Through the Looking Glass:
A Semiotic Analysis and Experimental Test
of Pace and Angle Effects in Television Advertising

by

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THROUGH THE LOOKING GLASS:
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(ABSTRACT)

This dissertation addressed two broad questions: a) is it possible to systematically describe dimensions of form on which montage varies in TV advertising, and b) given that dimensions can be identified, how do variations in form affect viewer responses to ads? The first question was addressed through a semiotic analysis of ad form, the second question through an experiment that tested for pace and angle effects on brand learning and brand attitudes.

The semiotic analysis built upon the work of C.S. Peirce, Christian Metz, Gérard Genette, and Herbert Zettl. Using our normal experience of time and space as a kind of deep structural baseline, it formally defined such montage variables as pace, angle, horizon, color, the camera cut and camera movement, and paradigmatic/syntagmatic shot syntax. Mathematical or quasi-mathematical notation was developed to describe the range of values possible for these variables.

In the experimental portion of the study, the effects of pace and angle were tested within a composite ad response model that combined two competing theories -- distraction theory (which predicts a negative distraction effect for abnormal pace and angle values) and the dual-mediation hypothesis (which predicts a positive attention effect). The results were consistent with distraction theory, i.e., abnormal executions resulted in significantly lower brand learning and brand attitudes.
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Chapter 1

INTRODUCTION

According to James Marra (1982), the first and essential rule in advertising is "Gain Attention." But that first rule is qualified by the old adage "it's not creative unless it sells." Thus, in advertising, the objective of a creative team is attention without distraction, to break through boredom barriers and, amid a clutter of ads, win attention with ad concepts and ad executions that do not distract from the product and product claims. Of the tools available to the creative team as they seek to achieve this objective, ad form is the one most likely to be used across different ads.

Unfortunately, as a recent conference at the Marketing Science Institute (1988a) has made clear, practitioners are often forced to make decisions about ad form without having any clear idea what impact those decisions may have on viewers. In response to this problem, MSI has made the relationship between ad executional variables and viewer information processing a research priority (MSI 1988b). In the spirit of that priority, this dissertation focuses on ad form variables and, specifically, on the ways in which ad form may be manipulated to maximize attention gains while
minimizing distraction costs. Thus, the dissertation addresses two broad questions: a) is it possible to systematically describe dimensions of form on which television ads vary, and b) given that dimensions can be identified, how do variations in form affect viewers' processing of and responses to ads?

THE QUESTION OF FORM

What is Form?

The nature of form has been a perennial question in philosophy, a question that has been answered in a variety of ways. After surveying various responses to the question, Steven Pepper (1970) argued that "formists" generally agree on one thing: form is rooted in the intuition of similarity. Thus, two objects have the same form to the extent that they resemble each other on some dimension. Insofar as they do not resemble each other, they are particular.

Given those definitions of form and particularity, it is obvious that everything has form in some degree, for everything resembles something else on some dimension. But dimensions differ in their range of applicability. Size and collar cleaning capacity are both dimensions on which products may be compared; however, the size dimension is
relevant to many product classes whereas the collar cleaning dimension is relevant only to a few. Thus, on the continuum anchored by form and particularity, size is a more purely formal, collar cleaning capacity a more particularistic dimension. In this study of ad form, the focus will be dimensions that are applicable to many commercials, for the more widely applicable a dimension is, the more purely formal it is.

The Multiplication of Forms

The main pitfall of formal analysis is its tendency to produce new forms ad infinitum. In an inductive analysis of ad forms, a new variable emerges whenever two commercials are perceived to be similar on some dimension. Since commercials can be similar on an infinite number of dimensions, any researcher who looks for similarities between ads will find variable after variable after variable. These variables will be identified on heterogenous dimensions at all different levels of abstraction. They will consequently result in an arbitrary chaos of autonomous forms even if only the more generalizable and, therefore, more purely formal dimensions are retained.

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It is possible that the multiplication of forms cannot be entirely avoided by any approach to formal analysis; however, the systematic approach proposed in this study minimizes the problem by embedding different forms in a set of underlying theoretical matrices. In the context of the underlying dimensions, relationships can be established between apparently discrete executional variables (Metz 1974).

PREVIOUS RESEARCH ON AD FORM

As the discussion in the previous section indicates, if the term form is used in its broadest sense, research on ad form includes all research that identifies a shared attribute of ads and explores that attribute's effect on viewers or listeners. Thus, with this broad definition, the body of previous research on ad form is very large.

There is, however, one study which may be taken as a compendium of previous ad form research. In the mid 1980's, MSI funded and published a massive study by Stuart and Furse (1986) of 193 form variables coded for 1,000 television commercials with each commercial being watched and evaluated in a realistic setting by 300-450 respondents. The variables in the study included essentially all aspects of

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ad form that had previously been identified by either academic researchers or practitioners as having an important effect on ad responses. To assure the completeness of the list, it was reviewed by a panel of advertising professionals from several large advertising agencies and was supplemented as new variables were identified in the coding process. Once completed, this project confirmed the utility of studies focused on form, for it found that 13-26 percent of variance in recall and 9-11 percent of variance in persuasion could be accounted for by form variables.

While it has provided and will continue to provide useful guidance to other researchers who focus on ad form, this study, precisely because it is so impressively massive, also illustrates especially well the principal hazard of research focused on form—the multiplication of overlapping and inconsistent forms. Since the coding of variables was guided by no overarching theory, the categorizing scheme used in the study suffered, as Stuart and Purse freely admit, from indeterminate looseness. Citing Kuhn (1970), they acknowledge that, along with all previous studies, their study is pretheoretical and, therefore, merely descriptive. They suggest that it needs to be superseded by research grounded in a theory that can provide a set of

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well-defined measures, testable propositions about specific relationships, and a comprehensive statement about what effects are important (Steward and Furse 1986, p. 9). In focusing on the missing theory of ad form, Steward and Furse have identified a gap in advertising research that this dissertation will partially fill with semiotics, the science of signs.

SEMIOTICS AND FORM

Overview

Semiotics is the general science of signs (Peirce 1931-1958; Saussure 1958). It emerged as a new discipline when the insights and methods of linguistics, its oldest and best developed sub-discipline, were applied in new, non-linguistic domains, including media aesthetics and advertising. A semiotician's objective is to uncover the hidden foundations on which the meaningfulness of signs rests (Culler 1975; Saint-Martin 1987). These foundations are typically some relatively stable deep structure that grounds and organizes the apparently chaotic surface manifestation of a phenomenon. In grammar, for instance,

1This citation refers to Peirce's collected works. Subsequent citations will specify a volume and paragraph numbers.

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the sentences "Archibald pleases me," and "I am pleased by Archibald" become alternative surface manifestations of the same underlying deep structure meaning (Broderick 1975).

While semiotics may be capable of entirely filling the gap in advertising theory identified by Stuart and Furse (1986), this dissertation is not meant to be theoretically exhaustive. It treats only one of the two main classes of signs defined by Peirce (5.484)--icons. Symbols, the other class, are not treated here though they are widely used in advertising.

Symbols have been analyzed by other advertising researchers (Durand 1987; Langholz-Leymore 1987; McQuarrie and Mick 1993; Mick 1987) using semiotic methods. And many of the form variables coded by Stuart and Furse (1986) are symbols, as Peirce defines that term. But the relevance of semiotics to these other variables notwithstanding, only icons fall within the scope of this dissertation. Icons have received less attention than symbols, and, as I claim in Chapter 3, there is reason to believe that a rigorous iconology will be developed by advertising researchers before a rigorous symbology emerges. So it is arguable that iconology should be the first priority.

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Iconology

A sign is iconic to the extent that it resembles the thing to which it refers. So pictures, and in particular the moving pictures of television advertising, are fundamentally iconic. However, despite their close resemblance to the thing they signify, the pictures in television ads also have the properties of a surface structure, i.e. they tend to be more varied and fragmented than the underlying reality they signify. On screen, sudden shifts in time and space are possible, shifts that cannot and do not happen in the more stable domain of everyday experience. The fact that everyday experience is phenomenologically more stable than audiovisual experience suggests that everyday experience might function as a kind of deep structure against which the transformations on the screen could be measured. In this study, our normal experience of the world plays this role.

But on what dimensions are direct experience and the images on screen to be compared? According to Pepper (1970, pp. 172-175), formists have observed that all concrete existents are embedded in an underlying matrix of time and space. Since these dimensions are universally applicable to both icons and their referents, they provide a basis for

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observations on the nature and predictions about the effects of ad form that are highly generalizable. And to the extent that executional variables can be systematically anchored in these universal underlying dimensions, the previously discussed problem of the multiplication of autonomous form variables can be avoided.

While Chapter 3 discusses a number of dimensions, all anchored in time and space, on which ads may be systematically compared, only two of the several variables are selected for use in the experimental portion of this study: ad pace and camera angle. Using ideas first proposed by film theorist Christian Metz (1974) and a notation adapted from literary critic Gérard Genette (1980), pace is defined by ratios between time as it is normally experienced and time as it is depicted in television ads. Similarly, using the x, y, and z axes of analytic geometry to define spacial positions relative to a focal object (an idea suggested by media aesthetician Herbert Zettl (1990)), more and less normal camera angles are identified. In the experimental part of this study, pace and angle, the independent variables, are manipulated to test the effects of systematic distortions of space and time, the two
underlying dimensions which ground the iconology proposed herein.

**Summary**

Stuart and Furse (1986) have identified a gap in the research on ad form—the lack of an integrated theory of form. They and others (MacInnis, Moorman, and Jaworski 1991) raise one of the two main questions posed at the beginning of this chapter and addressed by this dissertation: Is it possible to systematically describe dimensions of form on which television ads vary. In the light of what has just been said about semiotics and iconology and what will be said in Chapter 3, this question can be answered affirmatively. Let us turn, therefore, to the second question the dissertation addresses: Given that dimensions can be identified, how do variations in form affect viewers' processing of and responses to ads? The next section of this chapter discusses this second broad question.
FORM EFFECTS

Overview

In this dissertation, the effects of ad form will be analyzed in the context of two theories, distraction theory (Festinger and Maccoby 1964; Nelson, Duncan, Kiecker 1993) and the dual mediation hypothesis (Brown and Stayman 1992; Homer 1990; Lutz 1985; MacKenzie, Lutz, and Belch 1986), both of which may be embedded in Petty and Cacioppo's (1985) elaboration likelihood model (ELM) with its central and peripheral routes to persuasion. Consistent with the ELM distinction between the central and peripheral routes, each of these two theories implicitly or explicitly distinguishes between persuasiveness rooted in the claims made by an ad (the central route to persuasion) and persuasiveness rooted in the ad's form or execution (the peripheral route). Each suggests that the amount of attention paid to one element of an ad (either the argument or the execution) has an affect on the amount of attention paid to the other element.

The tie between this section and the previous one is this: the form variables identified through semiotic analysis (ad pace and camera angle) should affect the amount of attention paid to the ad execution, with attention to the execution increasing as the angle or pace becomes more
abnormal/novel (Berlyne 1958, 1974). Both of the two main theories used in this study suggests that increasing attention to the execution should affect the ultimate persuasiveness of the ad.

**Alternative Paths: A Test of Competing Hypotheses**

Distraction theory and the dual mediation hypothesis play especially important roles in the development of hypotheses for this study, in part, because they lead to opposite predictions on the effects of ad form. The dual mediation hypothesis (Brown and Stayman 1992; Homer 1990; Lutz 1985; MacKenzie, Lutz, and Belch 1986) suggests that increasing attention paid to the ad execution should also, through a spillover effect, increase attention paid to ad claims and thereby increase recall of the claims. Distraction theory (Festinger and Maccoby 1964; Nelson, Duncan, Kiecker 1993), on the other hand, suggests that increasing attention paid to the ad execution will draw attention away from the ad claims and thereby reduce recall of the claims. In other words, when the novelty of ad form is increased, the dual mediation hypothesis predicts a positive attention effect while distraction theory predicts a negative distraction effect on the recall of brand claims.

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While they make opposite predictions, it is possible that both effects occur and push responses in opposite directions. The issue then becomes which effect is more powerful given a particular ad form variable and exposure context. This study suggests that the attention effect is likely to dominate in a low involvement context. When involvement with an ad is low, there is little attention to distract from ad claim processing and there is great potential for increasing the overall level of attention. In a high involvement context, on the other hand, the distraction effect is likely to dominate. In this context, attention to the ad is already high, so there is little opportunity to increase overall attention. Consequently, if attention to the ad execution is increased, it may have to be diverted from the processing of ad claims.

In short, the dominance of attention affects posited by the dual mediation hypothesis versus distraction effects posited by distraction theory may be moderated by viewers' level of involvement with the ad. Increasing the novelty of the execution with abnormal pace and angle values should increase the persuasiveness of the ad in a low involvement context and decrease it in a high involvement context. In the experiment reported in Chapters 4 and 5, the involvement
context was established by manipulating the level of ad clutter.

**Reach of the Effects**

It would be surprising if the effects proposed by distraction theory and the dual mediation hypothesis were to be confined within the borders of the ad in which executional normality/abnormality is manipulated. The proposed effects are psychological, and the break between ads is purely formal. Thus, if attention is distracted from or attracted to ad claims, the effect is likely to extend across the border between ads and influence the response to proximate ads, either distracting from or enhancing the processing of brand claims in those adjacent ads.

Though the distinction between effects that are caused and occur within an ad and effects that are caused in one ad and occur in an adjacent ad may not be important to psychologists, it is very important to advertisers. They can control executional choices in their own ads. They generally have less, if any, control on executional choices made in adjacent ads. In this study both effects internal to an ad and those external to it are examined. The
distinction between internal and external effects is further developed in Chapter 4.

Summary

Using these response theories, the second major question—how variations in form affect ad responses—can be addressed. This study argues that changing the pace or perspective in an ad should affect the amount of attention paid to the ad execution and to the product claims. In affecting these variables, ad form should also affect the ad's persuasiveness. The precise nature of that effect may depend on an interaction between the novelty of the ad's form and the viewer's level of involvement with the ad.

IMPORTANCE OF THE STUDY

Importance for Academic Researchers

Stuart and Purse's (1986) call for a theoretically grounded analysis of ad form is one indication of the importance of this study for academic researchers. Advertising needs a comprehensive theory, and yet, no overarching theory of advertising form and its effects can be developed unless the multiplication of heterogeneous variables can be controlled by embedding form dimensions in

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some kind of deep structure. To the extent that the
execution of an ad is based on pictures, the iconology
proposed in this study may provide the necessary deep-
structural unity and permit the emergence of a comprehensive
theory.

Of some value, too, will be the harmonization of the
dual mediation hypothesis and distraction theory. Both of
these theories have been widely influential among
advertising researchers. Assuming that the expected
interaction between ad form and the exposure context occurs,
these apparently contradictory theories will be shown to be
compatible, each being valid in all contexts but dominant in
its own most natural domain.

**Importance for Advertising Practitioners**

To appreciate the practical importance of form
variables for advertising practitioners, one need only
compare advertisements with other audiovisual genres.
Compared with film makers, advertisers aggressively distort
time and space. Shifts in camera perspective, changes in
film speed, and achronological sequences of shots are, frame
for frame, much more common in advertising than in movies or
television programs (MacLachlan and Logan 1993).

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Consequently, advertisers should be especially interested in the effects of audiovisual form variables on viewer responses. The MSI's research program suggests that they are interested in developing a more systematic understanding of the range and effects of the form variables they already use so aggressively.

Turning to the theories on subjective response, if it can be shown that form effects vary depending on the level of clutter and the consequent dominance of either attraction or distraction effects, practitioners may be able to act upon this discovery. Anderson (1985) has shown that people devote different levels of attention to television at different times of day, watching prime time programs more closely, for instance, than morning shows. In other words, clutter is higher, ad involvement lower in the morning than it is during prime time. It may follow that the salience of ad form should be elevated in commercials aired during morning shows in order to attract attention to the ad whereas it should be reduced in commercials aired during prime time in order to avoid distracting attention from the brand and brand claims.

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ORGANIZATION OF THE DISSERTATION

This dissertation will be divided into six chapters. The first chapter has introduced the two broad research questions that will be addressed in the study and has indicated what theoretical frameworks will be used to address these questions. The second chapter reviews previous literature on audiovisual form and its effects. Since little attention has been paid by advertising researchers to variables that are specifically audiovisual, much of this review is devoted to studies done by communications and educational researchers, though some advertising studies are also discussed.

In its two main sections, Chapter 3 expands upon conceptual issues merely mentioned in this chapter. The first section discusses the role semiology can play in the analysis of ad form and then develops an iconology within which levels of independent variables (including but not limited to pace and angle) may be specified. The second section combines distraction theory and the dual mediation hypothesis in a composite model. Within the framework of that expanded model, research propositions are set forth.

In Chapter 4, the research propositions in Chapter 3 are restated as more specific research hypotheses. Then
turning to the experiment which is its main focus, the chapter discusses at some length sampling, design, and measurement issues. Chapter 5 discusses the results of the experiment, and Chapter 6 returns to the implications of the study for researchers and practitioners, paying special attention to limitations of the study and directions for future research.
Chapter 2

LITERATURE REVIEW

The literature review in this chapter has three sections. The first section discusses three previous efforts to construct an overarching framework within which various audiovisual variables can be integrated, in other words, previous attempts to systematically describe ad executional strategies and cues. Each of these frameworks has been applied in an empirical analysis of audiovisual stimuli; however, the analysis is merely descriptive in each case, not experimental as in this study.

The second section treats less comprehensive studies that have experimentally tested the effects of specific ad form variables. Most of the studies in this section were not done in an advertising context. But if this review had included only advertising-specific studies of form variables, it would have been embarrassingly short and would not have given an accurate picture of the amount of research that has been done on the effects of audiovisual form.

The third section shifts from previous research relevant to the objective description of ad form, i.e. the independent variables used in this study, to that relevant to subjective responses, i.e. the dependent variables. It
discusses the four broad psychological theories which upon which this study bases its analysis of subjective responses to ad form.

THREE COMPREHENSIVE ANALYSES OF AD FORM

Watt and Krull

Taking on essentially the same task that is undertaken in this dissertation, Watt and Krull developed in 1974 an objective theory of audiovisual form, then used it to classify television programs on the basis of their form. To justify their decision to focus on form rather than content, as was and is more usual, they cited a distinction made by Conway (1967) between iconic and digital signs, a distinction that is identical to the one between icons and symbols that is developed in this study. They suggested that the iconic portion of transmitted signals represents the form of the presentation, the digital portion, the content. They then demonstrated that television shows can be systematically classified on the basis of differences in their form.

The key concept in Watt and Krull's analysis -- entropy -- is borrowed from Shannon (Shannon and Weaver 1949), arguably the father of modern communications theory.

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Entropy is a measure of the amount of information available for transmission and the probability of a given bit of information being sent. Shannon defines the concept mathematically, and Watt and Krull use his formula to specify six different kinds of entropy. The first, set time entropy, is the randomness of the duration of discrete physical locations in a program. Its value is expressed in the formula:

$$HST = -\sum_{i=1}^{k} \frac{t_{set_i}}{t_{show}} \log_2 \frac{t_{set_i}}{t_{show}}$$

where

- $t_{set_i} = \text{total time of the ith set}$
- $t_{show} = \text{total time of the show}$
- $k = \text{number of sets}$

In this formula, as the number of sets increases and the time spent on each set decreases, set time entropy increases. To define the other kinds of entropy, one simply replaces set time with other countable variables. Verbal time entropy is calculated by putting the total time the ith character spends vocalizing in the numerator, total verbal time in the denominator. In verbal incidence entropy, number of times the ith character speaks is the numerator, total number of verbalizations the denominator. In set

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constraint entropy, time spent indoors is the numerator, total show time the denominator. And in nonverbal dependence entropy, time when no one is speaking is the numerator, total time again the denominator.

After defining the various forms of entropy, Watt and Krull calculated each value for 168 shows aired during the 1971 broadcast season. These data, when factor analyzed, yielded a two factor solution that explained 76 percent of the variance in the entropy measures. Set time, verbal time, and verbal incidence entropy loaded on a factor Watt and Krull named dynamics. Set constraint and nonverbal dependence entropy loaded on a factor that they called unfamiliarity.

On the dynamics factor, Hee Haw, Laugh-In, Love American Style, and Mission Impossible had a high positive loading, Let’s Make a Deal, The Doris Day Show, and The Courtship of Eddie’s Father a negative loading. On the unfamiliarity factor, Name of the Game, The Brady Bunch, and The Beverly Hillbillies had a high positive loading, Glen Campbell, First Tuesday, and The Johnny Cash Show a negative loading. Watt and Krull plotted the various shows in this two dimensional space and found that crime/detective shows

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tended to be more dynamic than situation comedies. Two
distinct clusters of situation comedies emerged due to
differences on the familiarity dimension. And several
distinct types of variety show emerged based on differences
on both dimensions.

Having classified programs with these objective
measures, Watt and Krull compared their measures' power to
predict program preferences with the power of two other
classification schemes, McLeod, Atkin, and Chaffee's (1971)
generic classification (e. g., sitcom, comedy-variety,
crime/detective, game), and Greenberg and Gordon's (1971)
classification based on the level of violence in a program.
For 151 students in the sixth to tenth grades, Watt and
Krull's measure proved to be a better predictor of
preference than either of the other two measures. So the
form variables coded by Watt and Krull seem to be important
determinant of television program preferences.

The utility of the Watt and Krull classification was
later confirmed in a followup study by Krull, Watt, and
Lichty (1977). The predictions in this study were that
education and age would moderate liking for entropy in
television programs, with the liking for entropy increasing
with education and increasing with age up to age 25, then decreasing thereafter. Both expectations were confirmed.

**Padderud**

Like Watt and Krull (1974), Padderud (1976) distinguishes between the content and the form of a communication. He then argues that form should be of particular interest because it is the thing that differentiates one medium or genre from another. A story can be told through a novel, a play, or a movie. Some stories, e.g., *Don Quixote*, have been rendered in all three genres. When a story is told in different media, the content may be the same but viewer/reader responses often differ considerably. (Most people have had the experience of reading a book, then watching a movie made from the book, or visa versa. The movie is often disappointing even when it has the same basic story line as the book.) Some or all of the difference in the response to a book versus a play or movie can be attributed to differences in form that are inherent in the medium.

In his study, Padderud sought to determine the effects of three broad form dimensions associated with the audiovisual medium, *movement complexity*, *static visual*
complexity, and audio complexity. He defined each of the three basic dimensions by subdimensions: movement complexity by object movement, camera movement, and camera cutting; static visual complexity by image size, camera perspective, and background complexity; and audio complexity by number of audio sources and perceived audio volume. Padderud’s classification scheme is more comprehensive than that of Krull and Watt.

But while Padderud’s analysis has broad scope, it lacks precision and is confounded. The lack of precision is evident in the study’s nominal approach to ratio data. Camera movement and camera position relative to some focal object are continuous variables, but Padderud classifies them categorically using four point scales: (0 = no movement, 1 = little movement, 2 = moderate movement, 3 = extreme movement) and (0 = no image, 1 = normal perspective, 2 = abnormal perspective, 3 = extremely abnormal perspective). Image size and camera cuts are also classified categorically.

A confound exist because subdimensions overlap. As Chapter 3 will make clear, camera perspective, properly defined, has four dimensions, three spacial (position on the x, y, and z axes of analytic geometry) and the tilt of the
horizon. Position on any of these four dimensions can make a perspective abnormal. The x, y, z position can also affect the size of an image on screen. If the distance between the object and the camera is small on the x, y, and z axes, the image on screen will tend to be large. Judgements about the normality of a perspective will often be affected by the distance of the camera from the object and the consequent size of the object on screen. So Padderud’s camera perspective and image size subdimensions are confounded.

Padderud's stimulus was an episode of the television program Emergency. If the subdimensions are regarded as treatments, the treatment level was very low for some variables in the study. On a four point scale with 0 indicating no movement and 1 indicating low movement, the mean value for camera movement in this stimulus was .87. The mean value for the cutting rate variable was .30. Both of these values would be much higher in a music video or the average commercial, so this study probably provided a poor test of the importance of these form variables. The mean values of other variables ranged up to the 2.28 (audio intensity), quite high on a scale with a 3.0 maximum, but no
standard deviation exceeded .82 (camera movement) so the variance in treatment levels tended to be low.

Padderud's dependent variables, taken from Osgood, Suci, and Tannenbaum (1957), were attitude toward the program (A_{prog}) and perceived activity and potency of the program. The measures of activity and potency correlated at the .94 level and probably should be viewed as alternative measures of a single underlying dynamism construct. So in effect, there were two dependent variables, A_{prog} and perceived dynamism. As the program played, these variables were measured continuously on an audience response machine. Subjects moved a lever up and down through nine response positions to indicate their like/dislike of the program or their perceptions of its dynamism.

Of Padderud's three broad form dimensions, two were significant predictors of A_{prog} in a regression: static visual complexity (β = -.38, R^2 = .04) and movement complexity (β = .15, R^2 = .05). Audic complexity was not a useful predictor. Certain subdimensions were more powerful predictors of A_{prog} than the broader dimensions. Image size (β = -.30, R^2 = .09), subject movement (β = .17, R^2 = .11), cutting rate (β = .14, R^2 = .12), and camera perspective (β = .13, R^2 = .12) were all significant predictors of A_{prog}.
And the subdimensions explained the other dependent variable, perceived dynamism, even better than A_{prog}. Thirty eight percent of the variance in the perceived activity of the program and 30 percent of the variance in perceived potency was explained by the form subdimensions.

The imprecise measurement of variables and the confounds notwithstanding, Padderud's study impressively demonstrated that a substantial proportion of subjects' responses to an audiovisual stimulus can be explained by a purely formal analysis of the stimulus. His results were all the more impressive because he used an off-the-shelf stimulus in which treatment levels and/or treatment standard deviations tended to be low. It is possible that stronger effects might be detected in experiments using better measures and stimuli in which the levels of the independent variables are purposely set at extreme levels.

Metz

Of the three broad approaches to the analysis of ad form discussed in this chapter, Metz's (1974) approach is the only one that influenced the analytic scheme developed in Chapter 3 and used in this dissertation. Since Metz's ideas on film syntax are discussed in Chapter 3, only his

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indirect contribution to the distinction between normal time and ad time, a key distinction in this study, will be discussed here.

Metz (1974) argued that film narratives are doubly temporal. Implicit in film are both the time of the telling (signifier time) and the time of the thing told (signified time). In other words, a film (the signifier) tells a story in two hours that in the real world (the signified) may have taken five years. Film is an art because a director must find creative ways to express one time scheme (the five years of signified time) through another time scheme (the two hours of signifier time). Though Metz does not say so, given this standard of art, it is arguable that directors of advertisements must be more artful than directors in other genres because they have the smallest amount of signifier time (usually just 15 or 30 seconds) in which to portray some action that took much more signified time.

Metz's work was mostly conceptual. He didn't develop any notation to express the relationships between signifier time and signified time and didn't systematically test his ideas. But building upon Metz's work, Gérard Genette (1980) did develop a notation that more fully specified the relationship between the two kinds of time and did test the
utility of the distinction between signifier/signified time by applying it in the analysis of a novel, Proust's \textit{Remembrance of Things Past}. In Chapter 3, I adapt and expand Genette's notation to make it and the signifier/signified distinction it encodes applicable once again to audiovisual stimuli, Metz's original domain. Thus, though I focus mostly on Genette in Chapter 3, Metz (1974) is the original source of my distinction between \textit{normal time} and \textit{ad time}, the terms I use for signified and signifier time.

Genette (1980) also developed a notation for and systematically tested Metz's (1974) ideas about syntax in his study of Proust's novel. Porter (1983), too, used Metz's ideas on syntax, in this case, to analyze the narrative patterns typical of various television series. Genette's notation and Porter's findings are discussed in Chapter 3 where Metz's analysis of syntax is explicated.

\textbf{The Three Approaches and Advertising}

These three broad approaches to audiovisual form were developed with an eye to the workings of TV programs and films. None of the three have ever been applied to the analysis of advertising. And yet advertising may well be
the ideal genre to use when exploring the effects of form variables. This is true because (a) treatments can be administered and effects measured relatively quickly when an ad is the stimulus, (b) the dependent variables of interest in advertising are more easily defined than those of other genres, and (c) form variables are used more aggressively in advertisements than in other genres. Form is used aggressively in advertising because ad directors face a more difficult task than other directors. They must communicate their message to an often unreceptive audience usually in just 15 or 30 seconds. Facing a more daunting task, they are more inclined than other directors to use the full repertoire of filmic resources in order to compress their message into the brief time allotted them while making it appealing to an uninvolved audience.

As advertisements have not been the object of study for these three broad approaches to audiovisual form, so experiments have not been the method used to test them. All the empirical studies done in the context of these analytical schemes have been descriptive or exploratory. Watt and Krull (1974) and Padderud (1976) measured and correlated but did not manipulate variables. Metz's (1974) work was mainly theoretical, not empirical. As for

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empirical studies grounded in Metz's work—i.e., Genette (1980) and Porter (1983)—from a social science point of view, they are merely descriptive, for they classify stimuli based on Metz's scheme but do not use the stimuli, once classified, as independent variables in a study of their effects on reader or viewer perceptions.

EXPERIMENTS ON THE EFFECTS OF FORM VARIABLES

This section will discuss various experiments that demonstrate the importance of form. The section is organized prospectively, for it contains four subsections that parallel sections in Chapter 3. (The rationale for dividing the subject up in this way will become apparent there.) These subsections focus on experiments that examine the effects of audiovisual distortions of time, space, color, and sequence, topics Chapter 3 discusses from a semiological point of view.

Time as an Ad Form Variable

With one exception, fast motion, slow motion, and backward motion—-the time distortion variables that are one focus of the experiment in this dissertation—-have not previously been studied. The exception is time compression.
which has received some attention. Time compression is a technique that speeds up an audiovisual stimulus by as much as 25 percent. For the video, this is just a matter of running the film or tape at a faster rate. For the audio, it requires that pitch be electronically lowered to eliminate the high pitch that occurs when the speed of the sound track is increased. Once the adjustments have been made, viewers do not notice that the stimulus runs faster than normal.

Time compression was first studied in radio advertising by LaBarbera and Maclachlan (1978). Maclachlan and Siegel (1980) then explored its effects in television advertising. In the latter study, four normal speed/time compressed television commercials were embedded in a 60 Minutes segment that was shown and discussed during a psychology class. Two days later, subjects were tested for aided and unaided recall of the commercials. For every commercial, they recalled the time compressed versions of the ads better than the normal versions. This study showed that even small changes in the pace of an ad can significantly affect at least one variable of interest to advertisers, ad recall.

Stephens (1982) later expanded the domain of time compression research by comparing the responses of three
different age groups (20-29, 40-49, 60-69) to normal and time compressed commercials. The dependent variables were recall of the commercials, the products, the brands, and the sales points. She found a compression x age interaction. The time compressed commercials were more effective on all dependent variables for young people (20-29) while the normal speed commercials were more effective on all variables for older people (60-69). Stephens cited the well established decline in cognitive ability with age as the probable explanation for this result. This study showed that the form of a commercial should be adjusted in subtle ways to match the perceptual and cognitive abilities of the intended audience. Taken together, these two studies suggest that ad pace is an important variable that deserves more attention, attention it will received in this study.

Space as an Ad Form Variable

Camera Angle. When viewing an object, some points of view may be more normal and/or affectively charged than others. It follows that some camera angles may be more normal and affectively charged than others, for camera angles reflect spacial position relative to the focal object. Film makers have long believed that camera angles
influence affective responses (Giannetti 1982), and Kraft (1987) has provided empirical support for this longstanding belief.

Kraft created six brief slide show narratives, each photographed at eye level and 40 degrees above, 40 degrees below eye level. After viewing the narratives, subjects rated the actors in each story on various dimensions. Across all stories, actors viewed from 40 degrees below eye level were judged to be taller, stronger, bolder, and more aggressive than those viewed from 40 degrees above while judgments of those viewed at eye level fell in the middle on each dimension. These effects seem to be unconscious, for in an angle recognition test, subjects did not remember which of the three angles they had seen.

To explain this effect, Kraft cited Giannetti's (1982) view that camera angles are audiovisual adjectives that silently characterize a scene. High angles place the viewers in a position of authority and imply the inferiority of the depicted object. Eye-level shots create visual parity between the viewer and thing viewed. Low angle shots connote weakness and passivity in the viewer, dominance and action in the thing viewed.
Kraft's (1987) research was later replicated in an advertising context by Meyers-Levy and Peracchio (1992) who found that angles influenced the way subjects responded to ads for computers and bicycles. For this study, three versions of a computer and three versions of a bicycle ad were created. The versions differed in the camera angle of the picture in the ad, one version again being at eye level, one 40 degrees above, one 40 degrees below eye level. The dependent variable was attitude toward the advertised object. For both products, as in Kraft's study, the attitude was highest for the low angle, in the middle at eye level, and lowest for the high angle view of the product. Meyers-Levy and Peracchio's explained this effect in the same way their source, Kraft (1987) did, only adding that the childhood experience of looking up to adults and the adult experience of looking down on children may partly explain the dominance and submissiveness implied by high and low camera angles.

With the bicycle ad, need for cognition was also measured and processing motivation manipulated. Consistent with the elaboration likelihood model (ELM) of Cacioppo, Petty, and Schumann (1983), the camera angle effect was highest for subjects with a low need for cognition and/or

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low processing motivation. So this study suggests both that angles are an important form dimension and that ELM effects are likely to moderate the effects of form variables.

But while Kraft and Meyers-Levy and Peracchio demonstrate the importance of camera angles (the second of the two variables examined in the experimental portion of this dissertation), the domain of their studies is quite restricted. They varied camera angle on only one of three possible dimensions, the vertical (y) axis. In experiment 2, this dissertation will explore the effects of shifting the angle on other dimensions as well (i.e., the x and z axes).

**Camera Cuts.** With the exception of jump cuts, camera cuts occur when the point of view shifts from one camera angle to another. Cutting rates vary from genre to genre and from one time period to another. In data reported by MacLachlan and Logan (1993), average shot length in seconds was 9.88 for movies, 5.17 for television programs, and 2.25 for commercials. Over time, the number of shots (and cuts) per commercial has increased. In 1978 the average was 7.9 shots per commercial. By 1991, that had increased to 13.2 shots.

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Several studies have shown that cutting rate influences responses of interest to advertisers, though the results of the studies are sometimes inconsistent. In addition to providing historical data on cutting rates in various genres, MacLachlan and Logan (1993) report a study by the market research firm Mapes and Ross that found high cutting rates had a negative impact on recall and persuasion. In a test of 641 commercials done in each subject's home (n was not reported), ad recall and change in brand preference steadily declined as the number of cuts per commercial increased from 1-5 to 20 or more. At every cutting rate level, the performance of the commercial was worse as the number of cuts increased. In a separate study of 515 commercials that had 20 or more cuts (n again unreported), Mapes and Ross found, surprisingly, that young people were less likely to recall or be persuaded by the quick-cut MTV style commercials than were older people. They provided no theoretical explanation for this counterintuitive result.

In addition to being theoretically inexplicable, the Mapes and Ross study seems to be inconsistent with other studies on the effects of camera cuts. Penn (1971) conducted an experiment that examined the effects of cuts at evenly spaced (.5, 2, 8 seconds) and unevenly spaced
(accelerating, decelerating) intervals. As with Padderud (1976), Penn's dependent variables, taken from Osgood, Suci, and Tannenbaum (1957), were evaluation of the stimulus and judgements of potency and activity. Three different stimuli were used -- two rectangles, two cars, and two people -- with the two objects, in each case, moving towards each other.

From the experiment, some fairly clear patterns emerged. Cutting rate had no significant effect on the evaluative dimension, a result that is inconsistent not only with the findings of Mapes and Ross but with those of the other studies cited here. (These flat results may be attributable to small cell sizes.) On the other hand, activity and potency both tended to increase as the cutting rate increased. But this effect was not consistent across the three kinds of objects. Unlike those for the cars and people, the results for rectangles were generally flat.

Taken altogether, the mixed results of this study are difficult to interpret. They suggest that, for these dependent variables, video form interacts with video content in complex ways. Such interactions are probably the greatest threat to validity in studies of audiovisual form. The more the specific content of the images interacts with
form variables, the less generalizable and less useful conclusions about the effects of form will be.

In another relevant study, Heft and Blondal (1987) manipulated the cutting rate (high/low) in two films, one showing a professor laughing and joking with a class, the other showing the same professor criticizing the class for performing poorly on an assignment. One evaluative dependent variable, liking for the teacher and students, was of interest to advertisers. On this variable, the researchers found that the high cutting rate strengthened the main affective response to the people in the films. In the pleasant film, the professor and students were both judged more pleasant in the fast cut than in the slow cut version. In the unpleasant film, the professor (but not the students) was judged more unpleasant in the fast cut version. Translated to an advertising context and assuming that an ad is effective and produces a positive response, these results would lead one to expect higher product evaluations and purchase intentions with fast than with slow cuts, not the lower recall and purchase intentions that Mapes and Ross found.

Kraft (1986) has studied camera cuts as well as camera angles. To the extent that they are comparable, his results
are diametrically opposed to those of Mapes and Ross. The stimuli in his experiment were films that in length (37 ± 2 seconds) were analogous to commercials. The study had a 2 (one/four activities portrayed in the film) x 2 (no cuts/cuts) experimental design. Kraft found that films with cuts were preferred over uncut films and that there was an activity x cut interaction such that cuts had a larger positive effect on liking for the film when the film portrayed one activity than when it portrayed four activities. Thus, the cuts seem to make a film more pleasantly dynamic, and this contribution seems to be more important when the stimulus is itself less varied. Kraft provides no theoretical rationale for this effect. He merely cites film theorists who suggest that camera cuts may produce affective responses, an expectation that this study confirms.

Putting all these results together, it is quite clear that cutting rates influence responses to audiovisual stimuli even though it is not yet entirely clear in just what direction that influence may tend or by what factors it may be moderated. Thus, more research needs to be done both on the general effects of cuts and on the particular effects of cuts in advertising.

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Camera Movement. In many commercials and other television productions, cameras do not move though the viewer's perspective does shift. The perspective shifts from one stationary point of view to another through camera cuts, or it zooms in and out through changes in the focal length of the lens on a stationary camera. The result is a relatively static portrayal of an event. Theorists (Gibson 1979; Johansson, von Hofsten, and Jansson 1980) have suggested and researchers (Johansson 1975; Kipper 1986; Mace and Shaw 1974) have confirmed that viewers remember these static portrayals of an event less well than they remember a more active portrayal -- one in which the camera moves.

In the study most relevant to television advertising, Kipper (1986) found that recognition and recall of objects was significantly higher when those objects had been filmed by a moving camera rather than by a series of still shots which captured the same basic angles. On all dependent measures, subjects performed better when the camera moved through a room strewn with objects in a continuous arc than when it moved along the same path discontinuously, using cuts to jump from one position in the arc to another. While these results have not been replicated in an advertising
context, it is likely that recall of products in ads would also be higher if the ad were filmed with a moving camera.

What remains to be studied is the effect of different camera vectors, for all camera motion may not be equal. Having a camera arc around an object may produce different effects than having the camera dolly towards it. This dissertation proposes a notation in which alternative camera paths might be described and an analytical method that might be used to select paths which would optimize the value of dependent variables of interest, i.e., product recall and preference.

**Color.** The use of color in print advertising began about 1893. By 1905 one percent, by 1925 36 percent, by 1930 about 50 percent, and by 1948 around 80 percent of ads in Collier's and The Ladies' Home Journal were in color (Lucas and Benson 1930; Lucas and Britt 1950). Unsurprisingly, while this increase was taking place, color became an important topic in advertising research. Early research focused on the relative effectiveness of color and black-and-white print ads (Nixon 1925; Warner and Franzen 1947) and on the attention value (Adams 1920) and emotional value (Luckiesh 1923) of particular colors. In general, color was found to command more attention that black and
white, and different colors were found to vary in their attention value, in the Adams study attracting progressively less attention as the hue changed from orange to red, blue, black, green, yellow, violet, and grey.

In subsequent years, color continued to receive attention as an advertising variable. The findings of relatively recent studies have generally been consistent with earlier research, showing that color ads attract more attention than black and white ads (Gardner and Cohen 1966; Katzman and Nyenhuis 1972; Starch 1966) and that specific colors tend to have distinct emotional valences, warm colors (e.g., red) evoking more energetic emotional responses than cool colors (e.g., blue) (Winn and Everett 1979).

Lucas and Britt offered a theoretically informed analysis of the range of color variables as early as 1950. They noted that color can be varied in terms of its hue, saturation, and brightness. They also pointed out that most research attention in advertising had focused on the effects of hue and extreme levels of saturation/desaturation (the color/black-and-white contrast). The effects of brightness and intermediate levels of saturation had received little attention, though they are probably equally important variables.
What Lucas and Britt said in 1950 is still true today. Variables other than hue and color/black and white have received too little attention. The recent digitization of video images and development of powerful and easy to use graphics packages mean color can be manipulated and its effects tested in all its dimensions. Advertisers are already creating novel mixes of color and black-and-white images in television ads. So advertising researchers need to begin systematically testing the effects of color manipulation on all dimensions of color.

Syntax as an Ad Form Variable

Once they have been captured on film or tape, audiovisual images can be broken up into discrete shots, which can, in turn, be reordered or spliced together with unrelated images. Research has shown that editing can change the meaning of a shot (Goldberg 1951; Isenhour 1975). Indeed, the effects of editing have been perceived to be so powerful that Eisenstein (1947) and other early film theorists sometimes spoke as if editing -- montage -- were the essence of film making.

Several recent studies have focused on the effects of ordering shots in achronological sequences. Cowen (1988)
exposed subjects to four different versions of a two minute film that varied the degree to which shots were temporally linear. In one version, they were shown in their normal order. In the other three versions, they were achronological. The dependent variables were liking for the film, recall of the action, and evaluations of the characters and their behavior. Unsurprisingly, the more linear the shot sequence, the better subjects remembered the action and liked the film. However, this intuitive pattern did not hold for subjects' evaluations of the characters and their behavior. Evaluations were strikingly lower in one of the nonlinear versions than in the other versions. The reason for this lower evaluation was not clear, but evidently, rearranging a sequence of shots can change the evaluation of people and things in those shots. As Cowen points out, this result might be especially important in advertising where nonlinear sequences are often used and where influencing the evaluation of people and things is a primary objective.

Lang (1989) tested the effects of structuring news stories chronologically versus in the usual broadcast form (lead that points to heart of story, information supporting the lead, concluding "snapper" -- a last fact or an

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alternative view or the main point). Based on previous research on episodic and semantic memory processes, she expected memory to be higher for the chronological presentation which is amenable to purely episodic processing than for the broadcast style presentation which requires some semantic processing. As expected, the form of the news story had an effect on subjects' ability to remember facts reported in the story. These brief stories (about 90 seconds each) were analogous to commercials, especially commercials which announce new product break throughs or otherwise present information in a lecture format. Lang's study suggests that presenting product information chronologically may enhance recall of ad claims by making the material more amenable to episodic processing in memory.

Abelman (1990) studied the effects of chronological and achronological sequencing of shots on children's ability to comprehend a brief (63 second) episode of The Cosby Show. The episode involved seven distinct actions shot from seven different camera angles. Three different versions of the action were prepared, a normal order sequence, a reverse order sequence, and an elliptical sequence in which three shots were deleted resulting in a 34 second depiction of the event. Two covariates were measured and used in the

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analysis -- the amount of television subjects watched in a given week and their level of cognitive development as measured by their understanding of the conservation of liquids.

The dependent variable was the subjects' ability to order still shots of the seven actions in the normal order after viewing the film. Since subjects in the elliptical condition had not seen all seven actions, they had to order the missing shots by inferring their proper place. Abelman found that cognitive ability, amount of television watched, and mode of presentation (normal, reverse, elliptical sequence) all affected understanding of the story as measured by the children's ability to order the still shots.

Subjects found the elliptical version of the film most difficult to understand. Abelman explains this result by arguing that one must make relatively sophisticated inferences about implicit relations among explicit scenes when one temporally integrates an elliptical sequence of shots. Children (and others) may lack the knowledge and cognitive capacity necessary to make these inferences. At extreme levels of ellipticality, most everyone will find an a sequence of shots meaningless.

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Taken together, these studies suggest that syntax effects may be an important aspect of ad form, one that may affect attention to, liking for, and understanding of an ad. However, important as they appear to be, these syntax effects cannot be systematically investigated in the absence of a theoretical framework which specifies the range of possible syntactical variations. Chapter 3 proposes a framework that might serve this purpose.

THEORIES ON SUBJECTIVE RESPONSE TO AD FORM

The identification and classification of ad form variables is logically independent of any theory used to account for the psychological effects of the variables. So any number of psychological theories might be used to analyze form effects. In this dissertation, Berlyne's two-factor theory, the elaboration likelihood model, distraction theory, and the dual-mediation hypothesis are the main theoretical bases for the analysis of subjective responses to ad form. These theories are all integrated into a composite model that is proposed in Chapter 3.
Two-Factor Theory

In two early experiments, Berlyne (1958) exposed subjects to images that varied in their complexity (experiment 1) or novelty (experiment 2). The dependent variable was eye fixations, a measure of attention. As expected, Berlyne found that subjects paid more attention to complex and/or novel stimuli. This result was consistent with Pavlov's (1927) earlier investigatory reflex theory, and it has been confirmed by subsequent research.

But while the Berlyne's first studies seemed to suggest that there was a linear relationship between novelty/complexity and pleasingness/interestingness, subsequent research has shown that there is a threshold beyond which greater novelty and complexity make a stimulus less pleasing and interesting (Aitken 1974; Berlyne 1966, 1974; Day 1968). Thus, the relationship between novelty/complexity and pleasingness/interestingness has proven to be curvilinear, not linear, having the shape of an inverted U.

Berlyne (1970) eventually explained both the increase in interestingness and pleasingness and the threshold where these variables decrease by suggesting that the inverted U is a function of two factors, a tedium factor that is high when a stimulus is familiar or simple and a positive
habituation factor that is high when a stimulus is novel or complex. The positive habituation factor itself has two subfactors, an initial negative response to the complexity (disorientation, uncertainty) that may be followed by a positive response (assimilation, understanding). With very simple/familiar stimuli, the tedium factor dominates, so affective responses tend to be negative, and increasingly negative as the exposure continues. With very novel/complex stimuli, the positive habituation factor dominates. Affective responses are initially negative but increasingly less so as the exposure continues. Moderately novel/complex stimuli evoke the most positive initial responses but decline in interest more quickly than more complex stimuli.

Because pleasingness (which has ties to $A_{ad}$) and interestingness (which has ties to ad recall) are important variables in this study and because they respond to novelty/complexity somewhat differently, the pattern of responses on these variables must be examined more closely. Research has shown that very simple/familiar stimuli tend to be more pleasing than interesting whereas very novel/complex stimuli tend to be more interesting than pleasing (Aitken 1974; Dember and Earl 1957). Graphically (Figure 1), the inverted U for pleasingness starts higher and reaches its
apex sooner than the inverted U for interestingness. So with added novelty/complexity, a stimulus continues to increase in interestingness even after pleasingness has begun to decline. In Chapter 4, this difference between the curves influences the choice of statistical tests for H3 and H4.

Work on novelty and complexity is relevant to this study because all of the form variables defined in Chapter 3 affect the novelty and/or complexity of an ad when they vary. Some camera angles are consistent with our everyday experience of the world, others inconsistent and, therefore, novel. An ad with an abnormal pace (fast or slow motion) is, in some measure, inherently novel, for it depicts a frenetic or leisurely world that we never directly experience. An ad with many cuts or with an achronological sequence of shots is inherently more complex than normal experiences of the same events. Judging from Berlyne's (1958, 1970, 1974) work, if ad form variables increase the novelty or complexity of an ad, they should also increase the motivation to process the ad, at least up to some novelty/complexity threshold at which the stimulus becomes too daunting.

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The Elaboration Likelihood Model

The elaboration likelihood model (ELM) is well known among advertising researchers and has received support in a number of contexts. The basic idea of the ELM is that there are two routes to persuasion, a central route on which views change in response to explicit rational claims about a product and a peripheral route on which they change in response to secondary cues or to classical conditioning embodied in the pairing of a product with pleasant stimuli (Petty and Cacioppo 1981).

The central route tends to be more important when product involvement and need for cognition are both high. When involvement and need for cognition are both low, the peripheral route tends to be more important. Petty, Cacioppo, and Schumann (1983) found that this pattern held for the use of celebrity endorser, Andrews and Shimp (1990) that it held for the use of well/poorly dressed models, the celebrities and well clothed models having more impact when subjects were uninvolved and low in need for cognition. The form variables focused on in this study are normally peripheral cues that should influence attitudes on the peripheral route. However, as the discussion of distraction theory in the next section indicates, they may also function
as distractors and, thus, have an impact on the central route.

**Distraction Theory**

As originally formulated by Festinger and Maccoby (1964), distraction theory had rather narrow scope. So this discussion of distraction theory will draw upon Nelson, Duncan, and Kiecker's (1993) more recent and more comprehensive statement of the theory's main tenets. It will then discuss the original formulation which is relevant to this study in spite of its narrow scope.

**The Broad Formulation of Distraction Theory.** In Nelson, Duncan, and Kiecker's (1993) broad formulation, distraction theory is grounded in Berlyne's (1960) definition of attention as a focusing response to a stimulus and in Broadbent's (1958) view that attention is invoked in a context where multiple stimuli compete for limited information processing capacity. In this context, stimuli tend to interfere with one another (Posner and Klein 1973). These presuppositions having been laid down, distraction occurs when three conditions are met: (a) there is a primary stimulus, (b) there is a secondary stimulus, and (c) attention is diverted from the primary to the secondary
stimulus. In advertising (adopting the advertiser's point of view), ad claims are the primary stimulus, everything else is secondary. If attention is drawn from the ad claims to ad form, distraction has occurred.

Studies have shown that some ad form variables can function as distractors. Sex appeals, for instance, produce more attention to the ad and better ad recall (Bello, Pitts, and Etzel 1983) but also less attention to ad copy and less brand recall (Chestnut, LaChance, and Lubitz 1977; Reid and Soley 1983). Humor, likewise, has been found to increase attention to and liking for the ad but, at the same time, to have a negative effect on message recall (Madden and Weinberger 1982). Sex appeals and humor are semantic variables which are more meaning-laden than the variables treated in this study. However, this same distraction effect may occur with ad pace and camera angle, the more purely formal variables that will be manipulated in the experimental portion of this study. Increasing the visual interest of the ad with an unusual pace or unusual angle may increase attention to and/or liking for the ad which could, in turn, decrease subjects' attention to and recognition/recall of ad claims.
The Narrow Formulation of Distraction Theory. In Festinger and Maccoby's (1964) original version, distraction theory was based on the hypothesis that people respond mentally to persuasive communications as they hear or see them. When they agree with the communication, they silently offer support arguments; when they disagree, they silently counterargue. Festinger and Maccoby reasoned that, if subjects were distracted enough during a presentation that they couldn't give the communication their full attention but not so much that they gave it no attention, they would be less able to silently support or contest claims made in the communication. As a result, they might find pro-attitudinal arguments less persuasive, counter-attitudinal arguments more persuasive than they would be were there no distraction. They tested this theory using an audiovisual treatment, so the theory's applicability to audiovisual stimuli was fully apparent from the beginning.

In this original distraction theory study, the most important experiment had a 2 (fraternity member/non-fraternity member) x 2 (distracting/non-distracting film) design. Thus, two groups of males who were and weren't fraternity members were shown one of two versions of a film. The film in the non-distracting condition showed a college
professor speaking against fraternities. The film in the
distracting condition had the same speech on the sound track
but instead of the college professor, had an amusing and
completely unrelated film on the video track. The dependent
variables were attitudes toward fraternities and toward the
speaker.

As expected, Festinger and Maccoby found that for
fraternity members, the film was more persuasive in the
distracting than in the non-distracting condition while for
non-fraternity members, the opposite was true. Thus, the
experiment showed that antecedent beliefs about fraternities
interacted with distraction to make a communication
more/less persuasive.

This original theory has narrower scope than Nelson,
Duncan, and Kiecker's (1993) version, for it is applicable
only in situations where subjects have strong opinions on
the content of the persuasive message and are, therefore,
likely to support or contest its claims. In cases where
involvement with the argument is low and where,
consequently, there is little inclination to mentally
support or contest claims, the Festinger and Maccoby version
of distraction theory is not relevant. Nelson, Duncan, and
Kiecker's version is.

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Dual-Mediation Hypothesis

Building on the work of Petty and Cacioppo and incorporating both their central and their peripheral paths to persuasion, Lutz (1985) proposed four models that specified alternative relationships between variables on the central and peripheral routes: the message-based persuasion, pure affect transfer, contextual evaluation transfer, and dual mode persuasion models (Figure 2). These models differ primarily in the role they assign to ad/brand cognitions and attitudes. In later research using two different samples of MBA students to empirically examine the relationships between cognitions and attitudes, MacKenzie and Lutz (1989) obtained results that were more consistent with the dual mode persuasion model than with any of the other models (Figure 2), though they did not decisively support any model.

While MacKenzie and Lutz's (1989) study was not decisive in its support for the dual mediation hypothesis, subsequent research has generally sustained the initial finding that the dual mode persuasion model is the best available model. In another test of competing models, Homer
(1990) compared the dual mode persuasion model with three other models, none of which was exactly equivalent to the competing models in Lutz (1985) MacKenzie and Lutz's 1989 studies (Figure 2), though they were equivalent to models proposed in an earlier study by MacKenzie, Lutz, and Belch (1986). Once again, when LISREL was used as a test, the dual mode persuasion model out performed the competition, achieving better fit than any other model across all subsamples used in the study.

Still more persuasive was a meta-analytic study by Brown and Stayman (1992). As part of this meta-analysis of $A_M$ effects, these researchers compared the same set of models MacKenzie, Lutz, and Belch (1986) and Homer (1990) had used (Figure 2) and again found that the dual mode persuasion model was superior to the other three models. Thus, the dual mediation hypothesis has repeatedly proven superior to alternative hypotheses.

Using the data of multiple studies, Brown and Stayman also estimated coefficients for the paths in the model. These structural path estimates are reported in Figure 3. All the estimated values are sizable and significant. Thus, the validity of the dual mode persuasion model and the dual
mediation hypothesis which it embodies seems to be well established.

Though it is well established, the dual mediation hypothesis is not entirely consistent with other theories discussed in this section, in particular distraction theory. But as the introduction to this section suggests, Chapter 3 integrates these well established theories in single composite ad response model that first highlights and, then, possibly resolves inconsistencies among the theories.
Chapter 3

CONCEPTUAL DEVELOPMENT

Concerned as it is both with ad form and with how viewers respond to ad form, this study is grounded in two autonomous theory bases, a semiotic theory on ad structure and several psychological theories (two-factor theory, the elaboration likelihood model, the dual-mediation hypothesis, and distraction theory) on the effects various kinds of stimuli have on attitudes and memory. These theory bases are not directly related. Each stands alone, having proven its worth independent of the other. Nevertheless, they may be complementary. Semiotics is well-equipped to define independent variables of interest to advertisers. The psychological theories are well-equipped to make predictions about the ways in which subjects might respond to the manipulation of those form variables.

This chapter discusses each of these theory bases in turn. It first looks at semiotics and the ways in which it can illuminate the analysis of ad form. It then treats the psychological theories, combining them into a unified ad response model. In connection with that model and those theories, research propositions are set forth.
SEMIOTICS AND THE OBJECTIVE DESCRIPTION OF AD FORM

As Mick (1986) and Holbrook (1986) have pointed out, semiotics, the science of signs, has two fathers (Peirce and Saussure) and two broad traditions (American and European). This study draws upon both traditions but is best framed, for reasons Kaja Silverman (1983, p.22) discusses, by a trichotomy Peirce (5.484) proposed: object, sign, and interpretant. As indicated in Figure 4, within this trichotomy, four subdisciplines of semiotics may be identified, each of which focuses on a relationship between terms in the trichotomy. Three were proposed by Morris (1946): semantics, which treats the relationship between signs and the things they signify; pragmatics, which treats the relationship between signs and the interpretants affected by them; and syntactics, which treats the relationship of one sign to another within a sign system. Holbrook (1986) suggested the need for a fourth subdiscipline which treats the relationship between the object and the interpretant. That discipline is here called phenomenology, using Husserl's (1931) more familiar rather than Peirce's (1.284 ff, 8.303) less familiar term, phaneroscopy. This chapter focuses on two of the four
relationships in the model, semantics and syntactics, but
discusses all four.

SEMANTICS

Within the domain of semantics, two classes of signs
are especially important, symbols and icons. Symbols and
icons are defined by the nature of the relationship between
an object and its sign. If the relationship is arbitrary,
merely conventional, the sign is a symbol. Thus, the Navaho
word *Leech*a'ii is a symbol because it in no way resembles
its clear referent, *dog*. If the relationship is mimetic,
i. e., based on resemblance, the sign is an icon or "natural
sign" (Saussure 1959, p. 68). Thus, a picture is an icon
because it resembles the thing to which it refers. The
distinction between symbols and icons is continuous, not
dichotomous, and signs may be distributed all along the
continuum. A photo is more iconic than an impressionist
painting, an impressionist painting more iconic than an
abstract painting. On the basis of this distinction between
classes of signs, semantics may be subdivided into two
subdisciplines, symbology and iconology. One of the
purposes of this dissertation is to propose and develop an
iconology that may be applied in the analysis of ad form.

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ICONOLOGY

As Chapter 1 mentioned, in its most characteristic mode of analysis, semiotics posits a relationship between some relatively stable underlying system and a more changeable surface manifestation of that system (Culler 1975; Saint-Martin 1987). To take the first and most influential example, Saussure (1959) distinguishes between langue, the communally shared system of rules that comprise a language, and parole, actual speech. Actual speech often violates the rules that are part of the underlying system, but we can recognize these violations precisely because we know the implicit rules. The main contention of this section is that a phenomenology of time and space may serve as a relatively stable backdrop against which various ad forms can be rigorously classified.

Since iconicity is defined by resemblance between the icon and the object it represents, at its logical limit, an icon becomes indistinguishable from its referent, something that often happens speculatively on the "holodeck" of the Enterprise in Star Trek: The Next Generation. With present technology, this logical limit is most nearly approximated by "virtual reality" or, in common experience, by television and film where an illusion of lights, shadows, and

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electronically generated sound creates icons that are remarkably lifelike. Because they are composed of malleable stuff -- with digitization, increasingly malleable stuff (Mathias and Patterson 1985) -- audiovisual images can be manipulated and transformed. They are, therefore, fundamentally less stable than their referent. But because they resemble that referent, the referent is a standard against which transformations can be measured and classified, assuming that researchers can define shared dimensions on which the transformations occur. The remainder of this section is devoted to the specification of several key dimensions and the variables which can be defined within them.

**Time and Ad Form**

While involvement with an event may moderate and transform our subjective experience of time (Zetttl 1990), in industrial societies we frequently experience time objectively as clock or normal time (Rifkin 1989). This mode of time is continuous, uniform in its pace, and an inescapable property of the world. It therefore makes a good standard against which to measure much more variable ad time.
Building upon the work of film theorist Christian Metz (1974), Gérard Genette (1980), a structuralist literary critic, has proposed a notation which can be modified to describe precisely the relationship between ad time and normal time. A fast motion shot, twice normal speed may be designated AT > NT 2:1, where AT is ad time, NT is normal time, and 2:1 is a ratio between them. Similarly, a slow motion shot, half normal speed may be denoted AT < NT .5:1; a normal shot, AT = NT 1:1; a reverse motion shot at normal speed, AT = NT -1:1; and a still shot, AT < NT 0:1. Thus, still shots, whether in television or in magazine ads, become a special case of a larger pattern. And since normal time is always 1, this notation can be reduced to a single numerical parameter of ad pace: 2, 5, etc. for various degrees of fast motion; .5, .2, etc. for degrees of slow motion; -2, -1, -.5 for reverse motion at speeds, fast, normal, and slow; 1 for normal motion; and 0 for still shots.

Audio tracks may be similarly analyzed, but here a distinction must be made between the iconic and symbolic representation of time. Represented iconically, the passage of one unit of time is signified by the passage of another unit of time. Thus, three minutes might be signified by

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three revolutions of an accelerated second hand or by the actual passage of three minutes, as, for instance, between bookend commercials spaced three minutes apart. Represented symbolically, it might be signified by the phrase, "three minutes pass." Time and iconic representations of time are of a kind, but the relationship between time and the symbolic phrase is arbitrary, for the words do not intrinsically resemble the passage of three minutes.

Insofar as the audio track is a mere recording of sounds, it is iconic and the notation described above is applicable to it. Thus, AT values may be used to specify changes in the audio track that produce high pitched (AT > 1), low pitched (AT < 1), or backward voices (-AT). While pitch distortions may be undesirable and are not often used, time compression techniques make normal pitch possible in ads with AT values of up to 1.3. And time compressed versions of an ad (AT > 1) can be more effective than the same ad with normal speed (AT=1) (MacLachlan and Siegel 1980).

When time is represented verbally, i.e. symbolically rather than iconically, the notation described above is not applicable; however, Genette's (1980) original notation is, for it was developed specifically to treat the symbolic
representation of time in stories and might be used to analyze narrative pace in ad copy. Instead of ad time and normal time, Genette distinguishes between narrative time (the telling of the story in the words on the page) and story time (the actual or imagined occurrence of the story in clock time). He defines narrative strategies in terms of the relationship between these two kinds of time. A scene occurs when narrative time and story time are roughly equal, i.e. NT = ST (It's 4:30 PM and you've got to make a decision); a summary, when NT < ST (Every year Americans produce more than 150 million tons of municipal garbage), an ellipsis when NT = 0, ST = n (I took Anacin. Fifteen minutes later the headache was gone); a pause, when NT = n, ST = 0 (Karl Malden comments on a dramatized theft in an American Express commercial).

Genette's complex discussion of the relationship between narrative and story is book-length and will not be discussed here because it bears upon the verbal/symbolic representation of reality, not on the audiovisual/iconic representation of reality that is the main focus of this study. It is worth noting, however, that the complexity of his analysis notwithstanding, Genette is unable to establish as precise a correspondence between narrative time and story

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time as can be established between ad time and normal time. The relationship between symbols and their referents is inherently more ambiguous than the relationship between icons and their referents (Doane, Mellencamp, and Williams 1984). It will therefore be more difficult to achieve scientific rigor in the semiotic analysis of symbols than in the analysis of icons, the focus of this dissertation.

Though a divergence between ad time and normal time is very common in audiovisual advertisements and is inescapable in print advertisements that include pictures, the phenomenon has received little attention from advertising researchers. This is true despite the fact that research on time compression shows even small changes in the AT/NT ratio can produce significant effects on the recognition and recall of ad claims (MacLachlan and LaBarbera 1978; MacLachlan and Siegel 1980; Stephens 1982). So there seems to be a need for research on ads or ad footage with AT values other than those between 1 and 1.3 which time compression research has examined. The experiment described in Chapter 4 partially fills that need.

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Space and Ad Form

Researchers in marketing and other disciplines have shown that camera angles (Kraft 1987; Mandell and Shaw 1973; Meyers-Levy and Peracchio 1992; Tiemens 1970) and shifts in camera angle (Kraft 1986; Larsen and Hergert 1994; MacLachlan and Logan 1993) affect the evaluation of an object. However, systematic research on the range of possible angle effects has not been done, possibly because the dimensions on which camera perspectives vary have not been adequately defined. A distinction between normal space and ad space may facilitate systematic research on this topic.

Normal space, the domain of everyday experience, has three dimensions, within which movement is continuous. Ad space has the same three dimensions but is sometimes characterized by discontinuous movement (Lotman 1981). Thus, within normal space, one must always move through intervening points in order to go from, say, Salt lake City to Atlanta. Within ad space, sudden leaps are possible. One may be in Salt Lake City one moment, in Atlanta the next, without passing through intervening space or expending any transit time. Within normal space, certain points of view and motion vectors tend to be normative. We rarely

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look up at a person from knee level or sweep down in a continuous motion from 20 feet above them. In ad space, however, perspectives such as these are quite common. The next three sections discuss dimensions on which normal space and ad space may be compared.

**Angle.** In both normal space and ad space, position relative to a focal object can be defined by three dimensions, the x (horizontal), y (vertical), and z (sagittal) axes (Zettl 1990). Once a zero point is defined for the object, all possible points of view can be specified by giving these three coordinates relative to that zero point. For example, taking a computer as the focal object, we might define the center of its screen as the 0:0:0 point. If we moved right one foot, up 3 feet, and back two feet, our position would be designated 1:3:2; if we moved left two feet, up six inches, and three feet behind, our position would be -2:.5:-3. Applying this notation to the Meyers-Levy and Peracchio (1989) study on camera angles, the coordinates in their three conditions were in their first experiment (computer as focal object) 0:0:3, 0:2:3, and 0:-2:3, in their second experiment (bicycle as focal object) 0:0:7, 0:4.5:7, and 0:-4.5:7. When these experimental manipulations are described in x:y:z notation, it becomes

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apparent that this experiment, valuable as it was, had rather limited scope. It tested the effects of repositioning the camera only on the y axis, one of three possible dimensions. Advertisers routinely reposition on all three dimensions.

Since Meyers-Levy and Peracchio obtained significant results from a moderate manipulation of one of three possible treatments, studies which test all three treatments and their interactions would seem to be in order. It seems probable that if all three variables are tested in a three-way ANOVA, interactions will occur. Elevating the camera two feet when it is only one foot from the focal object (i.e., from 0:0:1 to 0:2:1) is likely to have a bigger effect on perceptions than elevating it two feet when it is ten feet away (i.e., from 0:0:10 to 0:2:10). By photographing a product from a range of possible positions on each of the three axes, all main and interaction effects of perspective on interest in and liking for the product could be identified.

Such a study would yield a complete viewpoint map for the product, a map that would establish the value or probable value of each dependent variable at each viewpoint. Such maps may vary from product to product and are likely to

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vary from product class to product class, but certain broad patterns would probably emerge. Computers, refrigerators, and dogs -- items with a clear front and back -- are likely to produce different results than symmetrical objects like basketballs and Rubik's Cubes. Viewpoint maps might be most efficiently developed using a CAD/CAM system, on which even very unusual perspectives (e.g., the underside of a car at 15 feet on the y axis) could be provided with relative ease. Optimal perspectives could then be selected for use in advertisements.

**Cuts.** Using $x:y:z$ notation, a camera cut can be formally defined. Most cuts occur when the viewpoint shifts from one set of coordinates, $x:y:z_1$, to a nonadjacent set of coordinates, $x:y:z_2$, without passing through intervening space. Using normal space as the standard of comparison, it is apparent that camera cuts create spacial ellipses or gaps in ad space, an effect we never encounter in our experience of normal space. During cuts infinite movement in normal space is possible (i.e., the camera may shift from $x:y:z_1$ to any $x:y:z_2$); however, for most cuts, the distances are small.

While other cuts involve these gaps in space, the jump cut is defined slightly differently. Jump cuts occur when
the perspective shifts from coordinates \( x:y:z_1 \) at time one, \( t_1 \), to the same focal object, same coordinates at nonadjacent time, \( t_2 \). Thus, with a jump cut, there is no gap in ad space, but there is a temporal ellipsis, a gap in ad time. Similar to the jump cut but not, technically, a cut at all is the morph. In a morph, our view of the background tells us that the camera has remained at some position \( x:y:z \) and at time \( t_1 \), but the focal object changes all the same, metamorphosing before our eyes. This technique creates an ad space paradox, for unlike the other edits, it cannot be matched with and mapped into our experience of normal space and time. Morphs have been used in pioneering commercials for Miller Lite Beer and the Shick Tracer razor. They seem destined for wide use in television commercials.

While they are the only cut which implies no gap in space, jump cuts are not the only cut which may involve a gap in time. When any cut occurs, the relationship between ad time and normal time becomes, at least momentarily, ambiguous. This happens because cuts can be temporal as well as spatial ellipses. During a cut, ad time is zero by definition but normal time may take any positive or negative value (i.e., \( AT = 0; NT = x \), where \(-\infty < x > \infty \)). Because ad

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time is always zero, as with ad pace, a single numerical parameter (in this case, the NT value) can be used to specify the duration of the ellipsis. For many cuts, that NT value is zero since no time expires between shots, but other values are also frequently used, a fact that is extremely important in the analysis of ad syntax, as we shall see.

As mentioned in the introduction to this chapter, previous research (Larsen and Hergert 1994; MacLachlan and Logan 1993) has shown that the number of camera cuts in a stimulus may affect $A_{as}$. What has not been investigated are the effects of different camera coordinates on camera cuts. If a viewpoint map were to show that compared with viewpoint 0:0:5, product perceptions differed significantly at viewpoint -1:2:-4 but did not differ at 1:0:5, it is possible that a camera cut from 0:0:5 to -1:2:-4 may have a different impact on viewers than a cut to 1:0:5 (Corcoran 1981). By manipulating the x:y:z variables, researchers studying the effect of camera cuts might be able to establish that effects differ systematically depending on the valence of the viewpoints used in the cuts. And as with the viewpoint map itself, a CAD/CAM system might be used to test the effect of different cuts before the expense of
shooting a commercial was incurred. Tests on the CAD/CAM could guide the director of a commercial in choosing among alternative camera positions.

**Horizon.** In our experience of normal space we have a solid intuition that the horizon will be, as the word itself suggests, horizontal. In ad space, however, horizons are quite frequently tilted. Zettl (1990) has argued convincingly that tilting the horizon in an audiovisual stimulus will have a strong effect on viewer perceptions. Forgus (1966) provides empirical support for this claim. Advertising researchers might profitably investigate the effects of this variable.

All variations in the degree of camera tilt can be expressed by a single parameter that ranges from 0° to 360°. With the camera positioned at 0°, the horizon is horizontal, objects in the shot right side up. At 90°, the horizon is vertical with the sky located on the left, the ground on the right. At 180° it is again horizontal, but objects in the shot are upside down. Clearly, most shots in an advertisements have a 0° tilt, but other levels do regularly occur. To cite just one example, after taking over Howard Johnson’s, Marriott ran commercials that included shots of a hotel room with a 180° tilt. The camera gradually rotated...
around to 0°, suggesting that Marriott would put things right.

**Camera Movement.** It is more difficult to describe a dynamic system (a moving camera) than a static system (a stationary camera), but using the spatial coordinates x, y, and z, a temporal value, t, and a rate value, r, a precise description of camera movement is possible. To describe the movement of a camera from position x:y:z₁ to x:y:z₂, x, y, and z values must each be expressed as a function of t and r in the formula \( x = rt + k \), where \( x \) is terminal position of the camera on the x axis, \( r \) is the rate of movement, \( t \) is the time spent moving, and \( k \) is the initial position on the x axis. This calculation is nothing but the familiar formula distance = rate \( \times \) time.

This \( x \) (and y and z) = \( rt + k \) notation can be used to describe the full range of camera movements, i. e. movements generally referred to as the tongue or truck (x axis), pedestal or boom (y axis), dolly (z axis), and crab or arc (x and z axes) shots. To take a simple example, a dolly shot in which the camera moves from 1:2:5 to 1:2:3 in two seconds could be denoted \( x = 1, y = 2, z = -1t + 5 \), where \( 0 \leq t \leq 2 \). A more complicated four second arc shot in which the camera moved around the object from 1:2:4 to 5:2:-4
could be denoted \( x = 1t + 1, \ y = 2, \ z = -0.5t^2 + 4 \), where \( 0 \leq t \leq 4 \).

If researchers were to measure the effects of these shots on dependent variables such as interest in and liking for the focal object, they could use the calculus of variations to identify a path that should optimize the value of these dependent variables. Assuming that camera trajectories do make a difference in how people respond, this information would be very valuable to advertisers.

**Color.** For people who can see, color is an inescapable property of space. The perception of space and the perception of color are different aspects of the same phenomenon. Moreover, in what might be called normal space, objects tend to have an established color. In ad space, on the other hand, neither color in general nor the color of particular objects are necessarily given.

Zettl (1992) provides a good framework for the systematic analysis of color as it is used in television and film. Building on the work of Evans (1974), he says color may be varied on three basic dimensions: hue (red, blue, etc.), saturation (rich or faded by the addition of white), and brightness (how light or dark the color looks when shot in black and white). Hue can be manipulated to produce the
purple cow of the nursery rhyme and other objects of an unusual or more attractive color. Saturation, at its extremes, produces the distinction between color and black and white because white, black, and gray -- the colors in black and white TV -- are what remains when hues are completely desaturated. Brightness is measured in television by gray scale steps. The average black and white TV can produce seven gray scale steps, the average color television nine. High density TV, the emerging technology, can produce many more steps.

Using electronic techniques, the hue, saturation, and brightness of an object in ad space all can be manipulated (Mathias and Patterson 1985; Ryan 1974). Advertisers already frequently manipulate these variables, using color filters to change hues and mixing color (saturated) and black and white (desaturated) images in a single shot. But while these manipulations have been shown to affect the perceptions of viewers (Chute 1980; Winn and Everett 1979), marketing researchers have not yet investigated their effects in advertising contexts, so much work remains to be done on this topic.
SYNTACTICS

As Figure 4 indicates, syntactics studies the relationship of one sign to another within a sign system. Syntactics builds upon a fundamental distinction between syntagmatic (linear) and paradigmatic (categorical) relations among signs (Saussure 1959; Culler 1975). The essence of this distinction can be illustrated in an analysis of the phrase "the Postum." In this phrase, the two signs are syntagmatically related in that the determiner, the, must precede the noun, Postum. The order of the signs cannot be reversed, for "Postum the" has no meaning in the sign system. In addition to their syntagmatic relationship to each other, each word has a paradigmatic relationship to other words that could occupy the same slot in the phrase. For example, the can be replaced by other determiners such as this or some. Postum can be replaced by other nouns such as coffee or dishwashers. Though he draws the distinction somewhat more broadly, Tulving (1983) points to the same phenomenon in a psychological context when he distinguishes between episodic (syntagmatic) and semantic (paradigmatic) memory, alternative memory processes by which current experience may be integrated into past experience.
Viewed broadly, television and film, unlike still photography, are fundamentally syntagmatic because fundamentally temporal. Even if the focal object is a box of cornflakes in an empty room, the succession of moments means changes may occur. Someone may walk through the door, or an earthquake may topple the box. Thus, within a shot, there is always a sequence in some minimal sense. But the most obvious unit of syntactic analysis in audiovisual genres is the shot (Lotman 1981), and between shots, relationships may as easily be paradigmatic as syntagmatic.

The syntactic relationships between shots are problematic and interesting because shots are created by camera cuts, and camera cuts, as we have seen, are inherently indeterminate. Each cut opens up the potential for a spatial and/or temporal ellipsis. Following each cut, the temporal and spatial relationship between the old shot and the new must be inferred by the viewer from cues in the ad. In some cases making this inference is easy; in other cases, it is difficult. In still other cases, no temporal or spatial relationship can be inferred because the shots are not part of a sequence.

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Syntagmatic Relationships Among Shots

Assuming that shots in an ad are sequentially related, the sequencing strategy can be classified by comparing the ad sequence with the normal time sequence. Genette (1980) again supplies a notation that can be used to describe all possible deviations from normal time. In this notation, the order of the shots as they occur in ads is given by the letters A B C etc. The normal order of the shots is given by the numbers 1 2 3 etc. Once these values are assigned (the A B C is self-evident, the 1 2 3 harder to determine), it is possible to tell at a glance whether a sequence is chronological or anachronous. A1 B2 C3 is chronological, A3 B1 C2 (flashback) and A1 B3 C2 (flashforward) are anachronous. To denote cross-cuts, a montage pattern widely used in advertising where two separate narrative lines are mixed together, a subscript can be added. For example, if sequences showing people who did and didn't take Nyquil were interwoven, subscripts could specify which shot went with which sequence: A1, B1, C2, D2. When the screen is split into two or more distinct images, the effect could be indicated with parallel over/under sequences.

The range of possible sequencing strategies has been defined and discussed by the most prominent structuralist
film critic, Christian Metz (1974; see Korac 1988 for a convenient summary). Metz distinguishes between five different strategies (Figure 5). The term sequence shot denotes films (Hitchcock's Rope), TV shows, or ads where all the action occurs in a single shot with no cuts (AS = NS and AT = NT). Scene denotes executions (Zinnemann's High Noon) in which AT = NT but AS ≠ NS since there are cuts and, thus, gaps in ad space (i.e., A1 0 B2 0 C3, where 0 is the NT value of the ellipsis as described in the section on cuts). Ordinary sequence denotes executions in which there are gaps in both AT and AS. For instance, a woman is shown purchasing a bouquet, then following a cut during which she travels, is shown giving the bouquet to her father (A1 t B2, where t is an estimated NT value for the woman's travel time). Alternating syntagm is Metz's term for cross cutting, the technique exemplified above with a Nyquil ad. This syntagm differs from scene in that the alternating shots imply a simultaneous occurrence of the two sequences. In other words, the person who took Nyquil feels good, the person who didn't take it feels bad, at the same time, though they are not on screen at the same time. The simultaneity is possible because time has a negative value during the cut that is equal to the duration of the

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preceding shot. Thus, $A_1$ and $B_1$ occur in sequence visually but at the same time temporally (i.e., $A_1 \sim A'_1$ $B_1 \sim B'_1$ $C_2 \sim C'_2$, where $\sim$ signifies a negative time value equal to the duration of shot $A_1$). Though Metz (1974) and Korac (1988) do not mention it (probably because it occurs so infrequently in film), a split screen can create a simultaneous syntagm in which two actions occur at the same time and are on screen at the same time (i.e., $A_1 \sim A'_1$, $B_1 \sim B'_1$, where the over/under notation indicates that both images are on screen at the same time). This syntagm is used more frequently in advertising than in film, often with the same spokesperson shown on both halves of the screen. In a recent series of General Motors ads, for instance, a man who has purchased a Geo Prism or Chevrolet argues with a second self who has purchased a Toyota Corolla or Ford. The Geo/Chevrolet self is on the bottom half, the Toyota or Ford self on the top half of the screen.

Paradigmatic Relationships Among Shots

For a large number of shots (and many more in advertising than in television programs or movies), it is impossible to assign normal order values, for the shots are achronological and, therefore, have no sequential order.

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Doublemint gum ads, for instance, typically include various sets of identical twins. On the basis of the video alone, the shots cannot be put into a normal time sequence. Their relationship to each other is categorical, paradigmatic, not syntagmatic, and, as Plato observed long ago and Tulving (1983, p. 24) more recently, categories are outside of time. Modifying Genette's notation, shots that are related paradigmatically can be specified by a subscript that joins them to the first shot that announces the category. Thus, a Doublemint ad with four sets of twins and a final shot of the gum package would be described as follows: A Bₐ Cₐ Dₐ E. In many commercials, both paradigmatic and syntagmatic shots are used. Such a commercial might be described as follows: A₁ B₂ C₃ D₃.

Metz (1974; see Korac 1988) suggests that there are two kinds of paradigmatic montage. The Doublemint ad described above is a connecting syntagm, for the shots may be grouped within a single category. An alternative pattern, the parallel syntagm, occurs when two contrasting categories are invoked (i.e., A B Cₙ Dₙ). This pattern occurs occasionally in film but is much more common in advertising, especially comparison advertising.
Hybrid Relationships Among Shots

Commercials are often based on scripts well known to the audience (Puto 1985; Thorson and Snyder 1984). These scripts are a syntagmatic/paradigmatic hybrid. They have an orderable sequence of actions, but that sequence is subsumed by a genre category. The existence of the category is apparent in viewers' ability to predict that events C and D will occur once they see that A and B have occurred, something that is not possible for a nongeneric sequence. Thus, when Bullseye Barbecue Sauce moves to the middle of a circa 1860 western town to face down Hunt, Heinz, and other bad guys, we can predict the triumph of the hero. Propp's (1968) work on folk tales and Levi-Strauss's (1963) work on myth suggest that semiological analysis of advertising scripts such as this may yield important insights. Mick (1987; Mick and Politi 1989) has begun the process of systematically analyzing ad scripts, as have Thorson and Snyder (1984) using a very different theoretical perspective. And while scripts are located at the symbol end of Peirce's icon-symbol continuum and are, therefore, beyond the scope of this study, the form variables treated here probably play an important role in cuing viewers to the existence of a script. In the Bullseye ad, camera position

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-- slightly behind and to the right on the handgun side -- joins us with the Bullseye bottle and sets us at odds with the other sauces which are much further away on the z axis. As the semiological analysis of scripts progresses, researchers should investigate the role variables treated in this study play as generic cues.

Syntax Effects

Advertisers can manipulate the degree of difficulty viewers have in inferring the connection between two shots. Metz (1974) and Zettl (1990) provide specific examples of how this can be done. By varying the difficulty, they may influence the persuasiveness of an ad (Festinger and Maccoby 1964). Empirical work needs to be done on this topic, but it seems likely that, other things being equal, the larger the value of NT during an ellipsis and the greater the distance between $x:y:z_1$ and $x:y:z_2$, the more trouble viewers will have inferring a connection between shots. However, it is possible, as Kraft (1986) has suggested, that cutting techniques which temporally extend the cut (i.e. fades, dissolves, wipes which take longer than a straight cut) might cue the viewer that the NT value is large and thereby

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reduce confusion. This possibility, too, needs to be investigated empirically.

Researchers outside marketing (Abelman 1990; Anderson et al. 1981; Cowen 1984, 1988; Isenhour 1975) have shown that the sequence of shots, whether chronological (A1 B2 C3) or anachronous (A1 B3 C2), affects the comprehension and recall of video stimuli. Since both chronological and anachronous sequences are widely used in advertising, marketing researchers need to examine the effects of sequence on dependent variables of interest to advertisers.

A number of studies have shown that the degree of similarity between a television program and an ad can affect responses to the ad (Kamins, Marks, and Skinner 1991; Murray, Lastovicka, and Singh 1992; Weinberger and Gulas 1992). And Porter (1983) has shown that shows consistently differ in their montage strategies. Coding shows using Metz's (1974) taxonomy of syntagms, he found distinct patterns for "Dukes of Hazzard," "Magnum," "Dallas," and "Quincy." Since ads can be classified using the same taxonomy and since other similarities between ads and shows have had an impact on ad responses, it is possible that ads may prove more effective if their sequencing strategy is consonant with that of the program they are attached to.

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As previously mentioned, Saussure's (1959) linguistic distinction between syntagmatic and paradigmatic relations among signs and Tulving's (1983) distinction between episodic and semantic memory clearly tap the same underlying processes. It is possible, therefore, that ads which have a syntagmatic structure may address semantic memory, those with a paradigmatic structure episodic memory. If so, the ads may have quite different effects, for Tulving (1983) suggests that the two memory systems produce different results in recall, inference, and other important behaviors.

PRAGMATICS AND PHENOMENOLOGY

Figure 4 suggests that our perceptions of an object can take either of two forms, the unmediated form treated by phenomenology or the mediated form treated by pragmatics. In practice, experience tends to be distributed on a continuum that ranges from the direct, purely phenomenological perception of an object to the contemplation of a sign qua sign with no thought for its referent. This section discusses this continuum and its implications for ad form.
The Signness of Signs

The mediated and unmediated perceptions of an object will generally differ because signs always have properties of their own which can add to the mediated meaning (Frege 1980). Thus, for many consumers, the experience of consuming water, CO₂, carmel color, and flavoring takes on a different quality if the sign Coca Cola is attached to the product. The sign has been imbued with meanings which it brings to the experience, meanings that change as the company repositions the product by, for instance, releasing Bill Cosby and signing Paula Abdul as a celebrity endorser.

Signs are able to connote other meanings while at the same time denoting their referent because they have a double nature, the dual capacity to signify at once both themselves and something else. But while their nature is double, it is not balanced. In most cases the referential property of a sign is more salient than its autonomous signness, i.e., the sonic or optic attributes of the sign itself. Thus, when we encounter a sign we generally look not at but through it to its referent or meaning. (Your mind is focused on the meaning of the words in this sentence, not on the number or shape of letters in each word.) In the language of Husserl (1931; Casebier 1991), we apperceive the referent through

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the sign. The sign is merely the instrument of our perception.

The important point for the iconology of ad form is this. While all signs signify something else and are, therefore, in some measure instrumental, all may not be equally instrumental. Signs at the endpoints of Peirce's icon-symbol continuum may be effaced before their referent more than signs in the middle.

Let us start our discussion of the salience of signs at the symbol end of the continuum where the relationship between the sign and its referent is arbitrary. In the case of the quintessential symbol, non-onomatopoeic words (all words except those that are directly imitative, e. g. woof, cock-a-doodle-doo), we learn little about the thing by inspecting the properties of the word that signifies it. Consequently, in most contexts, we do not inspect or even notice the attributes of the sign. Its meaning (referent) is the only thing we focus on, though even with quintessential symbols, signness can be made salient through the use, for instance, of a highly stylized script (e. g., the Coca Cola script). At the other end of the continuum, photorealistic icons so closely resemble their referent that the small differences generally do not attract attention.

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When watching the State of the Union address on TV, the President is the focus of our attention (in Husserl's terminology, our intentional object), not the image of the President on the screen.

In the middle of the continuum, however, the signness of the sign may be more salient. In an impressionist painting or a highly entropic ad (one in which there is a large divergence between ad time/space and normal time/space), the interplay in the sign of resemblance and difference may make the sign intrinsically interesting. And because they are intrinsically interesting and have their own salient attributes, signs at midpoints on the continuum may attract attention and contain meanings that the referent itself would not have evoked. As a consequence, such signs may have special utility for advertisers. Their attention getting properties may be useful in breaking through ad clutter, and their own salient attributes may make implicit claims about the novelty, romance, humor, or energy and excitement of the product.

Marked and Unmarked Forms

The grammatical distinction between marked and unmarked syntax (Kolln 1990) illustrates how signness can vary across
forms. Compare the following two sentences: "Jaded and weary, the consumer pays no attention to ads" (marked); "The jaded and weary consumer pays no attention to ads" (unmarked). In the first sentence, the adjectives are in a position less normal than the one they occupy in the second sentence. As a consequence, both the adjectives and the style of the sentence are more salient in the first than in the second sentence.

Lotman (1981) uses these same terms to differentiate between video forms that are and are not consonant with normal time and space. His list of marked and unmarked forms, expressed in the terminology developed in this chapter, is given in Table 1. As the table indicates, a chronological sequence is unmarked. When exposed to such a sequence, viewers should be relatively inclined to look through the video sign to the meaning it portrays. When exposed to an anachronous sequence, on the other hand, viewers should be relatively inclined to focus on the sign itself. Where involvement with the product is low, this interest in the sign itself may be a boon to the advertiser. It may win attention for the ad which an unmarked execution could not have won.
AD RESPONSE MODEL

To this point, Chapter 3 has suggested that ad executions may differ in their normality/novelty and that those differences can be systematically analyzed. In this section, an ad response model is developed within which the form variables just described may be embedded as independent variables. The response model here proposed is formed by combining distraction theory with the dual mediation hypothesis. Accordingly, this section first examines a distraction theory model, then considers the dual mode persuasion model, and then discusses the composite model formed by combining the other two. In the last subsection, an involvement moderator is added to the composite model.

Distraction Theory

As Chapter 2 points out, the original theorists, Festinger and Macoby (1964), formulated distraction theory rather narrowly. Later theorists -- Nelson, Duncan, and Kiecker (1993) -- have broadened its scope. The model here proposed (Figure 6) is compatible with both formulations.

As with all the models discussed in this section, the first term in the distraction theory model is the ad, which in turn has two parts, ad form and ad claims. These two

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parts of an ad stimulate two kinds of processing: ad execution processing which is focused on the ad's form and brand information processing which is focused on its product claims. Of these two, only brand information processing is an essential component of distraction theory, for this theory treats Petty and Cacioppo's (1985) central route to persuasion, the bottom path in the model. Ad execution processing, the top path, is relevant only insofar as it distracts attention from the processing of ad claims.

While ad form is not an essential element of distraction theory -- since it is only one of many potential distractors of attention from brand information processing -- in an advertising context, it is very important because it is the one distractor over which the advertiser has complete control. By manipulating the form of an ad, the advertiser can increase or decrease the level of ad execution processing.

Advertisers should be concerned about the level of ad execution processing, in part, because it may affect the level of brand information processing. (See the arrow connecting the two in Figure 6.) In the zero sum world of distraction theory, increasing ad execution processing may decrease brand information processing. Thus, connecting
this model to the semiotics of form discussed earlier in this chapter, marked executions (i.e., abnormal camera angles or pace values) may increase ad execution processing and, thereby, decrease brand information processing.

The arrow in Figure 6 connecting brand information processing with brand learning suggests that a decrease in brand information processing will normally lead to a decrease in brand learning, i.e. to lower recall and acceptance of brand claims. For the recall component of brand learning, this relationship is unambiguous. However, for the acceptance component, the relationship is more complex, being moderated, as Festinger and Macoby (1964) have shown, by viewers' antecedent beliefs. If prior to seeing an ad, viewers have strong opinions about the product, the persuasiveness of the ad will be affected by an interaction between the presence/absence of distractors and the valence of the antecedent opinions. Where the opinion is positive, distraction reduces the ad's persuasiveness because it inhibits the generation of support arguments. Where the antecedent opinion is negative, distraction increases the ad's persuasiveness by inhibiting counter argumentation. Either way, brand learning then affects
attitude toward the brand which, in turn, affects purchase intentions.

While viewers with strong negative opinions of a brand complicate matters, distraction theory generally predicts that brand learning will decrease as ad form salience and ad execution processing increase. This point is crucial because the dual mediation hypothesis makes precisely the opposite prediction.

Dual Mediation Hypothesis

As Figure 7 indicates, the dual mode persuasion model (Lutz 1985; Lutz, MacKenzie, and Belch 1983) does not differ from the distraction theory model in its main outlines. Apart from the absence of an antecedent beliefs moderator, the stages in the central path to persuasion (bottom path) are identical in the two models.

On the other hand, this dual mediation model is more complete than the distraction theory model, for it includes Petty and Cacioppo's (1985) peripheral as well as their central route to persuasion. Thus, as Figure 7 indicates, in this theory ad execution processing is held to cause ad learning which, in turn, influences viewers' attitude toward the ad and then their attitude toward the brand. In adding
the peripheral route to the model, Lutz and other dual mediation theorists incorporate a large body of research indicating that the peripheral path running through $A_{ad}$ influences $A_{brand}$ and purchase intentions (e. g., Mitchell and Olson 1981; Shimp 1981).

Next to the addition of the peripheral route, the most important difference between the two models depicted in Figures 6 and 7 is the absence of the distraction effect and the presence of a spillover effect in the dual mode persuasion model. This difference is important because it generates opposite predictions about brand learning. Whereas an anticipated distraction effect leads distraction theorists to predict less brand learning when ad form is salient, an anticipated spillover effect leads dual mediation theorists to expect higher brand learning as ad form salience increases. The more salient the ad execution, the higher the level of ad execution processing, brand learning, and $A_{ad}$. The ensuing spillover from $A_{ad}$ to brand information processing should lead to higher brand learning when ad form is salient, a prediction exactly opposite that made by distraction theory.

While Lutz (1985) and Lutz, MacKenzie, and Belch (1983) do not explicitly incorporate it in their models, the
relationships between the ad stimulus and the two paths to persuasion are moderated by need for cognition (Figure 7). Petty, Cacioppo, and Schumann (1983) have shown that, other things being equal, subjects high in need for cognition are more susceptible to the explicit appeals expressed in ad claims while subjects low in need for cognition are more susceptible to the indirect appeals embodied in executional variables.

The Composite Model

The composite model formed by joining the distraction theory and dual mode persuasion models is represented in Figure 8. Since this model merely combines the two models already discussed, there is no need to further discuss its paths. The only change is that the distraction effect has been labeled negative, the spillover effect positive to suggest that ad form salience negatively/positively affects brand information processing on these respective paths.

The combination of these two models is based on an implicit assumption that both are valid, that both distraction and spillover effects occur. Their net effect on brand learning therefore depends on the relative magnitude of these negatively and positively valenced
effects. If the negative distraction effect is larger, increasing the salience of the execution should reduce brand learning for most subjects. If the positive spillover effect is larger, making the ad execution more salient should increase brand learning.

So what is there to say about the probable relative magnitude of the two effects? If we accept the zero sum assumption implicit in distraction theory -- the idea that any gain in ad execution processing comes at the expense of brand information processing -- then the distraction effect is likely to exceed the spillover effect. This is true because, along the distraction path, an increase in ad execution processing has a direct negative effect on brand information processing. Along the spillover path, on the other hand, increases in ad execution processing only indirectly increase brand information processing via ad learning and $A_{\text{ad}}$. It seems likely that effects on the direct path will dominate those on the indirect path, all the moreso because attention redirected to brand information processing on the spillover path would seem to be a residue of attention distracted from brand information processing in the first place.
The Involvement Moderator

The dominance of the distraction effect just hypothesized is predicated on a zero sum assumption that in some cases may not be valid. In a high clutter, low ad involvement context, it is possible that additional attention devoted to ad execution processing may be diverted not from brand information processing but from other environmental stimuli, e. g., other ads or a newspaper one is reading. If ad involvement is very low, there may be little or no brand information processing going on, so no ad processing to distract from if the salience of the execution is increased. In this situation, the overall increase in attention to the ad occasioned by increasing the salience of the execution may result in a spillover effect that dominates the distraction effect and, thus, results in a net increase in brand learning.

This situation is depicted in Figure 9 which adds clutter to the composite model. In Figure 9, clutter is in the same column as ad execution processing and brand information processing because the three are logical alternatives. Confronted with an ad stimulus, viewers may devote their attention to the ad claims, the ad execution, or to clutter, i. e., other environmental stimuli that are
mere distractors from the advertiser's point of view. The dashed line in Figure 9 connecting ad execution processing with clutter processing suggests that an increase in ad form salience may increase ad execution processing at the expense of clutter processing. In other words, increasing ad form salience may produce an attention effect, a virtuous analog of the negative distraction effect. The impact of this attention effect is indicated by the other dashed lines in the model.

Having factored in this possible attention affect, we must analyze again the probable relative magnitude of the negative distraction and positive spillover effects if we are to make a prediction about their net effect on brand learning. A new analysis is necessary, for when clutter is high, the net result of the two effects may be different from what it was in the zero sum low-clutter, high ad involvement context.

In this low ad involvement situation, other stimuli compete for attention, so the amount of cognitive capacity devoted to brand information processing is likely to be lower than it was in the uncluttered environment. Consequently, the amount of attention that can be distracted from brand information processing is also lower. As before,
any distraction that occurs should enhance the spillover effect too little to compensate for the direct distraction reduction. So insofar as the distraction effect alone is concerned, the prediction would be the same.

The difference is that the spillover effect now has the added force of any attention diverted from clutter processing to ad execution processing. In other words, to the value of the solid line in Figure 9, the value of the dashed line must be added. Their net value may be greater than the value of the distraction effect. Thus, in a high clutter context, the combined spillover effects may dominate the distraction effect.

Figure 9 is a high clutter, low ad involvement model, for it shows attention being diverted from clutter to ad execution processing. Figure 10 is a low clutter, high ad involvement model, for it shows a situation in which no attraction effect occurs and in which the distraction effect therefore dominates the spillover effect as previously pointed out in the discussion of the composite model (Figure 8). Expressed in statistical terms, these two models suggest that there may be an ad form salience x ad involvement interaction on brand learning, such that increasing the salience of the execution increases brand
learning when clutter is high, involvement low but reduces it when clutter is low, involvement high.

RESEARCH PROPOSITIONS

The ideas developed in the two main sections of this chapter suggest several research propositions which can serve both to summarize what has been said and to set the stage for the statement of hypotheses with which the next chapter begins.

The first proposition and its corollaries are driven by the fact that ads can more and less closely approximate normal time and space. As ads less closely approximate NT and NS, the ad execution should become more salient because more novel, i.e., the signnness of the marked execution should increase.

Proposition 1: As ad executions less closely approximate NT and NS, the salience of the ad execution may also increase.

Given that people have limited processing capacity, changes in ad form which attract attention to the ad execution may reduce attention devoted to other phenomena, including the brand claims in the ad. In other words, distraction is the flip side of attraction. While most past
advertising research has focused on distractors extrinsic to the ad (Batra and Ray 1985; Nelson, Duncan, and Kiecker 1993), it is a premise of this study that intrinsic elements like ad form can also function as distractors. This idea is expressed graphically in Figure 6 and verbally in Proposition 2.

*Proposition 2*: Relatively abnormal ad executions may distract attention from brand claim processing and reduce the persuasiveness of the ad.

While increasing the salience of an ad execution may produce a distraction effect, it may also produce an overall attention effect of ad form. In other words, as Figure 9 indicates, the ad may receive more attention because the execution is salient than it would otherwise have received, attention diverted from other environmental stimuli. The attention effect that is graphically illustrated in Figure 9 is expressed verbally in Proposition 3.

*Proposition 3*: Relatively abnormal ad executions may increase the overall level of attention paid to the ad and thereby increase its persuasiveness.

The attraction and distraction effects proposed in Propositions 2 and 3 work in opposite directions. They may,
therefore, move dependent variables of interest to advertisers in opposite directions. If so, advertisers will be eager to know which effect is likely to prove more important in a given context. Proposition 4 addresses this question.

Proposition 4: Where involvement with an ad is high, increasing the signness of an ad execution is likely to produce a negative distraction effect; where involvement is low, increasing signness is likely to produce positive attention and spillover effects.

As previously mentioned, the specific implications of these propositions are spelled out in the hypotheses articulated in Chapter 4.
Chapter 4

HYPOTHESES AND METHOD

As promised at the end of Chapter 3, this chapter begins with a statement of the research hypotheses. Following that statement, methodological issues are discussed, including the design of the experiment, the stimuli used in it, the sample and sample size, the measures, and the experimental procedure.

HYPOTHESES

As Chapters 1 and 3 have made clear, the hypotheses developed below are grounded in the semiotic analysis of ad form and in two alternative psychological theories, the dual mediation hypothesis and distraction theory. To focus first upon the independent variables that play a role in these hypotheses, the semiotic analysis done in Chapter 3 suggests that executions of an ad differ in their degree of normality/novelty, some executions being marked, others unmarked. In other words, some camera angles, AT:NT ratios, and sequences of shots approximate our everyday experience of space and time more closely than others. In this chapter, these more and less normal/novel ad executions are the treatment variables. Berlyne's (1958, 1974) work
suggests that, across levels of normality, executions will produce different effects, abnormal executions being more salient than the normal ones.

Turning to response processes and the dependent variables, distraction theory and the dual mediation hypothesis propose two different paths (Figures 6 and 7) by which form variables might influence brand learning and $A_{brand}$, dependent variables of interest to advertisers. As Chapter 3 points out, the principle difference between the two theories is this: distraction theory holds that salient ad executions will distract from and, thus, reduce the processing of brand information (Figure 6) whereas the dual mediation hypothesis holds that salient executions will directly increase ad execution processing and, through collateral attention on the spillover path, indirectly increase the processing of brand information (Figure 7). Thus, the two theories make different predictions about the effects of form on these dependent variables. As Chapter 3 also points out, it is possible that the two theories may be reconciled by the addition of a clutter moderator in a composite model (Figures 8, 9, and 10).

Since sorting out the relative merits of these two theories and the composite theory that joins them is an

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objective of this study, the theoretical implications of all three theories are discussed below in connection with each of the proposed hypotheses. This discussion of dependent variables begins with brand learning, then turns to $A_{Brand}$.

**Brand Learning**

The camera angle and ad pace variables manipulated in this study may produce different levels of brand information processing across levels of the independent variables. According to the zero sum distraction theory view, brand learning should be lower for salient angles and pace values since greater ad execution processing will distract attention from brand information processing (Figure 6). On the other hand, according to the dual mediation hypothesis, brand learning should be higher for salient camera angles and for salient ad pace values since salient executions should increase overall attention, meaning both ad execution processing and, through the spillover effect, collateral brand information processing (Figure 7). Finally, according to the composite theory, a salient execution may both increase and decrease brand learning, brand learning being a net result that depends on both distraction and spillover

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effects and that varies as one effect or the other is more dominant.

The prediction of the composite theory hinges on the importance of clutter. As Chapter 3 has indicated, its rationale runs as follows. When clutter is low, most of a viewer's attention is likely to be focused on processing the ad, so any additional attention drawn to the execution may have to be diverted from brand information processing, thus resulting in lower brand learning (Figure 8). On the other hand, when clutter is high, much of a viewer's attention may be devoted to other stimuli, little to processing brand information. Consequently, a salient execution may increase the overall level of attention to the ad while distracting little or no attention from brand processing, there being little attention to distract. The net result in the high clutter context may be that the attention effect posited by the dual mediation hypothesis may dominate the distraction effects (Figure 9). Among the following hypotheses, H1 expresses a consensus position, H1a the distraction theory version, H1b the dual-mediation version, and H1c the composite theory version of H1. The statistical plot consistent with each sub-hypothesis is reported in Figure 15.
H1: Normal and abnormal ad executions will produce different levels of brand learning.

H1a: Compared with abnormal ad executions, normal executions will produce higher brand learning.

H1b: Compared with abnormal ad executions, normal executions will produce lower brand learning.

H1c: The effects of normal/abnormal executions on brand learning will be moderated by the level of clutter, such that normal executions produce higher brand learning when clutter is low and lower brand learning when clutter is high.

**Attitude toward the Brand**

For both distraction theory and the dual-mediation hypothesis, predictions on $A_{brand}$ follow from predictions on brand learning, provided that the information learned from the ad is all positive. According to distraction theory, abnormal ad executions should produce lower $A_{brand}$ because the positive brand information in the ad should be less well learned. Normal executions should produce higher $A_{brand}$. According to the dual mediation hypothesis, the opposite should occur, though the result may be complicated by $A_{ad}$ effects. Attention spillover from the more salient abnormal executions should enhance the learning of positive brand information and result in higher $A_{brand}$ when executions are abnormal. H2 expresses the consensus position on $A_{brand}$, H2a
the distraction theory version, and H2b the dual mediation version of H2.

H2: Normal and abnormal ad executions will produce different levels of $A_{\text{Brand}}$.

H2a: Compared with abnormal ad executions, normal executions will produce higher $A_{\text{Brand}}$.

H2b: Compared with abnormal ad executions, normal executions will produce lower $A_{\text{Brand}}$.

METHOD

Design

These hypotheses were tested in two experiments that examined the effects of ad pace and camera angle. Both experiments had a two-way between-subjects ANOVA design. The first experiment focused on pace, which was manipulated in a treadmill ad. It had a 2 (high/low clutter) x 4 (NT:AT ratios) factorial design (Figure 11). The second experiment focused on camera angle, which was manipulated in an insurance ad. It had a 2 (high/low clutter) x 2 (normal/abnormal camera angles) factorial design (Figure 12).

The two experiments were conducted with a single set of subjects who were randomly assigned to treatment conditions in which they viewed both target ads. Since the four pace

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levels were mixed with both angle levels and both clutter levels, it was possible to test for and factor out interactions between the three independent variables. In other words, the experimental design could also be viewed as a 2 (high/low clutter) x 4 (AT:NT ratios) x 2 (normal/abnormal camera angles) factorial design (Figure 13). But since interactions between pace and angle were not hypothesized and did not occur, it is simpler to focus on the two less complex designs that are reported in Figures 11 and 12. In the context of the less complex pace-only design (Figure 11), we can test for the hypothesized pace x clutter interaction and main effect of pace. In the context of the angle-only design (Figure 12), we can test for the hypothesized angle x clutter interaction and main effect of angle.

The advantage of conducting both experiments with the same set of subjects was that subjects were used more efficiently and overall sample size was therefore increased. A composite design also made it possible to examine the effects of the pace manipulation on responses to the proximate angle ad and vice versa. In other words, while pace and angle were not expected to interact, pace effects were expected to extend beyond the treadmill ad to other
proximate ads including the insurance ad in which angle was manipulated. Likewise, angle effects were expected to extend to other proximate ads, including the treadmill ad.

To recap the points made above, the experiment done in this dissertation is most appropriately interpreted as two separate experiments. All treatments of interest are between subjects treatments. Each subject sees only one angle and one pace commercial in one clutter condition. And the angle and pace effects are analyzed separately (comparing angle effects only with angle effects, pace effects only with pace effects). No pace x angle interaction was hypothesized or found. This last fact, of course, had no bearing on whether there would be a pace main effect on responses to the insurance ad in which angle was manipulated or an angle main effect on responses to the treadmill ad in which pace was manipulated, i.e., on whether there would be what I will be calling an external effect of ad form.

**Experimental Treatments**

**Pace.** Pace was manipulated in a treadmill ad, the four versions of the ad having ad pace values of 1, 2, .5, and -1, 1 being the normal value in which ad time and normal
time were equal, 2, .5, and -1 being the abnormal values in which ad time was either faster (2), slower (.5), or the reverse (-1) of normal time. Multiple camera angles and a mixture of medium shots and closeups were used in this treadmill ad. The different shots focused on different features of the treadmill. This was done so that ad claims would be communicated visually, not just on the sound track. Camera angles and distance were consistent across the four versions of the ad. Only ad pace varied in this ad.

A treadmill was chosen as the product because fast paced ads necessarily show more action than slow paced ads, i.e., the ad with the 2:1 AT:NT ratio shows four times as many steps on the treadmill as the ad with the .5:1 ratio. But on a treadmill, more action doesn't necessarily mean more information since the action is familiar and repetitive. Moreover, viewers should recognize that it is the ad pace which is normal, fast, or slow, that the speed is not simply a matter of the person on the treadmill running faster or slower. Gravity makes this clear, for the runner moves up and down abnormally slowly when the ad pace is slow and abnormally quickly when the ad pace is fast. Since pace is the only aspect of the ad that varies, any difference in the level of interest excited by different

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versions of the ad should be an unambiguous function of the ad's pace -- its form, not its content.

**Angle.** Camera angle was manipulated in an insurance commercial featuring three people who had been helped by a fictitious company called Southwest Mutual Insurance. The actors were shown sitting on a chair not saying anything. A gender and age consistent voice recounted in a voiceover a positive experience that each person had with Southwest Mutual. The implication was that the voiceover expressed the feelings of the person on screen. The actors were shot against a dark curtain so that the background would remain constant as the camera angle shifted. A voiceover was used to recount the experience of the people in the ad so that the soundtrack would be identical in both conditions.

For pace, the distinction between normal and abnormal executions is obvious: the pace of ordinary experience is normal, fast, slow, and reverse motion are abnormal. But the situation is not so clear cut for angle. It was necessary, therefore, to identify camera angles judged normal/abnormal in a pretest. In the pretest, subjects were shown pictures of an actor sitting on a chair, taken from different angles -- images similar to those used in the experimental insurance ad. Subjects were instructed to rate

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each shot as being a normal or abnormal perspective on a 7-point scale anchored by very normal and very abnormal. Based on these responses, four angles were selected as being representative normal (0:0:3, 2:0:2) and abnormal (0:-3:1, 0:5:3) angles. These angles differed significantly in their normal/abnormal ratings in the pretest (0:0:3 and 2:0:2, x = 1.84; 0:-3:1 and 0:5:3, x = 5.31; t = 12.02, p < .0001).

Clutter. While the appropriateness of the normal/abnormal label was pre-tested for the angle manipulation, strictly speaking, both pace and angle treatments are objective manipulations which, according to Nunnally (1978), require no manipulation check. The clutter treatment (a pod of 5 versus a pod of 15 ads) is also relatively objective, but its capacity to reduce ad involvement and recall has also been verified by previous research (Webb 1978).

The filler ads used in the low clutter pod of 5 and in the high clutter pod of 15 ads were recorded off TV, with the exception of one ad obtained directly from a local oral surgeon. There were ads for both local and national brands and for both goods and services. The advertised goods included Coke, Budwiser, Dodge, Tylenol PM, Eureka, Minwax, the Lane Changer. The advertised services included Harris
Teeter, All Good, Rent-a-Center, 1-800-COLLECT, a law firm, and the oral surgeon. Ads for the law firm, oral surgeon, and Budwiser along with the two target ads were used in the low clutter condition. All ads were used in the high clutter condition. In general, ads with relatively low production values were chosen so that the contrast between the experimental ads and the filler ads would be minimized. To minimize primacy and recency effects and thus make unvaryingly high recall less probable, the target ads were placed in the middle of each pod, in positions 2 and 4 in the pod of 5 ads and in positions 7 and 9 in the pod of 15 ads.

Pre-tests confirmed that the clutter manipulation would be effective in reducing ad processing as clutter increased. In the pre-test, there was a significant difference in the number of subjects who correctly recalled a target ad when the ad was embedded in a pod of 5 ads (65%) versus 10 ads (41%) and 15 ads (24%) ($F_{1,128} = 8.08, p = .0005$). Similar results were obtained for the effect of clutter on brand learning in the main study: the main effect was significant in MANOVA's, both when pace was the other independent variable ($F_{1,164} = 5.60, p < .001$) and when angle was the other independent variable ($F_{1,164} = 5.14, p < .001$).

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Sample

Since this study was designed for an initial theory test, a convenience sample of students was used. (Students were given course credit for participating.) This sample was appropriate because if the theory had not held with these subjects, it would have had limited generalizability even if it had been confirmable with a broader sample.

The original sampling plan suggested that 256 subjects would be needed to achieve .80 power in the hypothesis tests. This number was based on a target value of 32 subjects in each of the 8 cells and thus 64 subjects in each hypothesis test that compared a normal cell with an abnormal cell. Thirty-two subjects times eight cells yielded the 256 subjects (see Figure 11).

This target cell size was calculated based on a .36 effect size, a conservative value at the lower end of the effect-size spectrum in previous studies. Nelson, Duncan, and Kiecker, for instance, found an average .44 effect size in their review of distraction theory studies in marketing. And effect sizes in Meyers-Levy and Perracchio's (1992) camera angle experiment ranged from .37 to .89, those in MacLachlan and Siegel's (1980) time compression experiment

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from .36 to .81. So .36 was the lowest value obtained in relevant previous research.

When the study was actually done, there were a total of only 179 subjects, 92 male, 86 female. This was fewer than the 256 originally proposed; however, the target value of 64 subjects per hypothesis test was, nevertheless, exceeded for all the main significance tests. This was possible because the three abnormal pace values (.5, 2, -1) had to be combined before normal/abnormal pace effects could be tested, a fact not considered in the original plan.

Figure 11 shows both the full experimental design and the reduced design that was used in testing the pace hypotheses. A number has been place in the upper right hand corner of each cell in Figure 11 to facilitate an explanation of how cells in the full experimental design were combined to create cells used in the hypothesis tests.

Before testing the effects of pace on the two target ads, cells 2, 3, and 4 of the experimental design in Figure 11 were combined to form cell 2 of the hypothesis test design (also reported in Figure 11). This was done because subjects in all three cells were exposed to abnormal executions in a low clutter context. Likewise, cells 6, 7, and 8 in the experimental design were combined to form cell
4 for the hypothesis test. These subjects were also exposed to abnormal executions, but in a high clutter rather than a low clutter context. The cell for the normal execution in a low clutter context, cell 1 in the experimental design, became cell 1 in the hypothesis test. Cell 5 in the experimental design becomes cell 2 in the hypothesis test. The end result is a 2 (normal/abnormal pace) x 2 (low/high clutter) design which is appropriate for testing the proposed hypotheses.

The rationale for adjusting the number of subjects in each cell ran as follows. Had the original plan been retained, cell 1 in the hypothesis test matrix would have contained 32 subjects, cell 2, 96 subjects. A better balance between the normal and abnormal cells was achieved by assigning additional subjects to the normal pace condition while reducing the number of subjects assigned to each of the three abnormal cells. In addition to better balancing the cells, this adjustment meant that the minimum of 64 subjects per hypothesis test could be obtained with fewer subjects overall.
Dependent Measures

The two dependent variables, brand learning and brand attitude, were measured by a mix of free response, nominal recall and recognition, and 7-point semantic differential items. Both internal effects and external effects of the pace and angle manipulations were tested. Internal effects are effects pace had on responses to the treadmill ad (the ad in which pace was manipulated) and effects angle had on the insurance ad (the ad in which angle was manipulated). External effects are effects pace had on responses to the insurance ad and effects angle had on responses to the treadmill ad (see Figure 14 and Tables 2 and 7).

Both internal and external effects were tested because advertisers should be interested in both effects. When creating an ad, they need to know what effect the execution variables they select may have on responses to their ad, i.e., the internal effects of their executional choices. But they also need to know, when buying time, what effect other proximate ads may have on responses to their ad, i.e. what external effects may be generated by other ads in the same pod. If they pay attention to external effects, they may be able to avoid placing their ad next to an ad which suppresses positive responses to proximate ads.

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Brand Learning. To assess both internal and external effects, the dependent variable for H1, *brand learning*, was measured with nominal recall and recognition items and with a free recall item that focused on ad claims. The nominal measures first asked subjects to recall, then asked them to recognize the product class and brand name of the products advertised in each ad. This made a total of four nominal measures for internal recall/recognition and another four for external recall/recognition. In a free recall measure on a subsequent page, subjects were reminded that they had seen treadmill and insurance ads and were asked to recall product claims made for the two products. Adding the internal and external free response measures to the eight nominal measures yielded a total of ten brand learning measures.

The free response items were coded by two judges who were blind to the treatment conditions. These judges assessed the number of correct claims recalled by each subject. Cohen's Kappa (.91) and the Pearson correlation (.98) indicate high interjudge agreement on claims recalled in the pace commercial. Kappa (.78) and the Pearson correlation (.89) also indicate considerable interjudge
agreement on claims recalled from the angle commercial. Disagreements were resolved through discussion.

**Brand Attitudes.** $A_{brand}$ was measured by a set of six semantic differential items: like/dislike, pleasant/unpleasant, good/bad, reliable/unreliable, high quality/poor quality, favorable opinion/unfavorable opinion. Pre-tests indicated that this scale had good reliability (.89) and was unidimensional. These pre-test results were replicated in the main study where scale reliability, assessed by Cronbach's alpha, was .90 for the pace ad and .89 for the angle ad. In factor analyses, this scale was again unidimensional by the eigenvalue > 1 criterion for both the pace and the angle commercials. The one dimension explained 67 percent of the variance in the pace scale and 65 percent in the angle scale.

**Procedure**

In a classroom or conference room subjects were first given a cover story indicating that the experiment was concerned with how much interest there will be in advertising once television becomes interactive and people can order up programs with or without ads. Conceding that subjects have seen many advertisements before, the
experimenter indicated that they would now be shown a group of advertisements just to remind them of the kind of things advertisements do and say. The purpose of this cover story was to lower subjects' involvement with the ads. Too high involvement would have lessened external validity and may have suppressed anticipated differences between high and low clutter responses.

After watching the ads, subjects responded to the questionnaire. The first questions in the survey were consistent with the cover story. Subjects were asked, for instance, whether they would prefer shows with or without commercials and whether they would be willing to pay more to have no commercials. They filled out other distractor items and were then asked to respond to the recall, recognition, and attitude measures.
Chapter 5

RESULTS

This chapter reports on the results of the pace and angle experiments that are described in Chapter 4. Results are reported in separate sections devoted to each of the two main hypotheses, with subsections under each hypothesis treating the different effects of ad pace and camera angle.

H1: BRAND LEARNING

H1 suggests that ad pace and camera angle will affect brand learning, i.e., recall and recognition of various pieces of information about the advertised product. The competing sub-hypotheses suggest that form variables will have on brand learning a negative distraction effect (H1a), a positive attention effect (H1b), or that the distraction and attention effects will interact with clutter (H1c). Since H1c subsumes the other two models, it is discussed first in both the pace and the angle sections below.

To assess the three sub-hypotheses, both recall and recognition and internal and external effects were tested. Thus, there were a total of 10 brand learning measures. Since there were multiple measures, the effects of pace and angle on brand learning were assessed by MANOVA and subsequent univariate tests.
With the exception of ad claim recall, all dependent variables were nominal data. Subjects either recalled/recognized the class and brand or they didn't. Items were scored 1 if recalled/recognized, 0 if not, so means vary from 0 to 1 and express the percentage of subjects who correctly indicated that an ad for the class or brand was included in the ad pod. In the univariate tests following the MANOVA, this data was analyzed using F or t tests, a procedure that Lunney (1970) says is appropriate for nominal data.

Pace Effects

As previously discussed, ad pace had four levels in the pace experiment: normal motion (AT = 1), fast motion (AT = 2), slow motion (AT = .5), and reverse motion (AT = -1). Differences in the effects of any two pace levels are of interest. However, the hypotheses focus on the contrast between normal motion (AT = 1) and abnormal motion (AT = 2, .5, or -1), so a composite abnormal variable that incorporates the fast, slow, and reverse treatments is highlighted here and in the tables, though all means are reported.

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H1c: Pace x Clutter Interaction. H1c suggests that distraction effects are likely to occur when clutter is low and attention effects when it is high. Thus, under this hypothesis, the less distracting normal execution (AT = 1) should produce higher brand learning in the low clutter condition while the more novel and attention-getting abnormal executions (AT = 2, .5, or -1) should produce higher brand learning in the high clutter condition. A pace x clutter interaction would support this hypothesis, provided that the means were in the right direction. This hypothesis was tested in a MANOVA that assessed all internal and external pace effects. (According to Stevens [1992] and Lunney [1970], it is appropriate to use MANOVA in analyzing nominal data.) Means with the expected direction were significantly different ($F_{(10,164)} = 2.33, p = .01$), so H1c received initial support. However, the univariate $F$ values in Table 3 suggest that further analysis is warranted because the interaction did not occur consistently across both internal and external effects (see Tables 4 and 5).

Internal effects. Although the pace x clutter interaction is significant for the entire set of dependent variables, as Table 3 indicates, it is not significant when only the treadmill dependent variables are considered.
\(F_{(5,169)} = 1.01, p = .41\). In other words, the hypothesized interaction did not occur within the treadmill ad where pace was manipulated. This nonsignificant test of the internal effects thus suggests that the domain of the pace x clutter interaction proposed in H1c may be limited to proximate commercials.

External effects. On responses to the proximate insurance commercial, the pace variable did produce a significant interaction effect \(F_{(5,170)} = 3.43, p = .006\). As the univariate tests indicate (Table 5), the effect of pace on the insurance ads was significant for both brand name recognition \(F_{(1,170)} = 9.14, p = .003\) and ad claim recall \(F_{(1,170)} = 10.26, p = .002\). The means of these variables have directions consistent with the interaction proposed in H1c (see Table 2). This effect is represented graphically in Figure 16.

Conclusion. The hypothesis proposed in H1c received qualified support in this study. While there is no effect on responses to the ad itself, on responses to an ad proximate to the ad in which pace varies, distraction effects appear to dominate in low clutter and attention effects in high clutter conditions.
However, perhaps even more important than the interaction proposed in H1c is the more broad based interaction that is also apparent in the data. The pattern of means proposed in H1c occurs for only two of the ten measures. But, for nine of the ten, the difference between the normal and abnormal means in the low clutter condition is larger than the difference between those two means in the high clutter condition. This improbable result ($z = 4.22$, $p < .0001$) suggests that there may be an interaction such that pace effects have a larger impact on recall and recognition in low clutter than in high clutter conditions.

**H1a and H1b: Distraction Versus Attention Effects.** H1a suggests that recognition and recall will be higher for normal executions than for abnormal executions because normal executions are less likely to distract attention from the processing of the product class, brand name, and ad claims. H1b suggests the opposite, that abnormal executions will attract attention which will spill over and enhance the processing of the brand information (See Figure 15). These competing hypotheses both imply a significant MANOVA main effect for pace across the ten dependent measures. And this main effect did, in fact, occur ($F_{10,164} = 3.31$, $p < .001$; see Table 6). Since both imply the same MANOVA effect, we

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cannot adjudicate between H1a and H1b on the basis this MANOVA alone. A follow-up inspection of the means and univariate t tests is required. These univariate results are reported in Table 2. They are generally consistent with H1a rather than H1b.

In Table 2, significant results consistent with H1a are marked with a *, those consistent with H1b with a'. High clutter and low clutter, internal and external means are reported, and both the composite abnormal mean and the separate slow, fast, and reverse means are reported along with n for each cell. All statistical tests reported in Table 2 compare other means with the normal mean.

As the table indicates, differences support H1a, the distraction hypothesis. The one notable exception is internal brand name recognition which is consistent with H1b rather than H1a. However, this exception may well be an artefact. Recognition of the treadmill brand name was very high. Only three of the 179 subjects failed to recognize the name. All were in normal cells. When a binomial mean becomes larger than .9 or smaller than .1, results may not be reliable. Variance becomes small and, consequently, non-robust small differences between means may be statistically significant (Lunney 1970). In other words, the p-value for

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this statistic may not accurately reflect the probability of a chance outcome.

Taking into account the multivariate result and the univariate results across the ten dependent variables, there seems to be considerable support for H1a, very little for H1b. So to the extent that H1c does not hold, H1a is accepted, H1b rejected. Changes in pace do seem to affect brand learning, with abnormal executions distracting attention from brand information more than normal executions. Significantly different brand learning means are graphed in Figure 17.

**Angle Effects**

Apart from the clutter main effect reported in Chapter 4 ($F_{(10,164)} = 5.14, p < .001$), the angle manipulation, unlike the pace manipulation, did not produce any significant MANOVA effects. The angle x clutter interaction was nonsignificant ($F_{(10,164)} = .44, p = .92$) as was the angle main effect ($F_{(10,164)} = .71, p = .72$). So with respect to angle effects, H1 and its sub-hypotheses were rejected. Results of the interaction MANOVA are reported in Tables 8, 9, and 10; those of the main effect MANOVA are reported in Tables 11, 12, and 13. Means and n are reported in Table 7.

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Since the angle manipulation was not exceptionally strong -- there were only two angles and three shots in each angle ad -- these results probably do not warrant an inference that camera angles have no effect on brand learning, though they certainly provide no substantial evidence that there is an effect. However, as is pointed out in the discussion of brand attitudes and in the Chapter 6 discussion of study limitations, there is some indication that the angle manipulation produced a small attention effect, an effect that this study had too little power to detect. This attention effect, if it exists, appears most consistently in the low clutter context. There, results directionally consistent with H1b occur for nine of the ten measures, a result that is unlikely to occur by chance ($z = 4.22$, $p < .0001$).

**Summary**

These results provide support for H1, a brand learning effect, if pace is the form variable. The interaction proposed in H1c held for the external effects that occur in a proximate ad. And an unhypothesized interaction held across almost all indicators: i.e., pace changes had a larger effect in low clutter than in high clutter contexts.
(This second interaction is reflected in the fact that means in Table 2 are more likely to be significantly different in the low clutter than in the high clutter condition.) There was also a significant main effect for pace that was consistent with distraction theory. Abnormal executions produced less brand learning than the normal execution.

With respect to the angle variable, H1 and its sub-hypotheses were not supported. Where the cutting rate is low and the number of different angles is limited, normal and abnormal angles appear to have no effect on brand learning.

**H2: ATTITUDE TOWARD THE BRAND**

H2 suggests that ad pace and camera angle will affect attitude toward the brand much as they affect brand learning. The two competing sub-hypotheses suggest that abnormal executions will have on $A_{brand}$ a negative effect consistent with distraction theory (H2a) or a positive effect consistent with the dual mediation hypothesis (H2b). Like the previous section on brand learning, this section treats the internal and external effects of pace first, then turns to the effects of angle.

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Pace Effects

Where the pace variable is concerned, a simple inspection of the means suggests a rejection of H2b, for in their direction, all 30 means reported in Table 14 are inconsistent with the positive attention effect for executional abnormality proposed by the dual mediation hypothesis. In every case, the attitude mean is lower (indicating a more positive attitude) for the normal execution than for any of the abnormal executions in the same clutter condition. Since the directions of the means are, in every case, inconsistent with H2b, they are necessarily consistent in every case with the distraction effect proposed in H2a.

To determine whether these directionally consistent differences between means were significant, two $t$ tests were done, one to examine the internal effects of pace on $A_{\text{brand}}$ and the other to examine the external effects. Both tests indicated that the differences were significant. The first $t$ test suggested that pace has a significant internal effect on attitude toward the treadmill ($t = 1.73, p = .04$) and the second test suggested that it has a significant external effect on attitude toward the insurance company ($t = 1.95, p = .03$). Since these effects were consistent with

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distraction theory, H2a was supported while H2b received no support. All means and t tests are reported in Table 13.

**Angle Effects**

With the angle variable as with the pace variable, a simple inspection of the means suggests a rejection of one of the two competing hypotheses. But in this case, it is H2a which is rejected, for in their direction, all twelve means reported in Table 14 are inconsistent with the negative distraction effect for executional abnormality proposed by distraction theory. In this case, all attitude means are lower (indicating a more positive attitude) for the abnormal executions than for the normal executions in the same clutter condition.

Since the directions of the means were consistent with H2b, t tests were done to determine whether the differences were significant. Once again, both internal and external effects were tested. In this case, neither effect was significant. At the .05 level, angle had no significant internal effect on attitude toward the insurance company ($t = 1.02, p = .15$) and no significant external effect on attitude toward the treadmill ($t = 1.52, p = .07$). So H2b is rejected.

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While H1b and H2b are rejected in this study, both hypothesis received directional support when angle was the treatment variable. So it is possible that the angle manipulation produced a small attention effect that this study was insufficiently powerful to detect. If this effect does exist, the level of entropy in an ad may moderate the presence of attention versus distraction effects. The pace ad in which significant distraction effects emerged was considerably more entropic than the angle ad. This possibility is discussed in the section in Chapter 6 devoted to study limitations and directions for future research.

**Summary**

Where pace is the causal factor, H2, and more specifically, H2a is supported. Distraction effects apparently do occur both internally, in responses to the stimulus ad, and externally, in responses to proximate ads. On the other hand, angle changes such as those used in this experiment, have no significant effect.

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CONCLUSION

Overall, this study provides evidence that changes in pace affect the processing of an ad and perhaps even more so the processing of proximate ads. The results suggest that changes in angle may not have much effect, at least in ads that contain a limited number of camera cuts.

As for the psychological mechanisms by which pace changes affect ad responses, this study suggests that distraction plays a bigger role in the mediation of responses than attention spillover, i.e., that distraction theory offers a better account of these effects than the dual-mediation hypothesis does. Across all dependent constructs, there was statistical and directional support for distraction theory but little statistical support for the dual-mediation hypothesis. There was more limited support for the interaction between the two theories and clutter proposed in H1c. Especially for ads proximate to the one in which pace is varied, there appears to be a clutter x normality interaction such that distraction effects dominate in low clutter and attention effects in high clutter contexts.

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Discussion

In this chapter, the various threads of the study are woven together. First, the contributions of the study to advertising research are discussed, next, limitations of the study are acknowledged, then directions for future research are proposed, and finally, managerial applications of the findings are set forth. But before turning to those topics, a few words on the title may be in order.

The title of this dissertation contains an allusion to Lewis Carroll's *Through the Looking Glass*, an allusion that has not been explained. In *Alice's Adventures in Wonderland* and *Through the Looking Glass*, Carroll, a professor of mathematics and logic whose real name was Charles Ludwig Dodgson, created two surrealistic fantasy worlds in which time and space lose their normal structure, in which surprise and paradox become norms rather than exceptions. In his Alice books, Carroll anticipated and created in words many of the montage effects analyzed in this study, effects that eventually constituted the world of film and television, e.g., the camera cut, the morph, non-linear sequence of temporal events, visual puns. He anticipated
the structural characteristics of the looking-glass land millions daily enter through their television screens.

It has been an implicit thesis of this study that a structuralist analysis of audio-visual communication may unify the Carrolllean preoccupations with space, time, sequence, logic, mathematics, entertainment, and persuasion. Understanding this modern Looking-Glass Land is already important because television and movies are major communications channels. But as the worldwide web of interconnected computer users expands, the audiovisual channel is likely to become still more important, for an ever larger number of people are likely to spend an ever larger proportion of their lives and their income in this brave new virtual world. If we are going to function effectively, both as marketers and as consumers, it behooves us to understand how perception and persuasion operate in the audiovisual domain. This dissertation has sought to enhance our understanding of that domain.

CONTRIBUTION TO ADVERTISING RESEARCH

As the introduction in the first chapter points out, this dissertation makes two contributions to the study of audiovisual persuasion, and at this point, we may add a

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third. First, drawing upon semiotic theory, the dissertation identifies dimensions of form on which television ads and other audiovisual genres vary. It thus opens up the possibility that researchers may investigate empirically the effects of variation on these theoretically founded dimensions, i.e., pace, angle, camera cuts, horizon, camera movement, color, and syntagmatic/paradigmatic shot syntax. This first contribution may be more important than the other two, for it defines a theoretical space in which considerable subsequent research may be done, provided that other researchers find the analysis of space, time, and syntax plausible. Put another way, the experimental portion of this study is just one of many possible studies on the effects the structurally defined executional variables may have on viewer responses.

The second contribution was proposing and testing an ad response model that combined two major and conflicting research perspectives, the dual-mediation hypothesis and distraction theory. The study identified response dimensions on which these theories make contradictory attention/distraction predictions and proposed a clutter moderator that could harmonize the two theories. This is not the only response model that could appropriately be used
in assessing the effects of variation in the structural variables, but the results reported in Chapter 5 suggest that it is one useful model.

The third contribution is an addition to our knowledge about how particular structurally defined ad executional variables affect viewer responses. The experiments done in the study suggest that variations in pace can have a significant effect on brand learning and brand attitudes. Across all conditions, this is most likely to be a distraction effect, such that normal executions produce higher brand learning and product attitudes than abnormal executions. In certain special situations -- e.g., responses to proximate ads in high clutter conditions -- there may be an attention affect, such that abnormal pace executions produce higher brand learning. The manipulation of camera angle, on the other hand, appears to have no significant effect on viewer responses. The jury is still out on this point, however, since there was directional support for abnormal angles producing a small attention effect.
LIMITATIONS OF THE STUDY

The main limitation of this study is that it has relatively narrow scope. This limitation is partly a function of the sample and partly manifest in the inconsistent results generated by the pace and angle independent variables. Both these factors limit the generalizability of the findings.

As was pointed out in Chapter 4, a convenience sample was deemed suitable for the initial theory testing done in this study. Since the study proposed a novel set of variables, there was little prior research to build upon and no compelling reason to seek a broad sample in the initial test of the theory. But the restricted sample is, nevertheless, an obvious limitation of this dissertation. When it comes to cognitive responses to audiovisual communications, there is reason to believe that subjects older (Stephens, 1982) and younger (Anderson 1983) than the college students used in this study may respond to stimuli differently. Therefore, the findings of this study cannot be generalized to these populations except with great caution and further research. Since children and older adults constitute a large percentage of those who are
targeted by audiovisual communications, this is an important limitation of the study.

The differing results of the pace and angle treatments also suggest certain limitations of the study. If we set aside error as an explanation for the significant pace and nonsignificant angle results, then there are two obvious alternative explanations for the divergence. The less satisfactory explanation is that pace and angle simply operate upon viewers in markedly different ways. This explanation is unsatisfactory because it limits the applicability of any generalizations we might make about the differences between normal and abnormal executions. Thus, if we were to adopt this explanation, we would have to ask, normal/abnormal on what variable, whenever the issue of executional normality arose in an advertising context. Since findings would be specific to particular distortions of time or space, each variable would have to be investigated separately. Practitioners would have to consult some unpatterned table of effects rather than simply learning how normal/abnormal executions generally affect viewer responses. In a word, this explanation lacks parsimony and is, therefore, not entirely satisfactory, though it may prove, in the end, to be the true explanation.

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An alternative approach would be to account for the different pace and angle results by positing some third factor which moderates the outcome. A plausible third factor is the differing levels of entropy in the pace and angle ads. (For a discussion of entropy, see Chapter 2). This is a plausible moderator because the pace and angle ads used in this study differed considerably in their level of dynamism. In the angle (insurance) ad, there were a total of two angles, three actors, and four shots, the final shot being the company logo. The actors did not move except to blink their eyes. In the pace (treadmill) ad, on the other hand, there were a total of 7 shots and 6 different angles. Within each shot, the actor was shown running on the treadmill or adjusting the treadmill pace. Even the final shot of a store logo involved some motion since the camera was hand held. Taken altogether, these factors amounted to a much higher level of dynamism in the pace ad than in the angle ad.

It is worth noting that when attention effects occurred in the study, i.e., when an abnormal execution resulted in higher brand learning or brand attitudes, the effects were associated with the angle ad. This was true for the significant attention effects that occurred as an external

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effect of pace on insurance brand learning (i.e., insurance ad-claim recall and insurance brand-name recognition [see Tables 2 and 3], the two dependent variables that supported H1c). And it was also true for the non-significant directional effects that abnormal angles had on angle-ad brand learning and brand attitudes. Taken altogether, this pattern may suggest that abnormal executions produce attention effects when ad entropy is low as in the insurance ad and distraction effects when it is high as in the treadmill ad.

If ad entropy does in fact moderate the effects of normal/abnormal executions on brand learning and brand attitudes, the response pattern may be the one diagrammed in Figure 1. The explanation for the different responses to the pace (treadmill) and angle (insurance) ads would then be this. The treadmill ad may be located near the apex of the inverted U when pace is normal. When the pace is slowed, speeded up, or reversed (an increase in novelty/complexity), the ad moves past the apex down the slope on the right side of Figure 1. As a consequence, brand learning (a function of interestingness) and brand attitudes (a response to pleasingness) decline.
The insurance ad, on the other hand, may be located, initially, on the left side of Figure 1, lower down on the upward slope. As the angle becomes more abnormal, the ad moves up the slope toward the apex of the curve in the middle of Figure 1. This closer approximation to the apex in Figure 1 would then account for the higher interest (brand learning) and more positive affect (brand attitude) that is observed when the camera angle is abnormal. Whether viewer responses would actually conform to this pattern as entropy was increased and decreased is a subject for future research.

DIRECTIONS FOR FUTURE RESEARCH

The limitations of the study which were pointed out in the previous section each suggest a direction for future research on the boundaries of the effects found in this study. By expanding the sample, future research might reveal the extent to which the results reported in Chapter 5 apply to older and younger subjects. One plausible hypothesis might be that, compared with college students, both seniors and children will be more quickly confused and irritated by abnormal executions. College students are at or near their cognitive peak when it comes to sensation.
processing, younger and older people are not. If confirmed, this hypothesis would suggest that college students’ relative preference for entropic MTV style editing is an age effect, not an age cohort effect. As current students get older, they may find it difficult to process this kind of editing and may no longer like it, even though they were accustomed to it and liked it when they were young. Young children, on the other hand, may come to like MTV style video editing better as they get older and can better process the fragmented images.

The potential moderating effect of the basic level of entropy in an ad could also be explored to see if the different effects of pace and angle in this study can indeed be integrated within Figure 1. The hypothesis in this case would be that the effects of increasing abnormality in an executional variable will depend on where on the inverted U the ad is located in its basic level of entropy.

The finding that changes in an ad can affect the processing of proximate ads also suggests a line of future research. This research could explore the reach of various time/space distortions. In other words, how far away in an ad pod must another ad be before changes in the treatment ad no longer affect it? Or coming at the same issue from a

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different perspective, a researcher might try to determine what mix of variables will optimize the joint response to two ads. Would the joint response be higher if both ads had a similar, moderate level of entropy? Or would it be optimized by some other mix, say, when one ad was highly entropic and the other very sedate? If these external effects proved to be important, optimizing the overall effect of a pod of ads would require that various advertisers cooperate to create an optimal ad pod mix through intelligent ad pod management. The placement of ads would cease to be a decision about an individual ad and would be made, rather, at the level of the pod.

MANAGERIAL APPLICATIONS

The semiotic analysis of ad form may be of some use to practitioners as they look for new ways to distort reality and attract attention to their ads or as they seek to avoid such distortions. But further research that connects the semiotically defined independent variables with ad responses will probably have to be done before the semiotic material in Chapter 3 will have much value for advertising practitioners. The experimental findings reported in

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Chapter 5, on the other hand, may have immediate managerial implications.

These experimental findings may be subsumed within two broad principles, one having to do with the distraction effect posited by H1a and the other with the interaction posited in H1c. (H2 can be subsumed in H1 because the findings on brand attitudes were generally consistent with those on brand learning.)

To avoid the distraction effect posited in H1a, promotion managers should avoid flashy executions that draw the eye by distorting the flow of time. Such executions may garner attention from other advertising professionals for their artful novelty, but it appears that they are unlikely to be as effective as less eye-catching executions in communicating a message about the positive attributes of the advertised product. Indeed, it is precisely the deepest levels of processing -- the processing tapped by ad claim recall -- that is most likely to be negatively affected by executional abnormality. This study suggests that viewers will remember ad claims better and like the advertised brand more if the advertiser focuses on developing persuasive claims about the product's positive attributes, then avoids
distracting attention from those claims by using abnormal pace executions.

Important as it may be to avoid abnormal pace executions in one's own ad, it may be still more important to avoid placing an ad next to another ad that distorts normal time. This is true because the external effects of abnormal pace executions appear to be even greater than the internal effects.

Turning to the implications of H1c, the advice given in the previous paragraph may admit of one exception. When the ad will be shown in an exceptionally high-clutter context, there may be some benefit in placing it next to an ad with an abnormal pace execution. Thus, a media buyer might follow a different strategy when buying time in the morning and in prime time. As was pointed out in the first chapter, Anderson (1985) has shown that viewers give different levels of attention to television at different times of day, paying more attention, for instance during prime time when ambient clutter is lower, less attention in the morning when ambient clutter is increased by efforts to get breakfast and depart for work. The support found for H1c suggests that the position next to an ad with abnormal pace may be worth pursing in the morning but not in the evening.
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References 171


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<tr>
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<td>Close-up, long shot: abnormal z-axis perspectives</td>
<td>Expressive angles: abnormal x- and y-axis perspectives</td>
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<td>Normal pace: AT = NT</td>
<td>Abnormal pace: AT ≠ NT</td>
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<tr>
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<td>Abnormal horizon: horizon ≠ 0°</td>
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# TABLE 2
## Effects of Pace on Brand Information Recall

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<th>Fast</th>
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<td>(51)</td>
<td>3.44***</td>
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<td>(36)</td>
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* p < .10 ** p < .05 *** p < .01 **** p < .001 Distraction effect consistent with H1a
1 p < .30 2 p < .05 3 p < .01 Attention effect consistent with H1b

Brackets contain the number of subjects in each cell. All comparisons with the normal mean.
TABLE 3
Overall Pace x Clutter Interaction on Brand Learning

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<td>Product Class Recall (Treadmill)</td>
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Internal Pace x Clutter Interaction on Brand Learning

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<td>Ad Claim Recall (Treadmill)</td>
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<td>Product Class Recall (Treadmill)</td>
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### TABLE 5
External Pace x Clutter Interaction on Brand Learning

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TABLE 6
Pace Main Effect on Brand Learning

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### TABLE 7

Effects of Angle on Brand Information Recall

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<td>1.00</td>
<td>.47</td>
</tr>
<tr>
<td>High</td>
<td>96</td>
<td>1.00</td>
<td>.42</td>
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<td>Total</td>
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</table>

*p < .10  **p < .05  Consistent with H1b.

*Numbers contain the number of subjects in each cell. All comparisons between normal and abnormal means.*
### TABLE 8
Overall Angle x Clutter Interaction on Brand Learning

<table>
<thead>
<tr>
<th>MULTIVARIATE TEST</th>
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<tbody>
<tr>
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<td>Hotellings</td>
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<td>.92</td>
</tr>
<tr>
<td>Wilks</td>
<td>.44</td>
<td>.92</td>
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<thead>
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<th>p value</th>
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<tbody>
<tr>
<td>Internal Effects Ad Claim Recall (Insurance)</td>
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</tr>
<tr>
<td>Product Class Recall (Insurance)</td>
<td>.79</td>
<td>.37</td>
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<td>Brand Name Recall (Insurance)</td>
<td>.51</td>
<td>.46</td>
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<td>Product Class Recognition (Insurance)</td>
<td>2.90</td>
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<td>Brand Name Recognition (Insurance)</td>
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<td>External Effects Ad Claim Recall (Treadmill)</td>
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<td>Brand Name Recall (Treadmill)</td>
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<td>.93</td>
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<td>Product Class Recognition (Treadmill)</td>
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<td>.58</td>
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<td>Brand Name Recognition (Treadmill)</td>
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<td>.73</td>
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### TABLE 9
Internal Angle x Clutter Interaction on Brand Learning

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<td>Wilks</td>
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<td>.61</td>
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<th>p value</th>
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<tr>
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<td>Brand Name Recall (Insurance)</td>
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### TABLE 10
External Angle x Clutter Interaction on Brand Learning

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<td>Wilks</td>
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<td>.96</td>
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<td>Product Class Recall (Treadmill)</td>
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<td>.51</td>
</tr>
<tr>
<td>Brand Name Recall (Treadmill)</td>
<td>.01</td>
<td>.93</td>
</tr>
<tr>
<td>Product Class Recognition (Treadmill)</td>
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<td>.58</td>
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<td>Brand Name Recognition (Treadmill)</td>
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<td></td>
<td>Hotellings</td>
<td>.71</td>
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<tr>
<td></td>
<td>Wilks</td>
<td>.71</td>
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<td>.33</td>
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<td></td>
<td>Ad Claim Recall (Treadmill)</td>
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<td>.94</td>
</tr>
<tr>
<td></td>
<td>Product Class Recall (Treadmill)</td>
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<td>.49</td>
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<td></td>
<td>Product Class Recognition (Treadmill)</td>
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<td>.09</td>
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<td></td>
<td>Brand Name Recognition (Treadmill)</td>
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<td>.71</td>
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### TABLE 12
Internal Angle Main Effect on Brand Learning

<table>
<thead>
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<tr>
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<tr>
<td>Hotellings</td>
<td>.72</td>
<td>.61</td>
</tr>
<tr>
<td>Wilks</td>
<td>.72</td>
<td>.61</td>
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<table>
<thead>
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<th>p value</th>
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</thead>
<tbody>
<tr>
<td>Ad Claim Recall (insurance)</td>
<td>.01</td>
<td>.92</td>
</tr>
<tr>
<td>Product Class Recall (Insurance)</td>
<td>.90</td>
<td>.34</td>
</tr>
<tr>
<td>Brand Name Recall (Insurance)</td>
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<td>.45</td>
</tr>
<tr>
<td>Product Class Recognition (Insurance)</td>
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<td>.10</td>
</tr>
<tr>
<td>Brand Name Recognition (Insurance)</td>
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<td>.44</td>
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</table>

### TABLE 13
External Angle Main Effect on Brand Learning

<table>
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<tr>
<th>MULTIVARIATE TEST</th>
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<td>Pillais</td>
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<tr>
<td>Hotellings</td>
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</tr>
<tr>
<td>Wilks</td>
<td>1.02</td>
<td>.40</td>
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<table>
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<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad Claim Recall (Treadmill)</td>
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<td>.94</td>
</tr>
<tr>
<td>Product Class Recall (Treadmill)</td>
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<tr>
<td>Brand Name Recall (Treadmill)</td>
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<td>.49</td>
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<tr>
<td>Product Class Recognition (Treadmill)</td>
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<td>Brand Name Recognition (Treadmill)</td>
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<td>.71</td>
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</table>
### TABLE 14
Effects of Pace on Attitude Toward the Brand

<table>
<thead>
<tr>
<th></th>
<th>Chatter</th>
<th>Normal</th>
<th>Abnormal</th>
<th>Slow</th>
<th>Fast</th>
<th>Reverse</th>
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<tr>
<td>INTERNAL (Treadmill Ad)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Attitudes Low</td>
<td>4.11 (40)</td>
<td>4.34 (36)</td>
<td>4.18 (18)</td>
<td>4.41 (17)</td>
<td>4.50 (16)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>4.36 (51)</td>
<td>4.65 (50)</td>
<td>4.48 (17)</td>
<td>4.64 (16)</td>
<td>4.84** (17)</td>
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</tr>
<tr>
<td>Total</td>
<td>4.25 (91)</td>
<td>4.52** (86)</td>
<td>4.32 (35)</td>
<td>4.52 (33)</td>
<td>4.68** (33)</td>
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</tr>
<tr>
<td>EXTERNAL (Insurance Ad)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Attitudes Low</td>
<td>4.20 (40)</td>
<td>4.33 (35)</td>
<td>4.44 (18)</td>
<td>4.75** (17)</td>
<td>4.28 (16)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>4.49 (51)</td>
<td>4.71 (50)</td>
<td>4.81* (17)</td>
<td>4.73 (16)</td>
<td>4.58 (17)</td>
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</tr>
<tr>
<td>Total</td>
<td>4.37 (91)</td>
<td>4.52** (85)</td>
<td>4.62* (35)</td>
<td>4.74** (33)</td>
<td>4.43 (33)</td>
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</tr>
</tbody>
</table>

* p < .10  ** p < .05 Distinctive effect consistent with H1A.
Brackets contain the number of subjects in each cell.
Lower scores indicate a more favorable attitude.

### TABLE 15
Effects of Angle on Attitude Toward the Brand

<table>
<thead>
<tr>
<th></th>
<th>Chatter</th>
<th>Normal</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERNAL (Insurance Ad)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Attitudes Low</td>
<td>4.41 (49)</td>
<td>4.33 (47)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>4.48 (49)</td>
<td>4.41 (41)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.54 (88)</td>
<td>4.37 (88)</td>
<td></td>
</tr>
<tr>
<td>EXTERNAL (Treadmill Ad)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Attitudes Low</td>
<td>4.48 (49)</td>
<td>4.63 (47)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>4.53 (49)</td>
<td>4.46 (41)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.51 (88)</td>
<td>4.23 (88)</td>
<td></td>
</tr>
</tbody>
</table>

Brackets contain the number of subjects in each cell.
Lower scores indicate more favorable attitudes.

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FIGURES
Figure 1
Figure 2
Ad Cognitions \[ \rightarrow \] Ad Attitude

Brand Cognitions \[ \rightarrow \] Brand Attitude

\[ .52 \]
\[ (21.53) \]
\[ .34 \]
\[ (12.79) \]
\[ .20 \]
\[ (8.59) \]
\[ .57 \]
\[ (25.58) \]

Structural path estimates are standardized coefficients; t-values are in parentheses; values > 2.0 are significant.

Source: Brown and Stayman (1992)

Figure 3
Dual Mediation Hypothesis

Figure 7
Figure 9

Low Involvement Condition

Clutter Processing

Ad Execution Processing

Ad Learning

Brand Learning

Brand Information Processing

Form Claims

Need for Cognition

Ad

Antecedent Product Beliefs

Negative Distraction Effect

Positive Spillover Effect

Attention Effect
High Involvement Condition

Figure 10
Figure 11
Experimental Design

Figure 12
Composite Experimental Design

**Figure 13**
Internal/External Effects

Figure 14
Figure 15

Distraction Theory
H1a, H2a

Dual Mediation Hypothesis
H1b, H2b

Composite Hypothesis
H1c
PREDICTED RESULT

H1c Composite Hypothesis

ACTUAL RESULT

Figure 16
PREDICTED RESULT

H1a
Distraction Theory

ACTUAL RESULT

Figure 17
Dr. Val Larsen

EDUCATION:

Ph.D. Marketing  Virginia Tech  1995
Ph.D. English   University of Virginia  1992
M.A. English    University of Virginia  1985
B.A. Philosophy, English  Brigham Young University  1982
                        Magna Cum Laude

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Director: M. Joseph Sirgy

"Manners and Mystery: Community, Economy, and Race in the Fiction of Flannery O'Connor"

Director: Alan B. Howard

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