proposed in H3,  $F(2, 225) = 3.22$ ,  $p < .05$ . Processing mode and package type did interactively influence purchase intentions,  $F(2, 225) = 3.38$ ,  $p < .05$ , but not as impressively as for brand attitudes. Planned comparisons among the individual cell means behaved consistently with H2, that is, imagery processors reported greater purchase intent after examining the experiential package ( $M = 3.42$ ) and nonimagery processors were most favorably influenced by the verbally dominant package ( $M = 3.74$ ).

### *Cognitive Responses*

As explained previously, all brand-related thoughts that referred to brand attributes were classified as representing either abstract or concrete attributes. As proposed in H4, those in the imagery conditions elicited more thoughts of abstract brand attributes ( $M = .92$ ) than did those in the nonimagery conditions,  $M = .63$ ,  $F(1, 225) = 7.01$ ,  $p < .01$ .

Furthermore, this effect was most dramatic for those exposed to the verbally dominant package design, as hypothesized in H5,  $F(2, 225) = 3.68, p = .027$ . The verbal dominant package/imagery group ( $M = 1.05$ ) mentioned more abstract brand attributes than did the verbal dominant package/nonimagery group ( $M = .38$ ).

### Memory Assessments

In order to assess the effectiveness of imagery and the package designs on memory for brand names and products, composite scores were calculated. Brand name recall for "Morgan's" and "Bower's" were summed, as were recall for their respective products. A total recall score was also created by summing brand name and product recall. As hypothesized, brand name recall and total recall were greater for imagers as compared to non-imagers,  $F(1, 225) = 5.74, p = .02$  and  $F(1, 225) = 6.44, p = .01$ . Although this effect was not significant for product recall, the directionality of the results did behave as expected.

As one might expect intuitively, product recall was greater than brand name recall ( $p < .001$ ). This may merely be due to the obvious lower level of cognitive effort required to remember an object versus a proper name. In terms of memory storage codes, objects are more apt to be stored as both images and verbal codes. Brand names which are relatively abstract are not readily transferable into visual codes, at least upon initial exposure. As familiarity increases, this transformation becomes more likely.

In general, the three package designs yielded equivalent levels of brand name and product recall. After all, all design aspects relevant to the brand name were equivalent across packages within each product category. As one might expect, the verbally dominant and visual brand attribute designs possessed the most similar recall levels relative to the experiential design (probably due to their more similar appearance). This difference did reach significance for the total recall score,  $F(1, 225) = 3.03, p = .05$ .

## Discussion

This study examined the effects of processing mode on consumer responses to visual and verbal components in package designs. The relative effectiveness of two types of visually dominant designs and one verbally dominant design was investigated. Imagery processing appears to be widely accepted, but its impact on consumers' processing of visual and verbal elements in marketing communications has received little empirical attention. Consumers' processing of the visual/verbal elements of a package may be unique due to the information-seeking mode that often exists at the point of purchase. That is, consumers may distinctly examine the package for product information as opposed to, for example, merely scanning a print ad that catches their attention outside of the purchase environment. In other point-of-purchase situations, however, consumers may spend only a short time processing product-related information. For

these instances, the "image" that is conveyed by the package is crucial. The consumer may receive no information about a product other than the image projected by the package. Whether it is brand-related information or brand image that a package seeks to present, it is logical that marketers can reap benefits from appropriately utilizing the verbal and visual elements of their packages.

Imagery processing evokes the consumer's use of sensory perceptions which may direct attention towards the possible outcomes and experiences of using the brand as opposed to specific product attributes. Therefore, when an imagery processing mode is evoked, a visual designed to elicit thoughts of brand-related experiences is especially effective, as supported by this study. Results also demonstrate that nonimagers process verbal information more effectively than information presented visually. Specifically, more favorable brand attitudes and purchase intentions emerged when nonimagers evaluated verbally dominant packages and when imagers evaluated experiential, visually dominant packages. This "matching" (congruity) of information format and processing style is consistent with Paivio's (1971, 1986) dual coding theory and with previous consumer-oriented research (e.g., Bettman & Kakkar, 1977), and represents additional evidence of the importance of devoting attention to issues related to the effective presentation of product information.

As expected, imagery processing encouraged respondents to focus on more abstract brand attributes while evaluating the packages and brands. These more general and inclusive criteria probably resemble "images" more closely than do specific, descriptive-oriented brand attributes. This suggests that consumers may in fact store images as opposed to storing verbal transformations of such images or specific brand attribute information. As a result, marketers can convey a "bundle" of information in a brand name, logo, symbol, slogan, or jingle. It appears that information presented verbally can also be effectively processed at an abstract level when an imagery processing mode is enacted. Well-designed, typographical information may effectively stimulate processing of holistic attributes. Furthermore, processing abstract attributes requires increased elaborative effort since these abstract attributes tend to be a summarization of concrete attributes. Abstract attributes also tend to apply to a broad range of product categories, suggesting that deeper elaboration enhances learning and retrieval due to resultant multiple cues (i.e., stronger and more complex knowledge networks). Efforts that are successful at producing these consequences would seemingly be advantageous for almost all marketing/advertising communications, and experiential visual cues may be especially powerful tools. The verbal copy in the experimental stimuli was not designed to elicit imagery, but this is possible and may also be an effective strategy. Carefully (creatively) written verbal material may facilitate imagery and the formation of "information-rich" images as evidenced, for example, by executions instructing the reader to "imagine yourself. . ."

Brand name recall of the packages was aided by imagery processing. More distinctive differences among the various package designs may have emerged had the brand names been interactive with the pictorial elements, but this was purposefully avoided in the present study. If experiential print communications behave like transformational television commercials, repetition may be required to detect a brand recall effect. Puto and Wells (1984) concede that a memory trace may exist after a single exposure to a transformational ad, but if encoding is primarily visual, the relevant information will not be available for immediate verbal recall. With repeated exposures, the images conveyed may be sufficiently well-formed to permit translation into an adequate verbal response in a recall test. Merely duplicating verbal information on the package visually did not enhance recall. Apparently, the most effective integration of visual and verbal package information is to create some type of visual/copy variation, consistent with previous empirical findings (e.g., Houston et al., 1987).

According to Kisielius and Roedder (1983), the use of highly imaginal stimuli should enhance the formation of well-developed associations to the advertised product. If imagery increases the availability of similar information at the time of attitudinal and behavioral judgment, then imagery should further act to enhance attitude-behavior consistency. One strategic alternative is to incorporate consumption experiences that are conveyed in a product's advertising on the package. "Putting the advertising on the package" in this way has been shown to be effective empirically for print advertisements (Ogilvy Center for Research & Development, 1988). The package advertising cues activate knowledge networks associated with the advertisement and with the brand, thereby facilitating memory and attitudinal/behavioral outcomes (assuming these elements are positively evaluated). When consumers encounter the advertisement cues, they will be more apt to remember and think about the commercial as a whole. Because television commercials are typically more experiential in nature (or transformational), it is only natural that television advertisers who utilize this strategy will present experiential visuals on their packages. For example, scenes from a "Super Glue" commercial appear on the brand's package.

One cannot expect experiential visuals to be the optimal package design strategy in all situations. As evidenced here, some individuals process verbal information more effectively than information presented visually. Experiential package designs may be especially powerful persuaders in certain purchase environments. For example, vending machine purchase decisions are often determined by more "abstract" motives/criteria such as "finding a snack to relieve hunger pangs." The consumer does not process specific brand attribute information at the point-of-purchase because of other more salient motives and/or because the package is typically hidden from his/her view. This rationale can be generalized to other situations

in which a package is not available for firsthand examination. In such instances, experiential visuals have the potential to act as effective attention-getting devices and enhancers of purchase desires.

The findings shed light on several key issues related to imagery and the processing of visual and verbal information in marketing communications, but many challenges remain. Foremost, a replication and extension incorporating alternate types of verbal information is warranted. Additional investigation of how best to stimulate and measure imagery processing is also suggested as a topic for future research. Results of this study are consistent with the notion that people store images as opposed to their verbal representations, but more conclusive evidence is needed. It is possible that current measurement tools are insufficient to capture the richness of memory structures, especially image/visual representations.

The present study stimulated imagery processing, but in the marketplace this may be more difficult. It will be important to determine the extent to which marketing efforts are effective/ineffective at accomplishing this goal. If consumers are accustomed to examining a package for detailed brand information, can "image" oriented visuals be effective? Nike Shoe may be testing this notion in its current campaigns utilizing ads that incorporate massive visuals with essentially no product detail. Or at the other end of the spectrum, if cigarette ads typically present pleasure with enticing visual images, will the warning label even have a chance to be processed?

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