

Writing with Pictures: Toward a Unifying Theory of Consumer Response to Images

LINDA M. SCOTT
PATRICK VARGAS*

Studies of response to advertising images follow parallel streams: one treats visuals as sensory data; the other, operating under rhetorical theory, presumes that images are communicative artifacts. By revisiting a seminal article by Mitchell and Olson, we empirically demonstrate an alternative explanation for results under the sensory approach, while also establishing the basis for complex statements like tropes. We argue that consumers read product attributes from pictures based on an emergent writing system made possible by recent communication technologies. Our theory is consistent with the historical record of communication technology and with the trajectory of research in fields that study writing systems.

In the past decade, researchers have explored consumer response to advertising images with increasing depth. One stream of experimental research, working under a variety of theoretical agendas, continues to treat the visuals as sensory data; that is, the researchers conceptualize the images either as sensory analogs to objects in the environment or as raw sensory stimuli in visual forms like color, shape, or size (see Scott 1994b). A second stream of research on visuals, operating under the rubric of rhetoric, presumes that visuals are meaningful communicative artifacts but has focused on the response to complex visual tropes, using experimental methods.

This article returns to the initial study in the sensory stream, Mitchell and Olson (1981), to demonstrate through experiments and consumer interviews an alternative explanation for its results. In the process, we also offer explanations for some of the puzzling findings that have continued under that umbrella. We further intend to extend the rhetorical stream by demonstrating the potential for a system of visual conventions and associations (Scott 1992) to signify at a more basic, building-block level of writing. That is, we will focus on demonstrating that images can communicate simple declarative statements (or even lists) of product attributes.

*Linda M. Scott is a reader, Saïd School of Business, and fellow in marketing, Templeton College, Oxford University, Park End Street, Oxford, OX1 1HP, United Kingdom (linda.scott@sbs.ox.ac.uk). Patrick Vargas is associate professor of advertising and psychology, Department of Advertising, MC-462, University of Illinois, Urbana-Champaign, Urbana, IL 61801 (pvargas@uiuc.edu).

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Our research design is based on the idea that pictures in contemporary commercial communication are beginning to function in a manner analogous to a writing system. We believe that this development has been made possible by the technologies of the mass media. Through their sophistication, easy access, and ubiquity, the new technologies are teaching a large vocabulary of images to a broad audience for the first time (Scott 1993). The Web version of this article contains a tutorial appendix that demonstrates and illuminates the proposed system (see the tutorial appendix, available in the electronic version of *JCR*).

THEORY

“Speech made visible” is the traditional definition of writing. This standard, however, has been under assault over the past 20 years in linguistics, archaeology, anthropology, and other fields that concern themselves with the study of human writing systems. The impetus is the need to make way for a burgeoning list of writing systems that are not based on the coding of speech. For instance, the recent decoding of pre-Columbian American writing systems that are not phonetic, but are pictographic or ideographic, has provided important counterexamples to the conventional wisdom. Ancient or isolated scripts do not, however, fully account for the urgency with which the writing-as-coded-speech maxim is being attacked. The preponderance of counterevidence is in the growing global systems of scientific expression and of mass media, especially consumer culture. From the structural formulae of chemistry to the ubiquitous corporate logo, those who define writing are presented with examples of cogent, complex communications that (1) do not depend on an initial pass through speech and (2) are only awkwardly and incompletely translated into verbal form (Boone and

Mignolo 1996). The definition of writing has evolved to meet the increasing awareness of different systems and the changing environment. The definition offered by Sampson (1985), in which writing is "the communication of relatively specific ideas in a conventional manner by means of permanent, visible marks," is increasingly valid (Boone and Mignolo 1996, 15).

Because of the relatively late date of alphabets (about 800 BCE) and because of the preponderance of Chinese in the world population, most writing in human history has had a fundamentally pictorial component. The initial marks in the earliest writing systems, as in Mesopotamia, were schematic pictures of people, animals, weapons, and so on. However, a writing system where only representations of objects can be made would be severely limited: there would be no way to signify many qualities, actions, concepts, and proper names because they cannot be pictured. As the result of this basic limitation, all picture-based writing systems have been adjusted to expand the scope of the system. This was accomplished in various cultures by different methods and logics. In a very summary way, however, we could say that by varying context and stylization, picture-based systems were adapted until they could express an infinite range of thoughts.

All such writing systems were cumbersome, containing hundreds of characters with an equally large number of visual adaptations that potentially impinged on meaning. Indeed, one of the main reasons that alphabetic systems were so successful, once introduced, was that an alphabet with a small number of characters corresponding to sounds—instead of a large number of characters corresponding to objects and concepts—was much easier to learn. Thus, though picture writing has been used to express everything from literature to accounts, its diffusion through large populations has been limited by the difficulty of mastery: only the leisured classes have been able to devote the time necessary to learn it (Goody 1968). This historical perspective on the use of pictures as writing gives us good reason to reject the viewpoint in which pictures are merely sensory analogs that rely on neither learning nor cognition for their ability to communicate.

Both the origins of writing and the impetus behind major evolutionary changes in writing systems are usually traceable to everyday needs, especially to the purposes of commerce. Contrary to the literary prejudices of our own time, writing was not invented for the creation of poetry, philosophy, or religion but consistently has appeared, spread, and been altered in the name of trade (Goody 1968, 1986). It is believed that the Neolithic origins of all writing, in fact, lie in a system of tokens used to account for the movement of goods (Schmandt-Besserat 1992). Thus, we should not be surprised to see major innovations occurring first in a commercial context; on the contrary, based on history, that is exactly what we would expect.

From the token system, the forerunners of all later alphabets came—first as pictographies, then as syllabaries, and, finally, as a coding system based on a more or less one-to-one correspondence between letter and sound. So the

alphabets of today were born as picture-based systems. Token systems included geometric and other nonrepresentational shapes as conventional or abstract markers right from the start. The practice of abstracting the concept of quantity also first emerged from Neolithic tokens. Thus, mathematics shares this picture-based origin with alphabets.

Because of these multiple uses, sources, and technologies, hybridity is endemic to writing systems. All the known coding schemes—including the alphabetic systems of the industrialized West—make use of multiple types of signs. For instance, a commonly noted weakness of alphabetic notation in English is that, unlike some systems, it has little ability to express inflection. Italics was adopted in the sixteenth century as a means of indicating emphasis—a purely visual modification to a phonetic system (Sampson 1985). Today, we see the growing vocabulary of "glyphs" that can be added to provide expressive context to e-mail—a twenty-first century attempt to further improve the expressive capabilities of the alphabetic system by visual means.

No writing system is utterly pure in its logic of coding, and no system is perfect in its ability to communicate. All such systems wobble, and, despite the desires of prescriptivists to fix them in some arbitrarily pure form, they are constantly evolving. Throughout history, major transformations in the form of writing have followed small changes in the tools used—switching from a clay to a wax tablet, from a square to a round writing surface, or from a stylus to brush, for instance, resulted in huge changes in the written forms of the Mesopotamian cuneiform, the Hebrew syllabaries, and the Egyptian hieroglyphs, respectively. Thus, the new definition of writing on which we have based this study speaks to the transformational potential created by twentieth-century communications technology, especially the World Wide Web. For all these reasons—the roots of writing in pictures, the impetus in commerce, the basis for change in technology—the idea that pictures in commercial communication operate as writing is consistent with the world record, no matter how counterintuitive the notion may first seem.

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LITERATURE

Our proposal takes its departure from Scott's theory of visual rhetoric (1994b) and, especially, her speculations that picturing in mass communication constitutes a form of writing and may be profitably analyzed using poststructuralist theories of text (Scott 1992, 1993). We are specifically continuing the argument against a copy theory of pictures, in which visual imagery is assumed to be an unproblematic reflection of reality. Instead, we see a convention-based system in which viewers and makers share certain expectations, schemata, and implicit rules (Scott 1994a). Our proposal strengthens that framework by showing how a different the-

ory can explain results obtained under the sensory paradigm, by undergirding the conceptual bridge between writing and pictures, and by showing that consumers read pictures as informational statements about brands.

Studies where pictures have been tested against sensory models of response have already resulted in conclusions that suggest instead a semantic model. For instance, Pimentel and Heckler (2002) tried to model response to a logo on prior studies showing responses to simpler, nonsemantic stimuli, such as water temperature. The results led these researchers to conclude that treating logos as nonsemantic forms was not valid. Instead, they argued that logos were liked in their most familiar form precisely because of the rich, complex layering process that had given them meaning.

In advertising research, studies have shown the response to repeated exposure varies a great deal. Several different theories, most of them speculations about depth or ease of processing (specifically, visual fluency), have been offered as explanations by scholars working in this area (Scott and Batra 2003). Janiszewski and Meyvis (2001) studied various combinations of logos and concluded that positive response to repeated exposure ultimately depended on the degree of semantic complexity. So, while the repetition of simple stimuli initially causes positive affect, their findings suggest that sustaining a positive consumer attitude through multiple repetitions requires the addition of elaborative thinking—through the meaningful content of the images.

Interestingly, Janiszewski and Meyvis (2001) used both fake and real logos. Though the study did produce variation according to the repetition schemes, the real logos were always preferred two-to-one over the fake ones. We would argue that this effect is due to the same phenomenon we saw in Pimentel and Heckler (2002): the real logos were already semantically complex because years of communication, mostly accomplished through advertising, have layered them with meaning.

Once we think of logos as familiar components in a stream of complex communication, we can explain other research findings. Nordhielm, for instance, set out to study repetition effects (2002). Though her texts were less complex than one ever finds in actual advertising, Nordhielm's findings supported the wisdom of common practice: ads are varied, sometimes frequently, but slogans and logos tend to remain the same, year after year. The combination of new and familiar coordinates mitigates the effects of repetition. Thus, logos and slogans can become heavy with the meaning that years of advertising adds to them, while not becoming boring themselves. Each appearance "free plays" against all previous significations on behalf of the brand (Scott 1992).

As symbols standing for complex ideas, familiar logos are not comparable to raw sensory experience. We offer that Pimentel and Heckler (2002; also Janiszewski and Meyvis 2001) were actually studying a specific form often contained by written language: the ideograph, a conventional mark that, through layered association in use, is able to signify a complex constellation of meaning.

Writing systems, because of their hybridity and dyna-

mism, contain the potential for many subtypes of signification, based on various logics—phonetic, logographic, ideographic, and semasiographic are a few of the coding logics enumerated in the literature on writing systems (Sampson 1985; see the tutorial appendix, available in the electronic version of *JCR*). We propose that the rhetorical stream of research on visuals has also been studying a subtype within a larger system: the visual trope (McQuarrie and Mick 1992, 1996, 1999; Morgan and Reichert 1999; Mothersbaugh, Humann, and Franke 2002; Phillips 1997). Taken as a whole, this corpus shows clearly that consumers glean complex metaphorical meanings from pictures. But the step from pictures-as-sensory-data all the way to pictures-as-figurative-language is a large one. We feel that there is a link missing. For signs previously seen as sensory data to be communicating at one of the most complex levels of language (figuration), it should first be shown that consumers read simple information—such as lists or short declarative statements—in images.

Regardless of the logic of coding, writing systems must be learned (Sampson 1985). We expect that different readers of alphabetic writing gain varying levels of training, have a range of exposures to textual material, and give idiosyncratic responses to a given text. This variation has been demonstrated in the reading of ads in consumer research (Mick and Buhl 1992), but the mechanics have remained, until now, unspecified. By understanding pictures as a form of writing—a system one must learn to read—we could easily explain the difference in ability between children and adults (Zhang and Sood 2002), between novices and experts (Mandel and Johnson 2002), between individuals (Mick and Buhl 1992), and among different subcultures (Brumbaugh 2002) to interpret pictorial messages, just as there are differences among various human subgroups in alphabetic reading ability. We might further anticipate that people learn to read pictures critically (just as they do text), adapt the pictures they read to new situations, use images they read to create new things or ideas—even reject what they read in one visual text, in favor of what they read in another. Thus, we limit our comprehension of what really goes on in the processing of pictorial communications when we insist on defining such messages as concrete, sensory, or even iconic rather than admitting the very clear ability of pictures to be abstract, conceptual, and even tools for thought (see Tufte [1990] and other works by the same author).

Indeed, the large body of ads analyzed by Phillips and McQuarrie (2002) strongly implies trends indicating a widespread ability to read pictures, as well as suggesting that advertisers' growing propensity to rely on figurative images, unsupported by explanatory words, is occurring because of presumed sophistication and skepticism in the consumer audience. Yet, in spite of the burgeoning body of evidence showing that commercial imagery does more than copy objects, studies continue to claim that pictures will add realism and therefore credibility to advertising claims. The results leave authors straining to explain counterintuitive data (e.g., Lohse and Rosen 2001) when the better solution is to aban-

don a dubious theory of pictures in favor of a more consistently explanatory concept. So we will now turn to a seminal study that, though it had a pronounced, long-term impact on the field, produced some puzzling results even in its own time.

STUDIES AND FINDINGS

We chose Mitchell and Olson (1981) as our point of departure for several reasons. First, it represents the first instance in *JCR* where advertising visuals are specifically addressed and in which they are theorized to be noninformational (Levold 2002). Thus, this study is seminal, in that it set the framework for all the studies that followed treating visuals as potentially affective stimuli—working through their presumed resemblance to objects sensed in the real world (i.e., through copy theory)—but not as carriers of brand information as such. Further, Mitchell and Olson is the study against which Scott (1994b) sets her anchor in arguing against copy theory and in favor of a theory of visual rhetoric—and thus is, in an oppositional way, seminal for the rhetorical stream, as well. Recent citation studies have shown that, even in the past decade, Mitchell and Olson is one of the most frequently cited in the advertising/marketing literature (Pasadeos, Phelps, and Edison 2005). Finally, Mitchell and Olson, in having chosen a specific list of picture types as well as a specific list of brand information that was not expected to inhere in those pictures, provided us with a crisp framework to showcase an alternative explanation.

Mitchell and Olson's primary objective was to test Fishbein's theory of attitude formation, in which the attitude toward the brand was thought to be the sum total of beliefs formed from brand information, against two other theories that each assumed attitudes could be formed without beliefs (or information). The other theories were Zajonc's "mere exposure" theory and classical conditioning. Interestingly, Mitchell and Olson exclude repetition effects from their analysis, even though both mere exposure and classical conditioning effects are dependent on repetition. Instead, the alternative theory tested by Mitchell and Olson seems to argue that attitudes can be formed based on exposure to a noninformational stimulus. In Mitchell and Olson, the "non-informational" ads are those with only pictures, while the "informational" ads are those with written verbal statements about brand attributes. *Ipsa facto*, pictures have the power to produce an attitude by their simple presence—in the absence of either information about attributes or the formation of beliefs. Mitchell and Olson allude to emotions as the means by which this would occur. Thus, this study sets the stage for many later studies that assume images work through emotions rather than as information.

The researchers expected images to effect a positive or negative attitude, but that only verbal statements would communicate brand information. The brand attributes tested, for a facial tissue, were softness, absorbency, colorfulness, strength, and price. Three images were used: a cat (presumed to be a positive stimulus and to connote softness), a sunset

(presumed positive), and an abstract painting (presumed neutral). Mitchell and Olson do not explain why they believed the cat picture capable of saying softness, but the other pictures were not expected to communicate brand information.

The actual findings were that the cat was positive and did connote softness but also absorbency. The sunset was positive but also communicated colorfulness. The painting was viewed much less positively than other stimuli—and resulted in brand beliefs that the tissue tore easily, was not absorbent, and was cheap. Mitchell and Olson attribute their unexpected results to external causes. Their theory and design did not suggest an explanation for this aspect of their outcomes. We wish to provide one. We propose to demonstrate that Mitchell and Olson's subjects read the images as statements of information and responded accordingly. We are not concerned with testing Fishbein's or any other model of attitude formation here. Instead, we are questioning the tacit assumption made by Mitchell and Olson—and many others who followed—that images affect consumers via emotion or sensation rather than through a coded, conventional system.

However, we set our objective well beyond merely replicating Mitchell and Olson's outcomes. It would be easy enough, we thought, to show consumers a picture of a cat and get them to say that the facial tissue thus advertised was soft. Or to show them a sunset to see if they said it was colorful. Cats as symbols of softness and sunsets as exemplars of color are frequent enough in this culture to be clichés. If, however, we could take varying pictures of the same three types—a cat, a sunset, and an abstract painting—and communicate the full range of product attributes, as well as obtain both negative and positive attitudes, then we would have seriously opened up the possibility that simple pictures were functioning like writing. So that is what we set out to do.

Since other picture-based writing systems in history have extended the resemblance limitation of pictures primarily via contextual additions and stylization, we took that strategy here. We decided to try and communicate each attribute from the Mitchell and Olson study (softness, absorbency, price, strength, and color) using differently stylized pictures of cats. This would show that the manner of representation could take a picture beyond the point of merely referring to an object. Then, we wanted to do the same thing (communicate all brand attributes) using different pictures of sunsets, but to accomplish this by focusing on varied context, that is, by changing the landscape over which the sunset occurred. Next, we hoped to show that different abstract paintings could communicate the same five attributes merely by showing different lines, planes, colors, and textures—without any object at all. Across all three picture types, we also wanted to try and communicate the absence of key attributes; that is, we wanted cats that did not say soft, sunsets that did not say colorful, and so on. Finally, we wanted to produce both a positive and negative response to a cat, a sunset, and a painting, in order to support the idea

that something more complex than an emotional response to a sensory analog was underpinning consumer feedback.

We would not expect the intended expressions of meaning to be uniform or perfect across all respondents because all writing systems—even alphabetic ones—have wobble. However, we would expect to see at least a significant tendency to interpret the images in the direction of our intention. Importantly, we do not need to demonstrate that the images translate into speech statements because we are not working with a writing definition based on oral speech. Nor do we need to demonstrate that beliefs were adopted as the result of the communication, nor that there was recall or an involvement dimension. We need only demonstrate that the pictures consistently deliver a priori specified information to respondents in order for the argument that they function like writing to be reasonable enough to pursue in future research.

Study 1: Choosing the Pictures

If pictures are a convention-based form of writing emergent in the general culture, then we, as writers, should be able to choose images that would be interpreted by readers in the same culture as signifying specific message information in a broadly consistent way. We collected 31 pictures: 13 cats, 7 abstracts, and 11 sunsets. With the cats, we tried to communicate colorfulness either by the presence of many colors in the drawing or by pictures with highly saturated colors. Conversely, we tried to dampen the communication of colorful by using black-and-white or minimally colorful pictures. It was a challenge to find pictures of hard cats, but we accomplished this by using some pictures of toy cats made of hard materials like wood and metal. Negative cat imagery is easy to find: Halloween cats, scruffy alley cats, and the like provide plenty of material. A sunset over a soft-focus landscape of rounded hills could, we thought, communicate soft and colorful, as well as producing a positive attitude. By contrast, a black-and-white sunset over a graveyard (or a nuclear power plant) should produce, we speculated, negative attitude and no color/softness attributes. The seven abstract works included paintings by Mark Rothko, Georgia O’Keeffe, Piet Mondrian, Claude Monet, Paul Klee, and Jackson Pollock. In general, we expected the Rothkos and O’Keeffes to communicate softness and, perhaps, color. We expected Mondrian to be stronger on color but not to communicate softness because of the straight lines he typically used in composition. A black-and-white painting by Pollock we thought would read as lacking in color or softness—and perhaps be seen as cheap. (For color versions of the stimuli, see the tutorial appendix, available in the electronic version of *JCR*.)

Our plan was to show the images to a group of respondents to see whether they thought the images communicated the same ideas we thought they did. Like Mitchell and Olson, we used a facial tissue to anchor the exercise and formatted the images to look like ads. However, since we were interested in whether there was overlap between our own speculations about what these pictures might say and the

way that respondents would read them, we decided to ask subjects to tell us what they thought the images communicated about the facial tissue. Further, since we were trying to unearth a shared system of symbolic communication, we framed our questions in terms of what the pictures would mean to “most people” rather than to the individual. However, since we also wanted to measure an overall evaluation, we reframed the question in individual terms for the final assessment.

We anticipated one potential pitfall. Because ads normally try to present the product in a positive light, we expected that the images in our study, which were intended to be negative or to communicate the absence of attributes that facial tissues should have, might be confusing to some respondents in an advertising context. So we decided to provide a warning that some of the images might not seem quite right for an ad as part of the experimental instructions.

Method. Seventy-seven undergraduates from the University of Illinois participated in the study for extra credit. All treatments were within participants. Participants came to a laboratory in groups of up to eight and were seated at one of eight personal computers. A research assistant started a software program that presented the stimuli in a controlled fashion. A series of introductory slides introduced participants to the study and provided some information about the task they were to complete. Then, a randomly selected advertisement appeared on the right side of the computer screen and remained there for 10 seconds. Next, one of five questions (randomized to obviate serial position effects) appeared on the left side of the screen, while the advertisement remained constant on the right side of the screen. Participants responded to five standardized question stems, “If this were an ad for facial tissue, it would communicate that the tissue is,” with different four-point response options for each characteristic (e.g., not at all soft, slightly soft, fairly soft, very soft; not at all strong, slightly strong, fairly strong, very strong; etc.). Finally, an overall evaluation question with a seven-point response scale was presented. The process repeated until all 31 ads had been viewed and evaluated.

Results and Discussion. This was a complex set of data, with five attributes, 31 stimuli, and attitude measures to analyze. A simplified table of results shows that our commonsense predictions, while not perfect, were generally on target. Mean scores were subjected to univariate *t*-tests examining differences from the midpoint of the scales. Table 1 provides a summary of mean standardized effect sizes for items hypothesized to be above (positive values), neutral, and below (negative values) the midpoint of each scale. In order to provide a more conservative test, these effect size scores were computed using responses to all items, not just those that confirmed our a priori beliefs about what each image would convey. These data show a pattern clearly supporting the primary hypotheses of the study: averaged across all stimuli and all questions, overall effect sizes are +0.368, -0.047, and -0.761 for items hypothesized to be positive, neutral, and negative, respectively (small, medium,

TABLE 1
MEAN EFFECT SIZES FOR UNIVARIATE T-TESTS

	Softness	Absorbency	Colorful	High price	Tears easily	Evaluation	Overall
Positive	.543	.283	.734	.488	-.087	.122	.368
Neutral	.107	-.024	.090	-.284	.037	-.091	-.047
Negative	-.874	-.533	-1.197	-.718	.013	-.731	-.761

and large effect sizes are 0.2, 0.5, and 0.8, respectively). Items hypothesized to be positive obtained a medium positive effect, items hypothesized to be neutral obtained a very small negative effect, and items hypothesized to be negative obtained a large negative effect.

The results also allowed us to select a smaller subset of images that came closest to communicating, according to the objectives. We had one set of images that were intended to replicate, as closely as possible, the Mitchell and Olson selection. The pictures were not reproduced in the original Mitchell and Olson (1981) article. So, based on the assumptions made by the authors, their descriptions of the stimuli, and the findings from respondents, we selected what we thought the original pictures might have been like: a white fluffy cat on a black background, a sunset over an ocean, and a Mondrian painting (see fig. 1). The results for these specific pictures are in table 2. The scores represent mean differences from the scale midpoint, positive numbers reflect higher ratings on the criteria, and negative numbers reflect lower ratings. Asterisks indicate that the image was rated significantly different from the midpoint of the scale on the attribute in question. Where the outcome was consistent with our expectation, the number is bolded.

Fluffy Cat did, as we expected, communicate both softness and absorbency. As a white cat on a black background, it predictably did not communicate colorfulness. We did not think that this image said anything about price, but the respondents read "high priced." We did not expect anything about this image would communicate strength, and we were right. But we predicted, to be consistent with Mitchell and Olson, that the image would be positively evaluated, and that was not the outcome. So Fluffy Cat said "soft," "absorbent," and not "color" to respondents, as it had in the 1981 study (Mitchell and Olson 1981), but it also communicated high price and fragility, which it had not done before, and, contrary to the previous study, it was viewed neutrally.

Ocean Sunset communicated colorfulness, as in Mitchell and Olson, but also softness and absorbency. We did, because of the style of the picture, think that we might get soft as a response, but we had not predicted absorbency. Consistent with Mitchell and Olson, we predicted no information would come from this ad about price or strength, and we were right. However, the prediction that the stimulus would be positive, as in the earlier study, did not obtain.

The Mondrian communicated hardness rather than softness. We did not expect it to communicate absorbency, but it actually communicated nonabsorbency. And, as predicted,

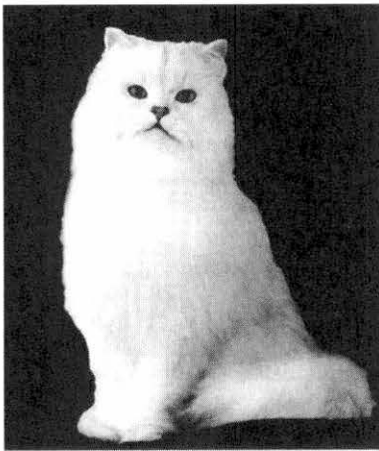
it did show strong ability to say "color." We did not expect this image to communicate either "cheap" or "tears easily," as in Mitchell and Olson—we were looking for that result to come from the Jackson Pollock painting discussed later. We did think the image would be neutral, but, consistent with Mitchell and Olson's abstract painting, it was negative.

In a second strategy, we tried to find images to communicate the absence of attributes and a negative impact. Hard Cat, Pollock, and Roadside Sunset were the best for this subset (fig. 2). The results for these specific pictures are in table 3. The scores represent mean differences from the scale midpoint, positive numbers reflect higher ratings on the criteria, and negative numbers reflect lower ratings. Note that all of these images significantly communicated the absence of both softness and absorbency, as we expected. Interestingly, all three also were judged to say "not colorful." However, see that Roadside Sunset is, unlike Fluffy Cat, a very colorful image. In fact, the color in this photograph was among the most saturated images in the set. The black-and-white sunsets scored less negatively on colorfulness than did this construction image. This is an important case because it tells us that the mere presence or absence of color in the picture is not enough to predict the communication response. All three of these counterstrategic images communicated cheap, as we hoped they would. We expected that Hard Cat and Roadside Sunset, because of the hardness of the materials depicted, would communicate strength, yet they both were judged to say nothing about durability. In contrast, the Pollock, which we thought said both "cheap" and "tears easily," did not communicate fragility. Again, these outcomes are interesting from the perspective of developing a set of principles, since they imply that depiction of content (e.g., hard materials) does not, by itself, explain the message. Finally, unlike the Mitchell and Olson look-alikes, we did consistently get a negative evaluation, as predicted.

The next three images (fig. 3) were attempts to push the envelope of Mitchell and Olson's results by communicating colorful using cats and softness/absorbency using sunsets and paintings. The results for these specific pictures are in table 4. The scores represent mean differences from the scale midpoint, positive numbers reflect higher ratings on the criteria, and negative numbers reflect lower ratings. This cat, this sunset, and this painting all communicated softness and colorfulness. We have been tempted to conclude that softness and absorbency are simply linked in consumers' minds, since many of our results showed either the presence or absence of both, in spite of our estimation of their formal

FIGURE 1

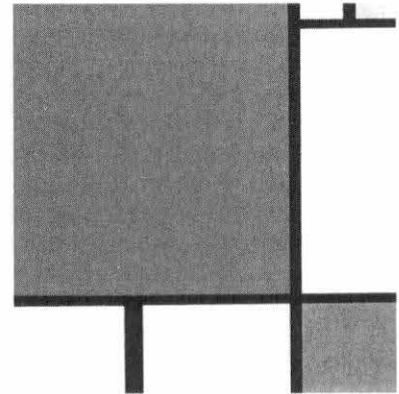
INTENDED REPLICATION IMAGES



Fluffy Cat



Ocean Sunset



Mondrian

NOTE.—“Fluffy Cat” is from a Fancy Feast advertisement (1995), altered using Photoshop. “Ocean Sunset” is a photograph taken by Linda M. Scott. “Mondrian” is Piet Mondrian’s *Composition with Red, Blue, and Yellow* (1933).

features. However, Colorful Cat broke this pattern by communicating one but not the other. We expected Colorful Cat to be neutral on both price and strength, but the results showed cheapness and easy tearing. We also thought that people would like this cat, but they were not very favorable toward it. The sunset, with its soft colors and rolling hills, communicated the three main attributes as expected. It seemed a classy image to us, and, since we also thought that it promised all the main attributes, we anticipated people might think that the tissue was pretty expensive and would extrapolate from the price and the total package of attributes that it was also strong. We were right. Not surprisingly, given the overall profile of the product communicated, this image was also evaluated quite favorably. The O’Keeffe has a subtle palette of blues and greens as well as soft shading. We thought that this would say both soft and absorbent, but we did not expect it to read “colorful” because the colors were so muted. Like Soft Sunset, it seemed classy to us, so we predicted “high price” for it. We were right about that, but we were surprised by the response that the tissue would be strong. We also thought that this image would evoke a

positive evaluation, but it did not—in spite of having communicated the full run of desirable attributes.

Notice how close we have come to our initial objectives, both in the response to the total set and in the strategy vis-à-vis Mitchell and Olson. Not only were we generally right in our predictions, we also were able to communicate all five attributes with at least one of each picture type—a cat, sunset, and an abstract painting. We were also able to communicate the absence of color, absorbency, strength, and softness, as well as both ends of the price spectrum and a negative attitude with specific cats, sunsets, and paintings. Thus, we can suggest at this point—and this is an important contradiction to a copy theory of pictures—that what is communicated by an image is not a function of the object pictured but is more closely linked to issues of context and style.

Obviously, however, some of these images conveyed unexpected results. We wanted to get a little closer to what aspects of each picture respondents were using to deduce the intended message and to figure out why some of our outcomes were not as expected. So, as a next step, we de-

TABLE 2

MEAN DIFFERENCES FROM SCALE MIDPOINT

	Softness	Absorbency	Colorful	High price	Strong	Evaluation
Fluffy cat	.929***	.448***	-.838***	.500***	-.020	.104
Ocean sunset	.448***	.318**	.630***	.007	.046	.078
Mondrian	-.578***	-.396***	.448***	-.110	-.046	-.701***

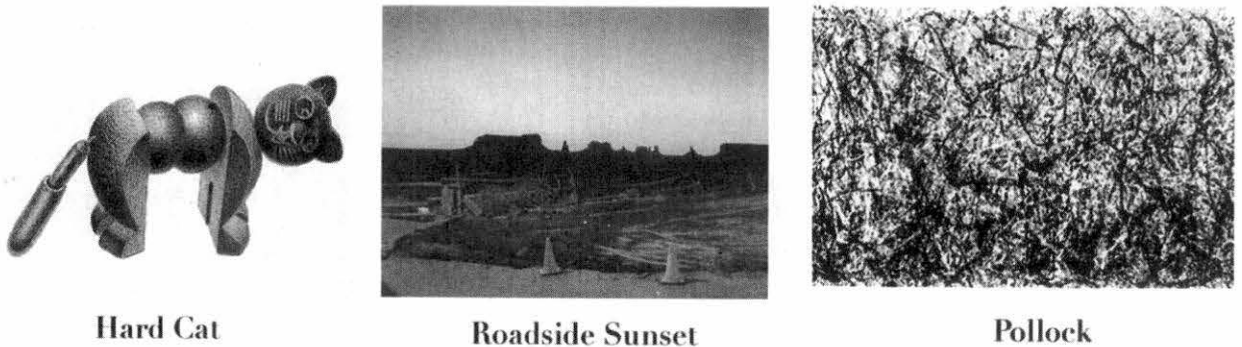
NOTE.—Bold numbers indicate confirmed a priori expectations.

** $p < .01$.

*** $p < .001$.

FIGURE 2

INTENDED NEGATIVE IMPACT IMAGES



NOTE.—“Hard Cat” is a detail from Nicola Bayley (1998), *The Necessary Cat* (New York: Candlewick, 3). “Roadside Sunset” is from *Between Home and Heaven* (1992) (Washington, DC: National Museum of American Art, 6). “Pollock” is Jackson Pollock’s *One Number 3* (1950).

cided to conduct interviews with subjects about the properties of this smaller set of nine images. We also added one ad with just a verbal statement of softness, so we could compare the way in which respondents talked about interpreting alphabetic writing with the way in which they interpreted the images.

Study 2: Interviews

We conducted individual interviews (about half an hour each) with two groups of people, 10 secretaries and 10 students. Our purpose was to get them to talk through the thinking behind their interpretations and, specifically, to show us which visual elements in each picture told them the product information. Our expectation was that the elements in the pictures were so broadly understood that there would be no appreciable differences between the two groups.

Each interview was introduced as exactly what it was—an investigation into the meanings that images could communicate about products. We told each respondent that we were not looking for any secret or tricky answer (such as subliminals) but that we just wanted them to talk to us about how they would interpret the ad as a consumer. Each was told that they should evaluate the picture as a potential ad for a facial tissue. Then each was shown the same three

cats, three sunsets, and three abstracts discussed above, as well as one verbal ad. We asked subjects to say first what they thought that the ad communicated and to point to or verbalize the cues that led them to that conclusion. Then we probed for each additional attribute and asked what in the picture led them to believe that the product did or did not have that attribute. We did not guide or hint but simply asked the questions and waited for the answer. Though the procedure was roughly uniform, there was no set script, as we were trying for a natural, conversational atmosphere. Though there were individual differences, the interpretations in the interviews were consistent across the groups (as were the cues used to buttress them) and with the data we had collected previously.

The Cats. Viewers pointed to Fluffy Cat’s fur to support the idea that the tissue was soft and would only come in white. We got our explanation for the high price inference: subjects often said that the product was expensive because the cat looked snobbish and as if it belonged in an upper-class home. Absorbency was sometimes inferred as a secondary characteristic of the thick fur, while durability was not usually taken from this picture.

Respondent: I would think that that ad for a facial tissue would be soft, nice to touch and feel. This cat kind of looks

TABLE 3

MEAN DIFFERENCES FROM SCALE MIDPOINT

	Softness	Absorbency	Colorful	High price	Strong	Evaluation
Pollock	−1.214***	−.721***	−1.331***	−.591***	−.071	−1.961***
Hard cat	−1.266***	−1.033***	−1.149***	−.760***	.240 ⁺	−2.156***
Roadside sunset	−1.136***	−.812***	−.487***	−.929***	.046	−1.649***

NOTE.—Bold numbers indicate confirmed a priori expectations.

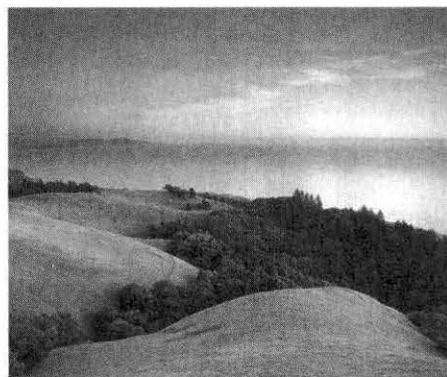
⁺ $p < .10$.

*** $p < .001$.

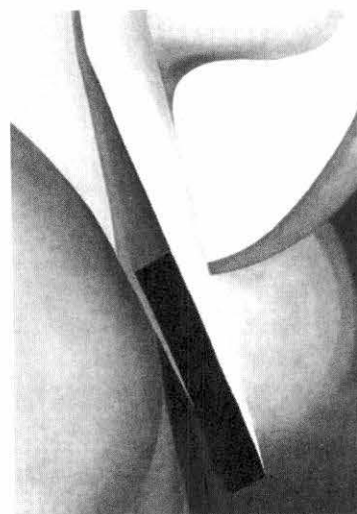
FIGURE 3
MULTIPLE ATTRIBUTE IMAGES



Colorful Cat



Soft Sunset



O'Keeffe

NOTE.—“Colorful Cat” is from Denise Fleming (1998), *Mama Cat Has Three Kittens* (New York: Holt, 4). “Soft Sunset” is Michael McAreavy’s “Mount Tamalpais,” as reproduced in the *Guild* catalog, Spring 1996. “O’Keeffe” is Georgia O’Keeffe’s *Black Spot No. 2* (1919).

scruffy and furry. Very calm. On your skin it would feel nice and comforting to use.

Interviewer: Would you think it would be absorbent or durable?

R: I would think absorbent because it’s a thick cat so it can hold a lot. Durable? I don’t think of durability when I think of a cat.

I: Would you expect this tissue to come in colors?

R: This is mainly a black-and-white photo. They are the primary colors, but it would be a white facial tissue.

I: Would you expect it to be high price, medium price, low price?

R: I think high priced because the cat itself looks sophisticated with the all-black backdrop. It’s just kind of sitting there very calm, with a tall pose making it kind of seem high

and mighty. It would be a pretty expensive type of facial tissue. (Respondent 2)

Colorful Cat not only consistently communicated colorful-ness by virtue of the many hues in the picture but was also seen as a children’s tissue because the palette was bright and primary and the style of rendering cartoonlike. The cat licking its paw was taken to imply gentleness, and therefore softness, as well as absorbency. The estimate of price was based on the intended user.

R: This picture, I would think it, the Kleenex, is more oriented more toward younger kids or something.

I: Children?

R: Children, yeah. ’Cause you know its picture, hand, it’s . . . it’s, . . . it’s a hand-drawn picture, and it’s, you know, some people might find that it looks cute.

TABLE 4
MEAN DIFFERENCES FROM SCALE MIDPOINT

	Softness	Absorbency	Colorful	High price	Strong	Evaluation
Colorful cat	.721***	.149	.981***	-.227*	.227*	.325*
Soft sunset	.695***	.500***	.812***	.396***	-.383***	.948***
O’Keeffe	.448*	.227*	.214*	.396***	-.201*	.130

NOTE.—Bold numbers indicate confirmed a priori expectations.

**p* < .10.

***p* < .05.

****p* < .001.

I: Hmm, that it's cute or the fact that it's hand drawn, would imply also that it was—

R: Also the colors.

I: The bright colors?

R: Yeah.

I: Yeah, yeah. OK, if it is for children, would you expect it to be high priced, low priced, or . . .

R: I would think pretty low or average priced.

I: And would you expect it to be soft or softer than average Kleenex?

R: Yeah, I would expect it to be pretty soft.

I: OK why would that be?

I: Like he's licking his paws and that's like, like it like shows tenderness or something. (Respondent 19)

Hard Cat was not seen as soft because, as we had expected, the wooden material was not thought to be soft. The same picture did not communicate colorfulness because the cat was black/brown and there was no other color in the picture.

R: This is for tissue, right?

I: Uh huh.

R: I don't know. I wouldn't buy it.

I: OK. How come?

R: Well, it just seems like an ugly painting first of all. Or whatever it is, the cat looks like it's twisted in such a weird way. It seems a little harsh. It's not welcoming. The colors seem really dull. . . . I would expect probably durable. It's like a cat is usually soft or has fur, but they've taken the picture of the cat and made it into . . . it looks utilitarian. Like it's flat, it's hard. So they've taken that away, and it seems like instead of making it soft they've made it hard. So I'm thinking probably the tissue would be the same. Instead of serving the purposes of being soft and comforting, it's more durable, it can hold more. (Respondent 16)

The Fluffy and Colorful Cats were both evaluated positively in interviews. Hard Cat was evaluated negatively; however, many respondents tried to "make sense" of its use for a facial tissue ad by speculating about the intended audience. For example, one respondent thought it might be a facial tissue for intellectuals, and, therefore, its austere shape might be thought appropriate.

The Sunsets. The reason that Soft Sunset and Ocean Sunset were seen as connoting absorbency was the presence of water in the scene. The water in the Ocean Sunset picture was fairly still. Viewers took this to indicate calmness and, therefore, softness. The colors were pastel, so viewers inferred that the tissue came in pastels. The soft grassy hills, the soft focus of the water, and the soft colors in Soft Sunset were used to support an interpretation of softness. Respon-

dent 7 said: "I would assume it would be soft just because of the setting of the picture. Because it just gives me like a relaxing feeling. With that being pressed up against your face it would be a soft gentle feeling. Sort of like how the ocean or the water is not wavy but just like gentle."

Roadside Sunset was not seen to communicate softness or absorbency: "rough" was the first word nearly every respondent used to describe the scene. The product was seen as cheap because of the unfinished roadwork in the scene. Respondent 10 observed: "there's like construction cones there which is not cool so [laugh] it makes you think there's something wrong, so I would say this brand of tissue sucks a lot and is not absorbent at all and is very cheap and coarse and white." Respondent 18 said: "I guess I wouldn't expect too much from this tissue, because I don't—everything in the picture seems like, it's all dirt and everything is all rough and coarse and you see all these sharp like edges, and you think not soft and gentle things." In order to make sense of the picture, several viewers offered that the Roadside Sunset tissue might be for men (and come in man-sized sheets) or that it might be a travel tissue.

The Paintings. Respondents sometimes read the soft colors in the O'Keeffe painting as indicators of softness but nearly always pointed to the curvature of the lines as communicating softness. The black object in the lower center of the field was taken to signify strength. Certain areas of shading were repeatedly pointed to as communicating absorbency. Respondent 15 was typical: "Yeah, I think it would kind of show softness, but these blues and purples are calming. So it would like signify they would take care of the problem that the Kleenex is going to be used for. They would be calming. The black box in there would signify some more strength. Absorbency because the way things are blending." Viewers said the Mondrian was colorful, but not soft, because the straight lines and boxy shapes were hard. Interestingly, in spite of the primary palette, the painting was not seen as an ad for children's tissues. The Pollock was the most negatively evaluated stimulus in the entire set. Some thought the painting suggested that there were still splinters in the tissue because it was of cheap grade; hence, the reading that the tissue itself was cheap: "this doesn't look like it would be especially soft or gentle or absorbent. Not really sure what to get out of this picture, besides that it is a really average, plain, white Kleenex, like bargain, like Dominick's brand" (Respondent 18). Several respondents articulated that the O'Keeffe and Mondrian would be expensive because they were abstract art—but this evaluation did not extend to the Pollock. This painting, like Roadside Sunset and Hard Cat, nearly always evoked first responses that expressed negativity or confusion. Interestingly, however, respondents often, after initial confusion and reaction, turned the interpretation of these images until they made sense, even if for another imagined viewer and not themselves. Many tried to find an appropriate scenario to explain the ad—often it was speculated that the Pollock tissue was either unbranded or intended for industrial use.

The Words. We also asked respondents to talk to us about an ad that contained only the statement, “This facial tissue is very soft.” The font was Times on a plain white background. Unlike the image ads, the statement ad was nearly always allowed only one attribute, softness, by respondents. Interestingly, a few respondents tried to use the graphic treatment to add other attributes.

R: From the consumer’s perspective seeing this—I wouldn’t buy it.

I: How come?

R: Because it shows nothing. It’s black-and-white, it tells you about it, but there’s no reason beside very simple words telling you to believe it. Because black-and-white does not infer any softness, and it’s two simple colors. Just a very straightforward sentence that doesn’t infer anything. (Respondent 13)

R: Well, I don’t think it would be soft even though it says it is because the black on the white is . . . ya know it’s kinda, it’s drastic. If it were like a pastel blue or pink or something, I think it would appear to have a softer tissue, but because it’s black writing on white paper, it’s not going to be absorbent, and it’s just going to come in white. (Respondent 14)

R: I get credibility out of this statement just because what kind of . . . it just sits there nicely. I feel it’s just resting there. So you get the softness out of that.

I: So that makes it credible even though there is no picture?

R: It’s not so much what it is saying just that it is resting there.

I: Would you take any other properties away from it like, let’s say, the price?

R: The lack of color, the lack of color takes away softness and warmth from it. (Respondent 15)

Subjects tried to explain why an advertiser would only use a statement without an image by attributing a range of “implied author” characteristics (Scott 1994a); they speculated that the advertiser was lazy, miserly, or intentionally ironic, for instance. We believe that the reason behind the confusion is important for consumer researchers: the plain statement needed an explanation because it was so much in violation of normal practice. As Wright explains (2002), people who live in a consumer culture have acquired a social intelligence about how marketing is done and, consequently, hold expectations about commercial texts. Today, ads nearly always use some kind of imagery to communicate; the absence of pictures or graphics presents a puzzle for the reader.

The interviews provided support for our findings in study 1 and explanations for a few mispredictions. We now understood why one cat was expensive and another was cheap. We could see why sunsets with water had elicited “absorbent” when we had not expected it. Because of the way in which respondents struggled to make sense of Hard Cat,

Roadside Sunset, and Pollock, we knew that respondents brought specific expectations to the task and would try to make the image match those conventions. In particular, we thought that subjects’ attempts to use the graphic treatment of the plain text statement had implications for the interpretation of all the data: we wondered whether subjects’ expectations for what makes a good ad were affecting the overall evaluations of the images. We could see that the contrary expectations about ads with no image could potentially produce a lot of wobble in interpretation, even though the statement itself seemed straightforward. In general, the interviews answered many of our questions, but they also raised lots more, particularly about the comparative strengths of alphabetic versus imagistic writing.

Study 3: Comparisons

Our next step was to retest the same nine images but also to test plain text information statements for each of the relevant attributes. We also decided to send up a preliminary test for hybridity. We wanted to test a text-but-no-image ad with a realistic wrinkle seldom recognized in this stream of research: we set the statement in a novelty type. Using Curlz MT typeface in hot pink, we wrote the statement “Brand J is very soft” and threw it into the hopper for testing. We thought that our curly pink type would communicate softness better than the black Times font presentation of the same statement because of the “feminine” font and color. We also thought that it would say “color,” unlike its plain font counterpart. And we thought that it would play more positively than the plain type. This study was also intended to provide a more stringent test of our hypotheses by randomly assigning participants to see one and only one image.

Method. Two hundred and ninety undergraduate students from the University of Illinois participated in the study for extra credit. Participants were randomly assigned to one of 15 conditions. The general procedure was the same as in study 1, with a few notable exceptions. Only one mock ad was presented for 7 seconds, followed by a series of six seven-point questions. The first five question stems were identical to those in study 1 and presented in a random order. In study 3 we used seven-point response options for each characteristic, with verbal anchors at points 1 and 7 (e.g., not at all soft, very soft; not at all strong, very strong; etc.). The overall evaluation question was identical to the first study.

Results and Discussion. Participants’ ratings of the mock ads were subjected to six one-way ANOVAs—one for each dependent measure—and Tukey Honestly Significant Difference (HSD) post hoc analyses within dependent measure. Mean scores by treatment condition and dependent measure are in table 5. The results for the images were generally consistent with the prior studies. Durability continued to be problematic. It still seemed as though perceived appropriateness was having an effect on evaluations. The best-liked images, Colorful Cat and Soft Sunset, were, in

TABLE 5
MEAN SCORES BY TREATMENT CONDITION AND DEPENDENT MEASURE

Image category and condition	Dependent measure					
	Soft	Durable	Price	Absorb	Colorful	Evaluation
Cats:						
Hard cat	2.143 _{ab}	4.714	3.667 _a	2.190 _a	1.762 _a	2.190 _a
Colorful cat	6.150 _a	3.000	3.300 _b	4.300 _a	5.750 _{ab}	3.750 _a
Fluffy cat	5.667 _b	3.778	5.444 _{ab}	3.556	1.889 _b	3.389
Abstract art:						
O'Keeffe	3.882 _a	3.765	4.941 _a	3.882	3.765 _a	2.765
Pollock	1.750 _a	3.650	2.500 _a	2.900	1.650 _a	1.500
Mondrian	2.421	4.158	3.684	3.368	5.421 _a	2.263
Sunsets:						
Soft sunset	5.400 _a	3.850	4.350 _a	4.050	5.750 _a	4.650 _a
Ocean sunset	5.176 _b	3.706	3.588	4.294	4.706 _b	3.353
Roadside sunset	1.857 _{ab}	5.190	2.238 _a	3.190	2.810 _{ab}	1.952 _a
Verbal claims:						
Verbal soft	4.450 _{abc}	2.450 _a	2.350	2.450 _a	1.450 _a	2.000
Verbal durable	2.789 _a	5.421 _{abc}	3.211	3.895	2.632 _b	2.105
Verbal price	2.400 _b	2.400 _b	1.650	2.900 _b	1.650 _c	2.100
Verbal absorb	2.850	3.700	2.400	5.050 _{abc}	1.400 _d	1.800
Verbal colorful	2.706 _c	2.118 _c	2.588	2.118 _c	4.941 _{abcd}	1.824
Miscellaneous: edge word soft	6.095	2.571	3.381	2.810	4.000	3.286

NOTE.—Scores within a cell that share a subscript are significantly different from one another ($p < .05$) using Tukey HSD post hoc comparisons.

our judgment, the most adlike in appearance, while the lowest-ranking scores were given for the most inappropriate ads: Hard Cat, Roadside Sunset, and the verbal-only statements. Though Pollock was not different from the other abstracts on the evaluative dimension, it did receive a very low score as compared to the whole pool. The language-only ads showed strength only in their stated claim (except for price) and did not consistently communicate other attributes. Further, the plain-type verbal claims were, overall, evaluated about the same as the most negative of the images. We believe that this speaks again to the cultural expectation that an ad will contain an image.

A closer comparison of the communication of attributes across images and language is instructive. Cell numbers in table 6 reflect mean difference (row item minus column item), such that positive numbers indicate that the row item communicates more softness than does the column item, and negative numbers indicate that the column item communicates more softness than does the row item. The state-

ment claiming softness communicated that attribute as well as Fluffy Cat did. However, Colorful Cat also communicated softness as well as Fluffy Cat did—but outperformed the verbal statement of the attribute ($p = .03$). Importantly, the pink Curlz MT setting of the same statement communicated softness as well as both cat images, but it also communicated better than did the plain text treatment of the same statement.

Cell numbers in table 7 reflect mean difference (row item minus column item), such that positive numbers indicate that the row item communicates more color than does the column item, and negative numbers indicate that the column item communicates more color than does the row item. Colorful Cat communicated colorfulness, as it was expected to do. Similarly, the Curlz MT statement of softness was also able to communicate colorfulness as an attribute. Interestingly, the verbal statement of colorfulness performed the same as did Colorful Cat and Curlz MT. Fluffy Cat and the verbal statement of softness, however, did not communicate

TABLE 6
COMMUNICATION OF SOFTNESS ATTRIBUTE

	Verbal soft	Fluffy cat	Curlz	Colorful cat	Verbal colorful
Verbal soft					
Fluffy cat	1.22				
Curlz	1.65*	.43			
Colorful cat	1.70*	.48	.05		
Verbal colorful	-1.74*	-2.96***	-3.39***	-3.44***	

* $p < .05$.

*** $p < .001$, using Tukey HSD.

TABLE 7
COMMUNICATION OF COLORFUL ATTRIBUTE

	Verbal colorful	Fluffy cat	Curlz	Colorful cat	Verbal soft
Verbal colorful					
Fluffy cat	-3.05***				
Curlz	-.94	2.11**			
Colorful cat	.81	3.86***	1.75**		
Verbal soft	-3.49***	-.44	-2.55***	-4.30***	

* $p < .05$.

** $p < .01$.

*** $p < .001$, using Tukey HSD.

colorfulness in addition to softness in the way that both Colorful Cat and Curlz MT did.

We are seeing several important phenomena here. First, the verbal statements, when set in plain text, are limited in their capability to communicate, as compared to either the images or the more visual presentation of the statements. Yet the Fluffy Cat image is as limited to softness, at least as compared to Colorful Cat, as the verbal statement of softness is. We infer that the actual content, whether it is the statement made or the object pictured, can be affected—dramatically—by the visual style. To date, no consumer researcher has investigated the impact of visual style on the meaning of imagery—though Henderson, Giese, and Cote (2002) have convincingly demonstrated the range of information brought to a statement by the choice of typeface. As we have seen in the interviews, even the plain typeface is subject to interpretation—that maybe the advertiser is cheap, lazy, or trying to be ironic. Thus, style is an intrinsic part of content. We could also infer that even contemporary alphabetic writing is a hybrid system because the interpretation swings so much on the visual stylization of the lettering. Thus, we must resist the illusion, when working with alphabetic information, that we are using a pure system in comparison to pictures. We should expect wobble and for interpretation to be as much at work in alphabets as in pictographies.

Summary

We feel that our initial suggestion—that consumers can and do read brand information in advertising images—is borne out by the results of our demonstration. We have seen that it is possible to communicate such information in a predictable way, sometimes more effectively with pictures than with alphabetic writing. We have shown the image's ability to have a positive or negative impact, even when the object pictured is the same. We have demonstrated that the range of picture-based statements goes well beyond resemblance to an object or the sensory effects of formal features. Thus, we have shown empirically how the complexity of consumer response to pictures could greatly confound any study that dealt with imagery in a way that rested on researchers' tacit assumption that pictures are merely an environmental analog or a sensory stimulus.

DISCUSSION

We hope that future research in this area will explore further our basic idea that images operate in a manner analogous to writing in more detail, looking for rules of codification and other aspects of conventionalization. Speaking candidly, we would like to see the treatment of pictures as sensory data atrophy in the literature—the treatment of images as meaningful cultural material has, in our opinion, already shown enough robustness in the rhetorical stream and other studies mentioned above that the older viewpoint is no longer tenable.

The basis for writing-with-pictures is probably located in the diffusion of mass media, which makes it possible to learn picture meanings in a way that was not feasible in eras when the circulation of paper, print, and ink was limited and only the aristocracy had the leisure to learn. Scott (1993) has described how the historical evolution of technology has led to this development. Phillips and McQuarrie (2002) have shown the footprint of the trajectory in contemporary ads and speculated that advertisers have come to believe over time that consumers are reading pictures, even as complex tropes. Still, it seems important to document the processes of enculturation and the particular circumstances of learning. The Web version of this article offers a short appendix with examples from children's books to show how pictures are used to teach letters, words, and numbers. We believe that a full investigation of teaching materials for children would show principles and coding logics congruent with the history of writing itself: an amalgam of numbers, pictures, conventional signs, and encoded speech sounds. Such studies would, it seems to us, raise questions about whether numbers, letters, and pictures are processed differently and separately. We believe that a further stream of analysis focusing on the continuing education of populations through popular culture (e.g., films, and even advertisements themselves) would demonstrate the lifelong classroom that makes this postindustrial pictography accessible to millions and, therefore, viable.

A few consumer researchers (Tavassoli 1999 and others) have begun to investigate the differences and similarities between writers and speakers of Chinese and those of alphabetic cultures. We applaud this effort but suggest that some of what we have proposed here might enrich that

FIGURE 4

WESTERN CORPORATE LOGOS IN CHINA



NOTE.—Detail from a photograph by Maio Xiaochen, as reproduced in *Phantasmagoria*, a catalog for an exhibit curated by Wu Hung for the Walsh Gallery, Chicago, 2004.

research. For instance, there is often a basic assumption that the Chinese system is picture based, but the alphabetic system is not. While it is frequently argued that characterizing Chinese as purely pictographic is overly simplistic, it is seldom acknowledged that, as in the Curlz MT example above, the alphabetic system is also not so easily slotted. Further, the globalization of consumer culture creates instances in which it is very hard to categorize the signs—or the responses. A photograph of an auto shop in China (fig. 4) shows the familiar marks of Honda, Volkswagen, Ford, and Toyota. Are these signs read by Chinese consumers as pictures or letters? If few read alphabets but instead are memorizing shapes in a manner more congruent with their own writing system, then it is much less clear how to classify these familiar logos. Again we see that, despite our best

efforts to compartmentalize, images and alphabets are hybrid systems with overlap and ambiguity in use.

Interactivity is a development that consumer research is working hard to get its arms around—and those studying visuals are right in the thick of it (see several chapters in Scott and Batra [2003]). The fact that computer technology allows consumers to write in images (including video) in ways not possible even 10 years ago is in early stages of investigation. We would hope that such studies would flourish, since it is only when the audience itself can write back, so to speak, that one has arrived at true literacy—and true interactivity.

Scholars working on branding agree that the value and meaning of brands can only be accommodated by a complex, subtle examination of multiple factors, including the brand's history and its advertising over time (Holt 2004). A logo

would seem to be the whole of a brand distilled into a single sign—a shorthand jot for a very long and complex text. Yet most studies have treated these heavily layered symbols as if they were meaningless geometric shapes. Logos are perhaps the most abstract, conventionalized instance of picturing in consumer culture—but most are pictures nonetheless. A view of logos as ideographs standing for a complex statement of qualities, voice, and events would be more consistent with current thinking about brands—and could contribute to our understanding about the way advertising writes these meanings onto the brand image.

As radical as the newest definition of writing—“the communication of relatively specific ideas in a conventional manner by means of permanent, visible marks”—seems at this point, we can already see emergent forms on the Internet that might demand further change in its terms. “Permanence” in the context of cyberspace, for instance, presents some conundrums already. “Visible,” too, may become a suspect condition as phenomena like mp3s and audio blogs increasingly form the building blocks of human messaging. It is our hope, however, that raising questions about the capabilities of alphabets and images to communicate as writing will ultimately open out into studies of other, emergent forms in commercial culture. Thus, we feel that this theory will offer much for the future, as consumer behaviorists work hard to keep up with the rapid pace of change in today’s communications economy.

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