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IMPLICATION FROM THE "OLD" AND THE "NEW" PHYSICS  
FOR STUDYING BUYER BEHAVIOR IN GENERAL  
AND  
AFFECT, COGNITION, AND INTENTION  
IN PARTICULAR

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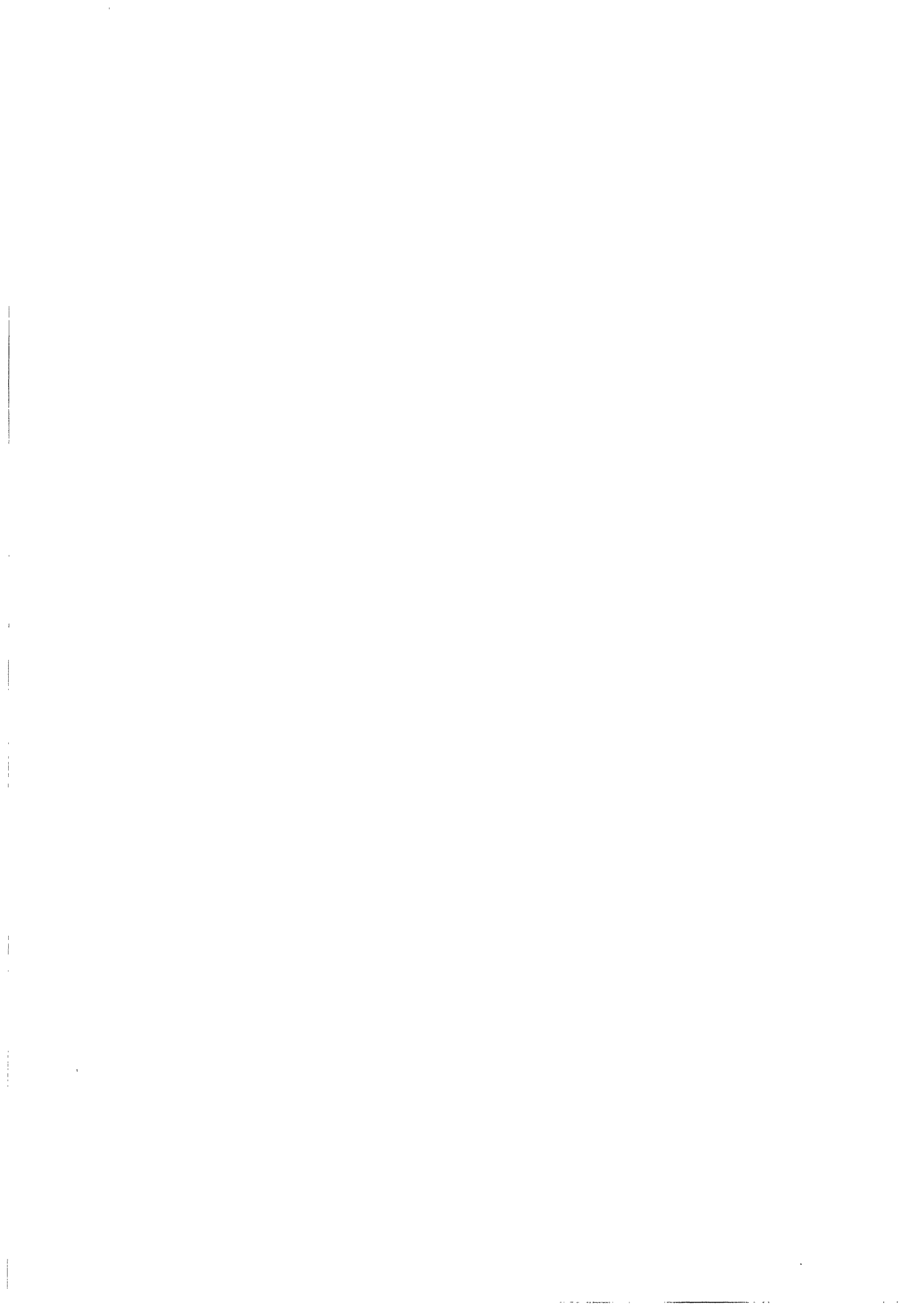
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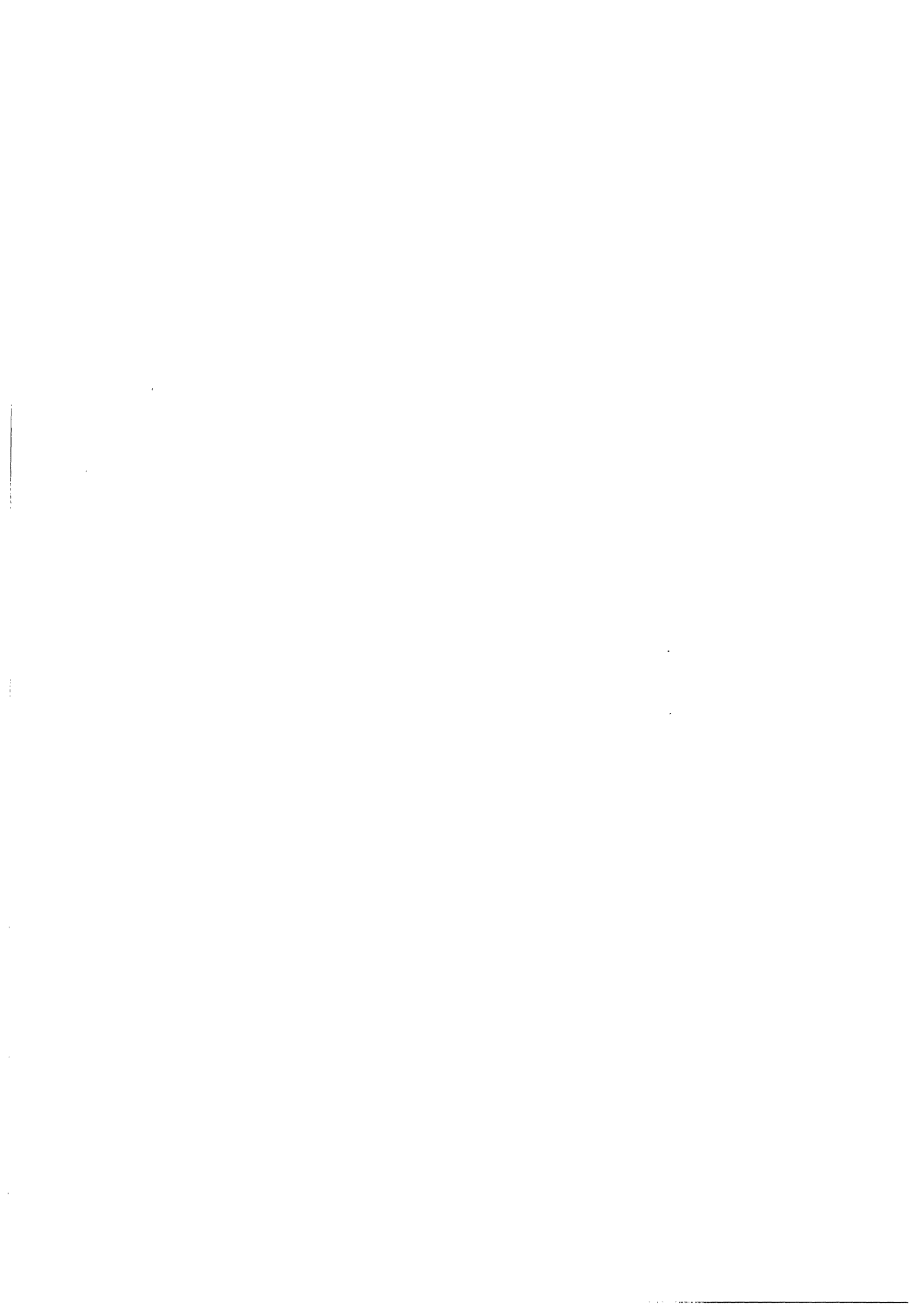
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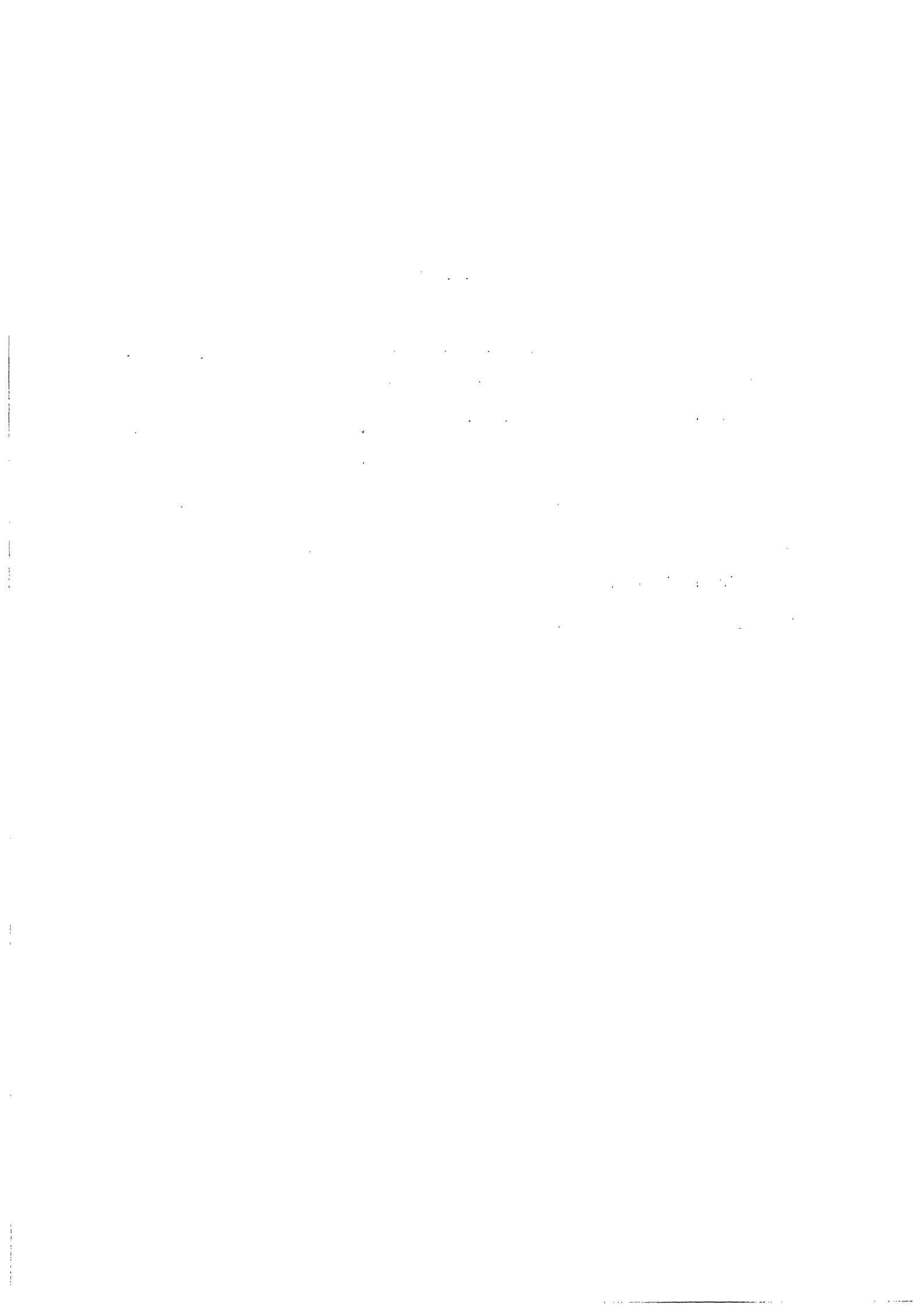






Abstract

This essay argues that buyer behavior researchers have become preoccupied with phenomena as a result of emulating psychological and social psychological methods which were adopted from Classical Physics. Philosophy of Science has changed radically in the last thirty years and reliance on the "New" in addition to the "Old" Physics will alleviate problems arising from our empirical bias and lead to richer concepts and theories. An illustrative example is provided in the form of a reconceptualization of the variable ordering controversy in cognitive response models.



### Introduction

Western science has traditionally emphasized the importance of subjecting theory to empirical scrutiny. My central thesis is that the field of consumer behavior has become preoccupied with empirical issues resulting in a lack of effort devoted to the development of theory which is needed to explain phenomena. First, I will argue that the field is preoccupied with empiricism and that this is unscientific whether one subscribes to the old science based on logical positivism and falsificationism or the newer philosophies of science. Second, I will attribute this preoccupation to the predominate influence in consumer behavior of empirically driven social psychological and marketing approaches to knowledge. Third, consumer behavior's present approaches to knowledge will be juxtaposed with the goals of the "old" and the "new" science. Fourth, the ideas expressed in this essay are illustrated by applying them to the well known debate as to whether **affect** precedes or follows **cognition** in cognitive response models. My objective is to show that more attention must be given to conceptual analysis if we are to prevent empirical deadlocks which inhibit the expansion of our knowledge.

Assuming that the Journal of Consumer Research (JCR) contains the best work that buyer behavior has to offer, the contents of the first ten years of the Journal of Consumer Research provides some orientation to the field. Of the 374 articles that appeared in JCR, 70% were empirical tests and 47% of these studies employed the experimental method. Fourteen percent of the studies focused on methodological issues centering about empirical matters such as operationalization (e.g., Smead, Wilcox, and Wilkes 1981), model estimation procedures (e.g., Fornell 1983), and the validity of experimental data (Calder, Phillips, and Tybout 1982a, 1982b, 1983; Lynch 1982; McGrath and Brinberg 1983) (hereafter referred to as CPT, L, & MB). The remaining studies

Table 1. The results of the regression analysis of the variables

Variable	Regression Coefficient	Standard Error	t-value	Significance Level
Age	0.05	0.02	2.5	0.01
Gender	0.10	0.03	3.0	0.001
Education	0.08	0.02	4.0	<0.001
Income	0.12	0.04	3.0	0.001
Health	0.06	0.02	3.0	0.001
Marital Status	0.04	0.02	2.0	0.05
Religion	0.03	0.02	1.5	0.10
Occupation	0.07	0.02	3.5	0.0001
Family Size	0.05	0.02	2.5	0.01
Urban/Rural	0.06	0.02	3.0	0.001
Constant	1.50	0.10	15.0	<0.001

(17%) did not contain primary data and consisted mainly of literature reviews (e.g. Sirgy 1982), and conceptual models (e.g., Bagozzi and Vanloo 1978). The empirical preoccupation inherent in most studies does, of course, emulate traditional or "old" science (c.f. Kaplan 1964, pp. 34-42) in the accepted tradition of the Vienna Circle. As Hume, commonly viewed as the father of modern empiricism, put it:

If we take in hand any volume of divinity or school of metaphysics, for instance, let us ask **Does it contain any abstract reasoning concerning quantity or number?** No. **Does it contain any experimental reasoning concerning matter of fact and existence?** No. Commit it then to the flames; for it can contain nothing but sophistry and illusion. (quoted in Passmore, 1961, p. 1)

Setting aside the call for abstractions for a moment, Hume began the notion that only verifiable, that is, empirically linked terms, are scientifically meaningful. This notion led to a dilemma: If theoretical terms are strictly defined in terms of observations, they cannot function explanatorily.

However, if they are not defined observationally, then how did they have empirical support? Attempts to solve the problem by doing away with abstractions were not satisfactory since a science which restricts itself to directly observed entities and relations automatically loses predictive power. The science would tend, even when deductively formulated, to be merely descriptive. Hempel (1958) resolved this problem in his deductive-nomological model which acknowledges that theoretical terms have meaning beyond their relation to observables through their connections to other terms in the theory. Thus, concepts depend on a theoretical network for their meaning.

JCR researchers are emulating highly respected disciplines with many members who claim rigid adherence to traditional science which they interpret as empiricism. As they have done, we can decry the deficiency in conceptual analysis and lack of theoretical frameworks (cf. Ferber 1979; Jacoby 1978;

Kollat, et al. 1970; Sheth 1967), and then sidestep the issue by compartmentalizing empirical and conceptual issues. This view of science holds that there is an empirical reality "out there" which exists independent of theories (notwithstanding ever present contaminations which we must endeavor to control). Thus, detailed conceptual analysis is not needed for the "truth" will out as an empirical matter. This type of thinking will, of course, lead to even lesser conceptual development.

This leads to the suggestion that both business world and academic world consumer psychologists can have a common agenda item — if not a common agenda. This item, number one on our agenda, should be to enhance the reliability and validity of our basic measures of consumer behavior. This is a call for methodological studies. (Schnee 1985)

I believe that a lack of original conceptualization or mere reliance on basic discipline theoretical networks weakens our potential for contributing to an understanding of society through its consumptive aspects. Hopefully, this argument will become palatable as it unfolds. Suffice it to say, at this point, that our exemplars are exemplary but that they are based, on an idealized view of science that never existed (Laudan 1977). MB, for example, congratulate all members of the CPT, L, MB exchange for adhering to falsificationism. Many important scientific theories would have been rejected in their infancy had their proponents been strict falsificationists. Newton's gravitational theory was falsified in its early years by observations of the moon's orbit, Bohr's theory of the atom was inconsistent with observations of matter stability, and Maxwell cited falsification evidence in his original work on the kinetic theory of gases. Hence, falsificationism was discarded by philosophers of science over 20 years ago (cf. Suppe 1977) as it is incompatible with the historical progression of science. Scientists have

proceeded as though theories cannot be conclusively proven false anymore than they can be confirmed. There are good reasons why this is so, such as the lack of a secure observational base. Due to the complexity of test situations, one is never certain if a failure is due to the theory or the method (c.f. Chalmers 1976, Chapter 6). This point was acknowledged by Popper in his original works, a fact usually overlooked by his overly zealous critics and followers. Once perceptual processes are acknowledged, and incorporated into the epistemology underlying the research process, a veritable Pandora's Box is opened that eventually undermines some of the basic tenets of the traditional view of science. Before moving to these issues, however, I would like to explain my earlier assertion that we are emulating the traditional view of science. Unfortunately, as implied in the falsification discussion above, these disciplines may either have outdated views of science or we may not have noticed some subtle shifts. The JCR 10 year summary index (Langston 1984) is quite unusual for an academic discipline in two ways. First, it lists basic topics such as attitudes and attribution theory and applied topics such as advertising and consumer credit. Whereas the JCR policy board is interdisciplinary, the majority of basic topics are recognizable as the subject matter of cognitive social psychology. Second, the applied topics generally fit into the category of marketing, a discipline that has been characterized as more of a technology than a science (Nord & Peter 1980; O'Shaughnessy & Ryan 1979; Sweeney 1972). In short, JCR research consists primarily of tests of social psychological theories and marketing applications. A stream of research has yet to emerge that can be recognized as uniquely Consumer Behavior. In addition, editorial board members and authors reside primarily in the academic disciplines of marketing.

These issues have important implications for our potential as a basic discipline. I will address implications from the influence of psychology first and then turn to implications from marketing.

### Psychology as a Traditional Science

There is wide belief that the only serious psychological theories date from the nineteenth century (Marx and Hillix 1973; Murphy and Kovach 1972). A mechanistic view of psychology as a science resulted from 17th Century arguments in which Descartes, Leibniz, Spinoza, Mendelssohn, Newton, Hobbs, and Locke were the principal debaters. This was the approach taken in the late 1800s by Wundt who is generally regarded as the founder of scientific psychology. Wundt and his colleagues gathered a large following for their atomistic approach although they encountered strong criticism from Wertheimer, Goldstein, and James.

James refused to accept Descartes' duality believing that mind and body are interdependent. He emphasized a personal and continuous view of consciousness. James, however, did not take a strong advocacy position, a necessary condition for advancing scientific views (c.f. Peter and Olson 1983). Attention then turned to Watson's behaviorism. Watson was a strong advocate of a purely objective view of psychology that could be raised to the status of a natural science. By doing away with consciousness, psychological experiments could be subjected to the criteria used in physics. Two of these criteria, which will be dealt with later, are that phenomena are: 1) independent of subject and observer, and 2) can be separated into meaningful parts (Zukav 1979).

Thus, the compelling holistic views held by the well known Gestalt school as well as the emerging views of lesser known cognitive psychologists such as Otto Selz, who wrote in the 1920's, which were not compatible with "science"



were swept aside. Isen and Hastorf (1982) report that Selz believed that basic cognitive units are whole sets of relationships, trains of thought, or schemata, rather than atomistic particles or sensations. Such views, of course, were not compatible with the reductionistic methodologies employed by classical physicists.

From the earliest days of the experimental pioneers, man's stipulation that psychology be adequate to science outweighed his commitment that it be adequate to man (Koch, 1959, Vol. 3, p. 783)

As the above quote suggests, psychologists have themselves been critical of what the physicist Capra (1982) refers to as "Newtonian Psychology." These criticisms range from blind ideology (e.g. Heather 1976) to concerned pleas for integration of noncognitive aspects (c.f. Isen and Hastorf 1982) to implications from the New Philosophy of Science (eg. Gergen 1985; Howard 1985; Manicus and Secord 1983). Implications for marketing from the new philosophy are also available elsewhere (Anderson 1983). In addition, some of the holistic ideas are reemerging in recent psychological thought (eg. Iran-Nejad and Ortony 1984; Neisser 1976). It is beyond the scope of this essay to detail these matters. Rather, the brief treatment above is meant to show how psychology came to embrace the methods of classical physics and, by emulating those social psychologists who are empirically driven, how consumer behavior researchers have implicitly embraced the same tenets. My attention now turns to a second major influence on Consumer Behavior.

#### The Influence of Marketing

Marketing has also been concerned with achieving scientific status (c.f. Anderson 1983; O'Shaughnessy and Ryan 1979) and has developed almost as scientology. While Marketing scholars have attempted to emulate the natural sciences, they have also been influenced by practical issues, as marketing

practice was firmly entrenched long before it became an academic subject in 1902. Its academic origins are in applied economics, primarily agricultural economics; it grew to what it is today in professional business schools (Bartels 1976). As a consequence marketing researchers have traditionally sought precision in prediction and control and there is some confusion regarding the nature of basic or academic research (c.f. O'Shaughnessy and Ryan 1979). The scheme put forth in the Table will be used to sort these issues.

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Insert Table about Here  
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All research is to some extent applied but the breadth of application varies widely. In basic research, the inquirer is concerned primarily with understanding the world. The results are concepts or theories, or simply sets of relationships offered as new knowledge for the purpose of organizing and categorizing. The emphasis is on abstraction with the goal of explaining large sets of behavior. Two of the more well known consumer behavior efforts in this regard are the Howard and Sheth (1959) and Webster and Wind (1972) models. They have served the field well in terms of orienting it as well as organizing its various aspects with concepts such as "evoked set". Less eclectic approaches have also served a similar function (e.g. Ratchford 1975). Basic research, whether organizing the entire field or various topical issues, is frequently subjected to empirical test. These tests, however, deal with variables as phenomena that are some number of levels of abstraction removed from the concepts. For example, "brand loyalty" may be considered, at a very abstract level, to organize terms such as "search," "intention," "repeat buying", and so forth, each of which is also an abstraction and which must be

reduced to successively lower levels of abstraction in order to be operationally defined. The empirical test is conducted to test the organizing capability of the nomological network, not to obtain accurate predictions in everyday affairs.

Applied research, on the other hand, is focused on the solution of practical problems. Hence, the researcher is motivated more by the ability to predict and control than by the need for general understanding. The applied researcher does incorporate general understanding as a way of grounding empirical findings which, while foreseeable and practical, are sought for use in a wide variety of specific situations. Thus, basic and applied research have the common goal of seeking abstractions, the major distinction being the relative emphasis on understanding and prediction. The review by Banks and Hart (1977) concerning promotional methods as well as Howard and Hulbert's (1973) review of advertising practices contain examples of applied research.

Both applied and basic research entail prediction, the former putting more emphasis on practical matters, the latter using it as a testing tool. The general level of understanding sought in basic research conflicts with the needs of applied researchers who seek precision in predicting and controlling. Thus, attempts to simultaneously fulfill the aims of both types of research is not possible.

Service research is done to solve a particular problem with which the researcher is faced or is trying to solve for someone else. Frequently, the initiation of service research, unlike basic and applied research, is not undertaken by the researcher but rather by a practitioner facing a problem or seeking an opportunity. Abstractions are used to generate alternative solutions or to give confidence to predictions, but the research is not concerned with producing generalizations. This type of research uses applied

and basic research as a way of grounding predictions. It does not contribute to new understanding. A retailer, for example, who understands "why" people patronize the store is in a better position to predict future patronage than one who merely extrapolates past events since the impact of future events that have not yet been experienced can be considered. Service research is also known as grounded technology as contrasted to science which produces generalizations.

Action research seeks a solution to a particular problem without understanding why or how it came about. Thus, prediction is accomplished by extrapolating of past experiences and control is sought through trial. Such approaches may be appropriate when the problem or opportunity is immediate and the alternative actions few in number. Abstractions, however, are not explicitly utilized as the research deals solely with phenomena as both inputs and outputs. Thus, for example, one may increase advertising in one or two similar cities and, after observing sales volumes, predict the impact of similar increases in similar cities. Hypothetically, one could carry out the study in ways that would assure concomitant variation, temporal ordering, and lack of spuriousness. The variables involved could also be modeled mathematically. These procedures would not produce understanding, however, without abstractions.

Neither service or action research produce generalizations. Yet they have been highly valued due to Marketing's practical orientation. In the quest for status, they have sometimes been put forth as "science", usually on the basis of method or predictive ability (c.f., O'Shaughnessy and Ryan 1979).

To this point, this essay has argued that consumer behavior needs more conceptual development. My position on conceptualization is not radical, as the issues I've dealt with to this point, especially weak falsification and

openness of conceptual meaning, are acceptable to most neo-positivists. In fact there is even a book in our field dealing with many of these issues (Zaltman, et al.1973). I simply feel that our heritage has led us to place undue emphasis on empiricism and too little emphasis on the need for concepts to achieve explanation. Belk (1984) argues that our preoccupation with empirical matters has caused a fundamental problem in that we don't know how to develop theory. At any rate, theories, whether viewed according to the "Old" or "New" science cannot be developed without concepts.

Goals of the "Old" Science

Scientific endeavors have traditionally sought networks of concepts in which each concept accounts for a number of phenomena. Its objective, the explanation of the largest number of phenomena with the fewest number of concepts, is gained by overlaying networks of variables at more abstract levels (see Ryan and O'Shaughnessy 1980). The illustration shown in Figure 1 captures this notion quite well. At the top are concepts which have no

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Insert Fig. 1 about here.  
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existence in the empirical world. Each concept is itself a mental process by which theoreticians account for concepts at lower levels of abstraction. For example, the concept cognitive dissonance may be useful in accounting for "anger," "frustration," and "complaint intentions." What is important to note is that by their very nature concepts have no direct connection to the observable world. They are general analogies useful for explaining "as if"

they existed and their validity is judged by their usefulness. If, for example, the "consolidation theory of memory" is replaced with a "depth of processing" theory that does not contain "short term memory" this would imply that the new theory accounts for phenomena in a way more useful for the purpose at hand than did the old theory. The existence of "short term memory" is not an issue since it only exists in the theorists mind, it will not be found in observable phenomena.

A concept depends upon theory not observable phenomena, for its meaning, as it has only systemic meaning (Kaplan 1964). For example, cognitive dissonance derives its meaning from its relationships (the solid lines in Figure 1) with other concepts contained in balance theory. Furthermore, meanings change depending on theoretical orientation. Thus, for example, the meaning of attitude depends on whether one subscribes to single component or tripartite attitude theory. A conception of attitude from a functional theory would change, for example, to enable it to fit into an instrumental theory because its network of associations would differ across the two theories.

Constructs are inventions whereby we link concepts to the empirical world. They contain both systemic and observational meaning. Thus, they are linked to concepts through laws or propositions (the solid lines in Figure 1) and to phenomena through rules of correspondence (the dashed lines in Figure 1). Thus, "sensory input," "short term memory," and "long term memory" may be viewed as constructs having systemic meaning within "consolidation memory" and observational meaning through rules of correspondence linking them to appropriate phenomena. Whether a term is a concept or construct will, of course, depend on the theory that contains it. For example, attitude is viewed as both a concept and construct in the Howard and Sheth (1969) Theory of Buyer Behavior.

Phenomena refer to things recognizable by one or more of the five senses. By an "appropriate phenomena" is meant something that falls within the domain of the construct (Nunnally 1967). A specific type of recall, for example, may evidence a phenomenon only explainable by "long term memory" or a particular written statement may indicate "dissatisfaction." "Long term memory" and "dissatisfaction" depend on theoretical structure for their meaning and as a consequence any phenomena they represent will have different interpretations depending on the chosen theory.

Operational definitions (the sets of parallel lines in Figure 1) state how certain characteristics of the phenomena are quantified. For example, "strength" may be a characteristic of "intentions" which we may quantify through use of a probability scale or "duration" and "detail" may be characteristics of "recall," which is also susceptible to paper and pencil testing. The important point here is that we never directly measure a construct no matter how low its level of abstraction. We can only quantify certain characteristics that we attribute to it. We may, for example, measure the width, height, light reflecting property, etc. of a table. These characteristics or attributes, taken separately or together, do not, however, exhaustively define the abstraction. In the present example, "table" is an arbitrary category since the same characteristics could just as well refer to "cube" or "box." In order to know which concept is appropriate, one must know the theoretical structure being imposed on the characteristics by the theorist. The selected theory, will, of course, depend on the purpose at hand. In the same way, a galvanic skin response measure could be accounted for by a number of different abstractions such as sexual arousal, anger, frustration, etc.

An example of the problems that arise when induction is attempted from sensations without theory is provided by Pupillometrics. Reviewers of this literature report that, among other things, pupil dilation-contraction may be accounted for by affect, sexual arousal, discrimination of auditory pitch, cognitive processing, task difficulty, and memory loading (e.g, Hess 1972; Watson and Gatchel 1979). Watson and Gatchel conclude there is doubt as to which psychological processes underlie pupil response. Yet, Hansen (1981), writing in the Journal of Consumer Research, reports that what is being measured is most frequently believed to be involvement, activity, or engagement in the issue. Without a conceptual explanation this interpretation of selected empirical findings is simply misleading. In fact, Hess (1972) cites a number of empirical studies to conclude that pupillometrics is valuable because it reflects many different types of nervous system function and mirrors ongoing neurological activity in all parts of the brain. He does not address the more interesting question of how this general level of neurological activity can be usefully organized by different mental constructs.

Given the empirical bias we have followed it is not surprising that our foray into physiology has been conceptually naive. We simply have not recognized the differences in the psychologists and physiologist's theoretical system (the C's and their connections in Figure 1). For example, a tree sways back and forth in the breeze and a corresponding pattern of electrical impulses are detected in the brain. When the physiologist talks about electrical impulses as a representation of tree movement he is not referring to this representation as a mental construct. As Jacobson (1973) notes: "In electrophysiology, of course, we record signalization, not meaning" (p. 4). And "...when a physiologist speaks about mental activity to the experienced



psychologist, he is talking in a foreign language" (p. 5). To the physiologist, then, a mental representation would consist of coordinated neural activity shifting and changing in an orderly position as the tree sways (Thatcher and John 1977, p. 135). The internal representation does not, of course, resemble a tree. On the other hand, the behavioral theoretician would view the internal representation as the ideal type "tree" which, of course, does resemble a particular swaying tree, and is a concept useful for organizing and interpreting the world. For an interesting exchange regarding these issues, the reader is referred to Kroeber-Reil (1979, 1980) and Ryan (1980).

Consumer researchers do not have to cross disciplines, as in the above psychology-physiology examples, to become mired in empirical confusion. The focus of the current information overload debate, for example, is on measurement and data analysis. Malhotra (1983), for example, in his reflections on this debate lists the theoretical applications areas as: Conjoint Analysis, Questionnaire Design, Sense Modality of Questions, and Data Collection Methods. Each of these issues deals with operational matters. No one has yet to specify a conceptual system to account for the bewildering array of empirical results. Without a conceptual analysis, arguments about measures and data meaning will continue to be futile.

#### Implications From the "New" Science

Having argued in the tradition of classical Western science that we are conceptually deficient, my attention now turns to a brief consideration of the two tenets from classical physics mentioned earlier (separation of phenomena from observer and from each other). More detailed treatments, written at the layperson's level, will be found in Talbot (1980), Capra (1976), and Zukav's (1979) works.

In 1803 Young found that light has the property of a wave and in 1905 Einstein found it to have the properties of a particle. No one has since been able to disprove either conclusion. This duality has been accepted and marks the end of the "either-or" way of looking at the world, at least for the "New" Physics. How do the physicists explain this seemingly paradoxical situation? They believe we make light either a wave or a particle depending on how we choose to observe it. That is, by observing or measuring something we change its nature. The observer actualizes some possibilities and negates others. Wheeler, writing on the physicist's conception of nature puts it as follows:

Nothing is more important about the quantum principle than this, that it destroys the concept of the world as 'sitting out there' with the observer safely separated from it by a 20 centimeter lab of plate glass. Even to observe so miniscule an object as an electron, he must shatter the glass. He must reach in. He must install his chosen measuring equipment. It is up to him to decide whether he shall measure position or momentum. To install the equipment to measure the one prevents and excludes his installing the equipment to measure the other. Moreover, the measurement changes the state of the electron. The universe will never afterwards be the same. To describe what has happened, one has to cross out the old word 'observer' and put in its place the new word 'participator.' In some strange sense the universe is a participating universe. (John A. Wheeler as quoted by Talbot, 1980, p. 21).

My position is that we have neglected the conceptual dimension of theory which, according to the prevailing neo-positivistic view, is independent of reality. Now we find the physicists have abandoned this viewpoint and believe instead that "reality" is determined by how they operationalize the theory. The implication here is that the conceptual development of a theory becomes even more important. This is an understatement. If we continue to emulate the physicists model of science we must incorporate this change and view the observer and the observed as causally related and at the same time recognize that the theory tells the observer where to look and, therefore, largely defines reality and determines what will be found. Thus, phenomena and observer are inseparable.

The second issue has to do with the nature of sub-atomic particles. They act "organically" in that they are sensitive to their environment and to each other. Individual particle activity cannot be predicted with certainty and "information" appears to get around the system instantaneously. The basic parts are not really parts but events that persist only momentarily and then only as transactions with other parts. Thus, what physicists formerly viewed as isolated material particles now appear as do abstractions in that they are definable and observable only through systemic interaction. The philosopher/physicist David Bohm put it as follows:

One is led to a new notion of unbroken wholeness which denies the classical idea of analyzability of the world into separately and independently existing parts ... We have reversed the usual classical notion that the independent "elementary parts" of the world are the fundamental reality, and that the various systems are merely particular contingent forms and arrangement of these parts. Rather, we say that inseparable quantum interconnectedness of the whole universe is the fundamental reality and that relatively independently behaving parts are merely particular and contingent forms within this whole (Bohm as quoted by Capra, 1982, p. 124).

Upon reflection, the systemic view seems commonsensical as it reflects everyday language use. For example the words **cook** and **roast** have only latent meaning until placed within a sentence structure. Thus "**cook** the **roast**" has an entirely different meaning than "**roast** the **cook**" as simply reordering these words actualizes some meanings and negates others. As this example illustrates, we have now come full circle in that the meaning is not the mere transaction among the parts, it is the transaction among the parts and the observer.

There is an important implication here for consumer behavior theory beyond the obvious need to consider a system as the basic unit. It is not only the observer, here considered in regard to both his perceptions and tools of observation, but the subject of the observed, the actor, here meant to be

active in a literal sense, that imparts meaning. In addition to a **consumption object**, such as a good, service, or idea, and a way to cognitively represent its elements (e.g., Ratchford 1975; Ryan and Bonfield 1975), and a **context** within which to view behavior before, during, and after consumption (e.g. Belk 1974, 1975), buyer behavior must have an **actor**, viewed as an active processor of information in the pursuit of goals. The notion of **context** is reinforced and given added meaning from the new physics whereas the new notion of **actor** springs from it. The new notion of actor does not mean merely that we need to resurrect the idea of individual differences. It means we need to stop viewing the individual as an isolated passive phenomena subject to environmental changes. We should view the consumer as an interrelated component that actively impacts in addition to being impacted upon by the consumption system.

These notions appear commonsensical, yet they are not obvious to many in the field. Consider, for example, the notion of 'low involvement products' where the emphasis is usually, as the term implies, on products, not context or actor. It seems the degree of involvement would always entail and might possibly be predominated by context, actor, or their interaction with product. Tuna or cookies, commonly considered low involving products (c.f. Lastovicka 1979), may shift to high involvement for a socially sensitive consumer with household guests. It seems the most rudimentary consumption system must represent actor as well as situation, and object. We should view product involvement the same way Robertson (1971) has taught us to view product innovation, through the user's eyes.

While I would maintain that the illustrative examples used to this point in the paper are well reasoned, I have offered little detailed evidence that this is so. Consequently, attention now turns to a more detailed application, a systemic view of Affect, Cognition, and Purchasing Intention.

Affect, Cognition, and Purchasing Intention

The role of affect in consumer behavior is controversial as there is disagreement as to whether it precedes or follows cognition. Over two decades of research have not resolved this issue as researchers continue to mount evidence supporting the view they favor and find fault with evidence congenial with the view they do not favor. An exemplar in this regard is a recent paper by Fred Van Raaij (1984) in which he cites evidence supporting his view that affect is primary. In a comment contained in the same paper, Brian Sternthal finds fault with the evidence cited by Van Raaij and cites additional evidence that supports the view that affect follows cognition. Both Van Raaij and Sternthal agree that these empirical anomalies may be resolved by employing physiological measures in future studies. Louis Stern, in a forward to the paper, sums up the situation with the view that recent research has shed important light on the issue, but that the evidence is inconclusive, and more research is needed. These views embrace Newtonian epistemology. More specifically, they are based on the view that there is an "either or" answer awaiting discovery, a "truth" that our present empirical methods have merely been unable to discover. Consequently, the answers may be found with new empirical methods. The reader will, of course, recognize that the scenario described above typifies many areas of consumer research.

At any rate, the current state of affairs regarding the affect-cognition argument is represented by the diagram in Figure 2 in which everything depends on everything thereby yielding a model with no apparent utility. A view which

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Insert Figure 2 About Here

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is consistent with the "New" Physics suggests that the observer-observed continuum will ensure that this diagram will remain the same after the addition of 20 or so more years of empirical evidence. That is, researchers will continue to find evidence supporting their position and fault evidence supporting the opposite position. The same conclusion can be obtained by merely extrapolating from the present literature. In short, adding twenty more years of empirical data based on new measurement procedures will lead to the same conclusions Stern draws from the considerable amount of presently available evidence. An alternative, and potentially more fruitful approach, is to accept the evidence as adequate for indicating that the answer to "which comes first" is a resounding "yes" and then proceed with an examination of the different approaches researchers have taken in discovering and justifying their respective positions.

Affect is a variable that has a long history in the Social Psychology literature. There is no commonly agreed upon definition and it is frequently interchanged with words such as evaluation, attitude, emotion, feeling, and sentiment. There is, however, general consensus, reflected in textbook approaches (e.g. Kretch, Crutchfield, and Ballachey 1962; Friedman, et al., 1981), that affect entails the "feeling" or "emotion", the "overall evaluation" or "like or dislike" toward an object. It is the emotional part of an attitude that is thought to be motivational. Interestingly, Allport (1935), in his classic review, reported that a preparation or readiness for response was the one common element in a group of widely diverse attitude definitions. More currently, Cooper and Croyle (1984) note that researchers are returning to the notion of affect as it reflects motivation.

Since affect is a concept, it eludes definition and only has systemic meaning. Thus, it is appropriate for the purpose at hand to examine how

affect has been used as a motivator in systems dealing with conation. As will be shown below, it has been used in systems based on actor, situation, and object -- systems which have developed independently of each other. When these three approaches are combined into one rudimentary system, the paradox of "yes" as the answer to the question "which comes first, affect or cognition?" disappears.

#### Traditional Cognitive Approaches

The most common consumer research approach to affect is based on object. This approach is predominately based on the work of Fishbein (1963) and Rosenberg (1956) and follows the information processing scheme shown in Figure 3. In this model overall evaluation or affect is based on the Osgood, Suci, and Tannenbaum (1957) tradition (Fishbein and Raven 1972) and is similar to

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Insert Figure 3 About Here

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to the "affective" component found in the tripartite attitude school of thought (Fishbein and Ajzen 1975, Chapter 8), except that they posit a causal ordering [cognition ---> affect ---> conation (intention)]. Affect is viewed in the Gestalt tradition as a composite primarily arising from cognitions of object characteristics.

A large body of research suggests that consumer cognition and affect can be used to understand purchase behavior (see reviews by Ryan and Bonfield, 1975; Farley, Lehmann, and Ryan 1981; Ryan, Brinberg, and Bristor, in progress). The bulk of this research is based on the work of Fishbein and Ajzen (c.f., 1975; Ajzen and Fishbein 1977). The four main tenents of their approach is that "behavioral intention" mediates the attitude-behavior link;

group or referent influences, referred to as the "social norm," also influence "behavioral intention; all variables must be measured at the same level of specificity; and "other variables" only influence "intention" through their impact on "attitudes" or "social norms." The first three of these issues have been investigated in the consumer research literature and results and discussion will be found elsewhere (Ryan and Bonfield 1975, Ryan 1982). Surprisingly, the fourth issue, which flies in the face of psychologists' (e.g., Fazio and Zanna 1981; Abelson 1982) generally held view that variables such as experience, emotion, context, and so forth have complex roles in predicting and understanding behavior, has, with few exceptions (e.g. Yalch 1980), not been challenged or investigated. This is especially surprising since the construal shown in Figure 3 is considered inappropriate by many consumer behaviors (c.f., Wright 1975). Consequently, it seems appropriate to explore noncognitively formed variables that may impact intention directly or through the mediational effects of cognitively based affects.

#### Affect Without Cognition

A second approach, based on the individual (c.f. Zajonc 1980; Zajonc and Markus 1982), conceptualizes affect as a concept independent of cognition. The approach argues, in the Freudian tradition, that ordinary perceptual recognition is often at the chance level in which case behavior is driven by unconscious process. This view corresponds with the widely held opinion that purchasing behavior is a stochastic process (c.f., Bass 1974; Morrison 1966). When not at the chance level, prior cognitions may have been abstracted to the extent that their components are no longer accessible. This finding has been frequently reported (e.g., Anderson and Hubert 1963). The major distinction between Zajonc's and Fishbein and Azjen's conceptualization is that the latter arises from cognitions about objects whereas the former arises from states within the individual, which are independent of objects.



Given the context within which it occurs, Zajonc's notion of Affect does not appear to be a replacement for the Affect as shown in Figure 3. It is different. Fishbein and Ajzen's (1980) model accounts for behaviors that are both reasoned and volitional. Zajonc, on the other hand, deals with non-reasoned behaviors. Purchasing encompasses both of these decision making aspects and both aspects may be present in the same behavior. According to Howard's (1977) well known typology, the former involves extensive problem solving (EPS) whereas the latter involves routinized response behavior (RRB). Thus, a more general model, in that it would account for the presence of both types of decisions, is shown in Figure 4. EPSs purchases would be primarily

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Insert Figure 4 About Here

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influenced by Affect<sub>C</sub>, RRB purchases would be primarily influenced by Affect<sub>A</sub>, and all purchases would be influenced to some relative extent by either. The third category of Howard's typology, limited problem solving (LPS), suggests a more balanced impact from Affect<sub>C</sub>, and Affect<sub>A</sub>.

#### Affect Impacting Cognitions

There is a third view of affect, based on situation, that entails both enduring and transient impacts on conation. Cooper and Croyle (1984) cite considerable evidence suggesting that existing Affect has a complex relationship with cognitive processes such as perception, encoding, and recall. Similar recognition exists in the marketing literature where it is called the "halo effect" (Beckwith and Lehmann 1973). It is thought that initial or prior feelings direct cognitive processes in ways that ensure consistency with those feelings. Consistent with this view, Lingle and Ostrom (1981) summarized research evidence suggesting that attitude toward a person

determines organization and later recall of trait descriptors. Fazio, et al. (1983) found that a new stimulus was evaluated consistent with prior attitude toward an object. Thus, the model in Figure 4 must also account for the impact of Affect<sub>A</sub> on Cognition.

Affect Arising from Situation

The discussion to this point has dealt with Affect as it arises from two sources, the Actor, or active individual, and Cognition, which involves learning about aspects of the consumption object. Situation, composed of contextual or transient factors, provides a third source of Affect. Petty, Ostrom, and Brock (1981) argue that favorable thoughts resulting from the decision situation should cause favorable attitude changes. In this regard, Isen (1984) has induced positive affect in multiple experiments. Her results suggest that positive affect increases the ability to discover relationships and the type of decision rule involved. Ryan and Holbrook (1985) found that inducing negative affect reduced the amount of information and increased the amount of time used in a purchase decision. Thus Affect<sub>S</sub> is proposed to arise from the situation within which the decision takes place in addition to arising from Actor and Cognition.

A final issue deals with whether Affect<sub>S</sub> can bypass Cognition and directly impact Intention in the same way as Affect<sub>A</sub> operates. Abelson's (1981) notion of "scripts" supports this bypass. In short, scripted behavior is dictated by the norms of the situation regardless of individual differences or cognitive variation. The views expressed so far are shown in Figure 5.

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Insert Figure 5 About Here  
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The addition of Affect<sub>S</sub> is consistent with consumer research evidence suggesting that "situations" cause the same product or brand to be considered quite differently (Belk 1975; Dickson 1982). For example, Belk (1974) found that nearly one half of the explained variance in his studies on meat and snack preferences was due to situational main affects and their interactions. The evidence furnished by Isen (1984) and her associates is also impressive as it spans many years and types of inductions. It also entails very mild Affect inductions, a level that seems appropriate for many consumption situations.

#### Discussion of the Three Source Affect Model

The proposed model is rather intuitive, as introspection will reveal how important "feeling" is in making life's major decisions as well as most product purchase decisions. Jokes abound concerning decision theorists who abandoned their rational models when they didn't conform to a gut reaction when making personal decisions. Thus, Affect seems a likely influence that may take many forms. Rather than simply debate whether Affect precedes, follows, or is independent of cognitions, it seems more useful to view it as having systemically different meanings. These different views will, of course, lead to different operational models and attendant testing methods which, if viewed outside an organizing conceptual system that at its most rudimentary level contains Actor, Context, and Cognition, will continue to yield apparently conflicting empirical results.

The Fishbein and Ajzen framework is generally considered a major influence in supporting the notion that attitudes do cause behaviors. A good deal of current work attempts to specify when this relationship holds. However, Ajzen and Fishbein's work is usually positioned as primarily methodological in nature (e.g., Cooper and Croyle 1984) and criticized for oversimplifying the complex roles of other variables (c.f. Fazio and Zanna

1981). For example, Abelson (1982) believes that the focus on measurement issues does not lead to an understanding of the dynamics of attitude and behavior. While these criticisms are valid given the objectives of those making them, they fail to recognize the model's potential for expansion to encompass and organize their viewpoints. Fishbein, on the other hand, does not seem to want to accommodate the other approaches. The real problem of course, is that researchers are not reinforced for integrating different approaches.

The relationships shown in Figure 3 are widely accepted (Fishbein and Ajzen 1975; Ajzen and Fishbein 1980; Ryan and Bonfield 1975; Farley et al. 1981; Ryan et al. in progress). Thus, this portion of the model which is incorporated in Figure 5 may serve as a platform from which to begin integration and elaboration. In addition, cognitive structure is represented as a set of beliefs and evaluations that are assumed to combine in a linear multiplicative fashion. This representation may also serve as a starting point. Consumer researchers routinely test for cognitive structure dimensionality (e.g. Ryan 1982; Shimp and Kavas 1974). Lutz (1975) has found the components to be interrelated, and Bagozzi (1985) has suggested a number of alternative ways in which these cognitions may be organized. Thus, Fishbein and Ajzen's model has heuristic potential in that it can serve as a springboard for testing the various roles proposed for Affect in explaining Purchase Intentions.

The acceptance of cognitively driven models may be due to their familiarity to the well known advertising effect models (c.f. Robertson 1971; Lavidge and Steiner 1961). It is interesting to note, however, that the advertising industry, which routinely tests responses, has largely abandoned cognitive approaches to influence in favor of emotionally based appeals

because they believe most consumer product are low involving (Resnik and Stern 1977; Tom, et al. 1984). In reviewing this area, Lastovicka (1979) states that exposure increases familiarity which increases preferences for such products. This view parallels Zajonc's thinking and is consistent with Chaiken's (1980) finding that in high consequence conditions, that is, conditions likely to be involving, attitudes were determined primarily by issue relevant arguments whereas they were determined primarily by source likeability in the low-consequence condition. Perhaps academic researchers would do well to shift some effort toward developing emotionally driven models. The rich tradition of Affect research, the framework provided by the well known multi-attribute model, and the scheme suggested here for organizing them and recognizing their relationships provides a basis for doing so.

The New Physics has provided three ideas crucial to the model development presented above. First, consideration of the answer "yes" to the question of whether **affect** precedes or follows **cognition** is precluded by the "either or" way of viewing the world. By doing away with this view, New Physics allows us to be open to more alternatives. Second, New Physics has shown that elements only exist in interaction with other parts of the system. This idea led to the view that the three systems in which affect has been viewed do not make much sense unless they are integrated. The New Physics recognizes that elements act as though they have direction and purpose, that the interaction in the system is not one way or necessary toward the element under observation. This notion leads to an active consumer rather than to the traditional "passive receptor" view. This point, which has not so far been well developed in this essay, is related to the issue of observer-observed continuum, an issue which has not yet been incorporated into the affect model. Consequently, my attention now turns to both issues. <sup>(4)</sup> It has been suggested

that the scientist wondering what to do with the green slime he has concocted might do well to wonder if the green slime faces the same dilemma. This situation does not appear as unlikely when the object of inquiry is the consumer to whom we would, of course, attribute consciousness. The answer, then, is that the consumer is as much an observer as the scientist, an observer with cognitive aims that impact the situation and the objective. In short, the consumer creates reality from the situation and object and becomes a participant in the same manner that the observer becomes a participant.

Whereas the consumer is captured in Figure 5 as Actor, the model does not account for the observer-observed continuum as it relates to the scientist. Laudan (1984) notes that the very idea of methodology emanates from the aims and goals of the researcher. I argued earlier that methods, as shown in the New Physics, may inadvertently dictate results. This does happen in consumer research. For example, Belk (1974) used a within-person experimental design to show that when the same person is presented with different situations and other things are constant, situations do account for considerable variance. Using a between subject design, Lutz and Kakkar (1975) explained considerably less variance. In a similar view, Fishbein model researchers have seldom dealt with the effects of similar appearing items designed to tap different constructs that are spatially proximate in the questionnaire. Yet, this likely source of method variance, if present, would guarantee high correlations. My earlier arguments were that the consumer researchers' cognitive aims of acting as traditional scientists and solving practical problems was led to an undue emphasis on empirical methods. The observer-participant issue, however, goes beyond choice of method for it not only may dictate the method but also the conceptual viewpoint. My attention now turns to incorporating both of these issues into the affect model.

Figure 6 shows templates that represent different observer orientations

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Insert Fig. 6 about here  
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toward the same system. A researcher interested in Business Management may focus on situation and object as they are, in view of their transiency, apt to be more manipulatable than the enduring characteristics of the actor thereby becoming the most efficient means to effect intention and behavior. A researcher preoccupied with Consumer Welfare may focus on the actor's impact on the system and may even consider affect rather than intention and behavior as the key outcome variable. Each of these views constitute different cognitive aims that would redirect the conceptual view as well as influence the methodology. Thus, for example, Cohen, et al. (1972) point out that tests of multi-attribute models have not been faithful to social-psychological theory and Bass (1972) argues that the theory does not answer key managerial questions.

Tucker (1974) has stated that marketing researchers view consumers as a fisherman views fish rather than as a marine biologist views them. This statement, taken in its pejorative sense, represents either/or thinking. Since both fisherman and marine biologists play a useful role in society, it seems both views have merit. They merely serve different cognitive aims. In drawing the analogy of Fisherman to Marketing and Marine Biology to Consumer Science, it seems there is room for both views. Certainly both disciplines, Marketing and Consumer Science, have contributed to society.

If one accepts the notion of "rudimentary system" underlying the affect model, then it is obvious the different cognitive aims will lead to the omission of elements deemed essential by others. Yet, consumer and affect are

both vague concepts that are given meaning only by the system constructed by the theorist. To say that a true affect system exists to be discovered is to commit the sin of reification. When meanings from different systems are complimentary, their merger will lead to richer and more complete theories. To recognize such opportunities we must, as Bristor (1985) points out, first make implicit differences in cognitive aims explicit. Ryan and Holbrook (1982), for example, attempted to address the concerns of both management and social psychology theorists in sorting out some of the multi-attribute issues.

#### Conclusion

I have argued that we are becoming compartmentalized and that this hinders theoretical development. If we resist this trend, however, and emphasize our interdisciplinary heritage, we have the potential for making important contributions to the basic behavioral disciplines. The newer epistemologies recognize that breakthroughs come from questioning and merging paradigms that may not be as incommensurate as they seem at first blush. For example, Watson and Crick combined Chemistry and Biology to discover the structure of DNA, one of the major accomplishments of our century. In carrying out interdisciplinary research, Watson and Crick actually defied their mentors. In contrast, the disciplines formally represented in Buyer Behavior; Anthropology, Communications, Economics, Home Economics, Marketing, Management Science, Psychology and Social Psychology, Public Opinion Research, Sociology, and Statistics and on the JCR editorial board; encourage interdisciplinary research. Thus, we should capitalize more on our opportunity to integrate and leave more of the important work that requires compartmentalization to the individual disciplines whose members are apt to be ostracized if they cross disciplinary boundaries.



Whereas the influence of marketing has fostered empiricism, the discipline has three characteristics that suggest its future influence may foster acceptance of the newer epistemologies. First, due to the nature of Marketing, members of the discipline are sensitive to change and new developments as attested to by two books (Hunt 1983; Zaltman, et al. 1982) and two conference proceedings (Anderson and Ryan 1984; Bush and Hunt 1982) devoted to philosophical issues. Second, marketing has and continues to be open to borrowings from every discipline imaginable -- even astronomy. Thus, its members are open to new ideas. Third, a cornerstone of Marketing Management thinking is the Marketing Concept which is basically the presupposition that the consumer creates his/her own reality. To hold this view one must accept the notion of observer-observed as one entity. If you are still having trouble accepting this idea please read Malhotra's (1984) reinterpretation of Jacoby's reinterpretation of Malhotra's reinterpretation of Jacoby's interpretation of his (Jacoby's) original data. This example provides striking evidence that data only speaks through the differing perceptions of the observer. At any rate, the traditional impact of marketing may change in nature.

Whether the reader agrees or not with the conceptual system or the substantive issues involved in the preceding Affect exposition is not the main issue. What is important is the recognition that empirical deadlocks can be broken by placing concepts within a system and analyzing their meaning as they relate to other concepts. The recognition that concepts have systemic meaning is compatible with the neopositivistic approaches, which are based on physical science methods, that predominate most modern behavioral science disciplines.

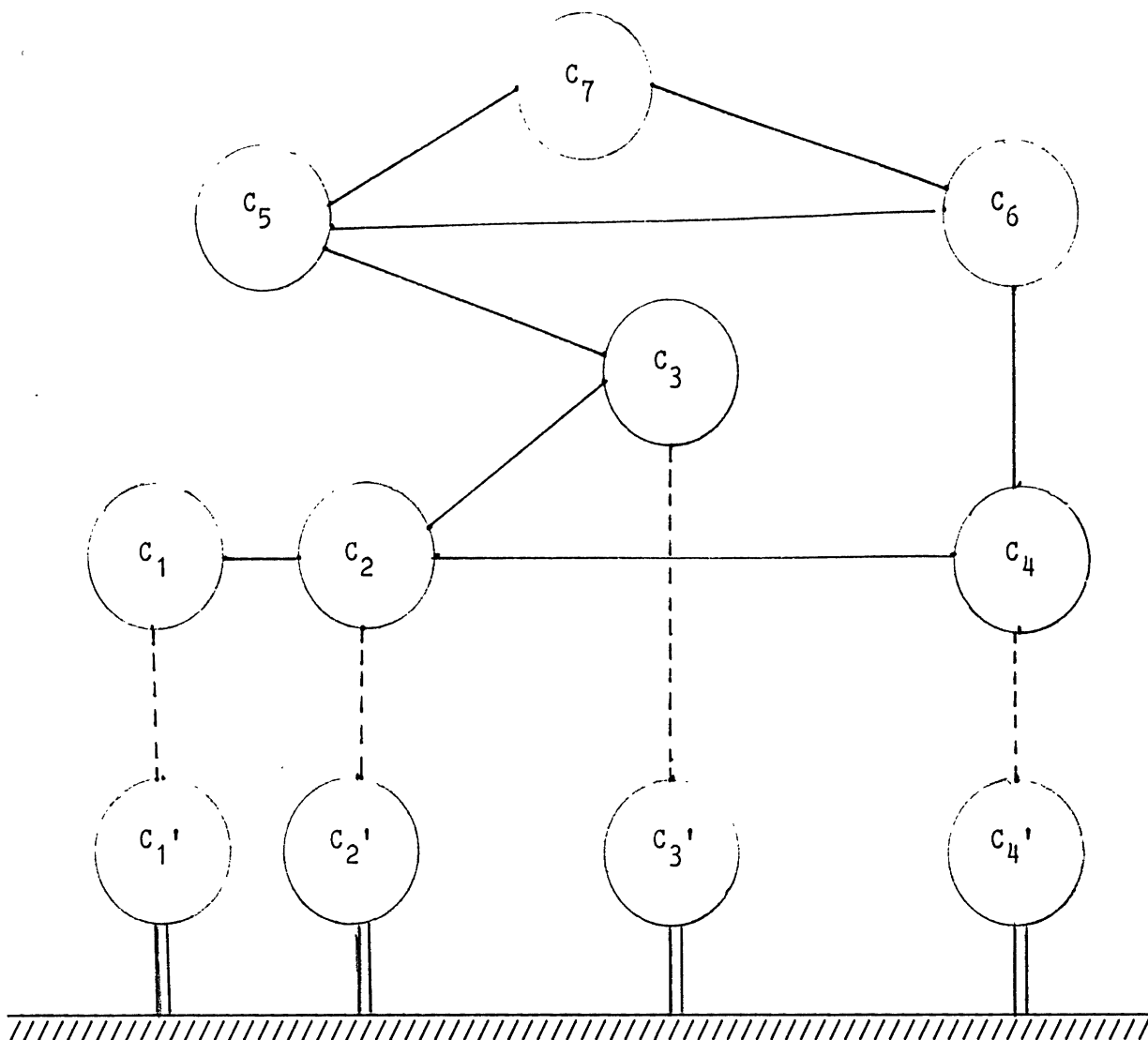
There have been debates from time to time as to whether the subject of human behavior can be adequately addressed using methods developed in the physical sciences to examine "inert" matter. Recent discoveries in physics and the resulting blurred distinctions in the two types of subject matter render these debates obsolete. We should take our epistemological cues directly from Physics, including the "New Physics", and not wait for mainstream psychology and social psychology to change their practices before we do. Whereas the adoption of some of the newer epistemologies may radically change the way we conduct research, the example in this paper suggests that this need not be so. It is certainly possible to deduce schemes amenable to laboratory experimentation from the Affect conceptualization presented above. The level of integration was also not radical as the three approaches that were combined are all well within the domain of Cognitive Social Psychology. In fact, the notion of integrating person and situation approaches has been applied to market segmentation by Dickson (1982). Lutz and Kakkar (1975) have also suggested that situational differences will become much more meaningful if combined with individual differences although neither holds much promise when considered separately. My point is that we can avoid empirical confusion by not losing sight of the conceptual system from which phenomena sprang. In this regard it may be necessary, as Manicas and Secord (1983) suggest, to explicitly state which parts of the rudimentary conceptual system have been excluded due to methodological limitations or the cognitive aims of the researcher. A more integrated systemic approach may help us shift away from what Olson (1981) calls the "small" problems towards the "large" problems. A focus on problems would lead to more theories about Consumer Behavior per se, of which we have too few, compared to the numerous theories from other disciplines which have been tested in a consumer context. At the least, the adoption of the newer methodologies will lead to richer concepts and theories, a goal that most of us share.

Table  
Research According to Purpose

Type	Status	<u>Abstraction</u> Degree	Precision in Prediction and Control
Basic Research	Producer of Abstractions	high	low
Applied Research			
Service Research	User of Abstraction	^	✓
Action Research		low	high

Figure 1

Relationships Among Abstract and Empirical Terms



Adapted from Torgerson  
(1958), p. 5

Figure 2  
Summary of Various Cognitive  
Response Models

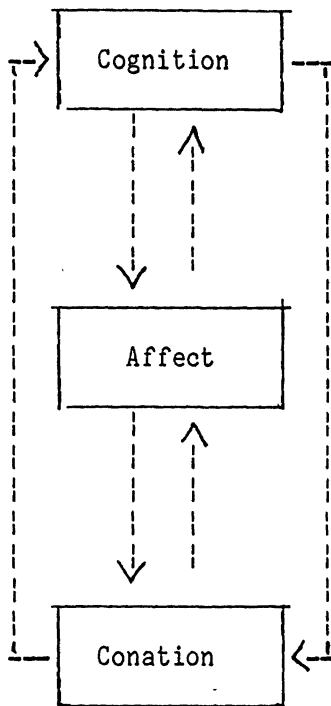


Figure 3

Multi-Attribute Approaches  
to Affect and Intentions

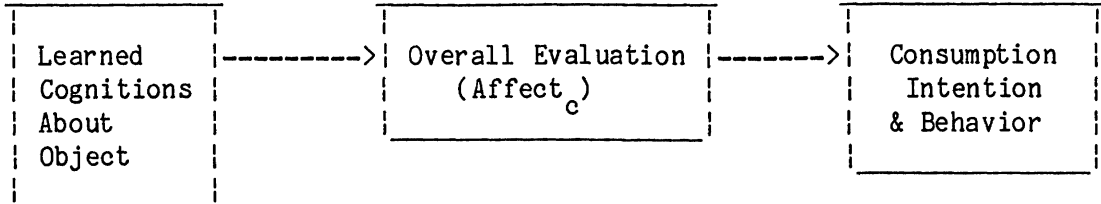


Figure 4

Affect Distinguished by Individual  
and Object Source

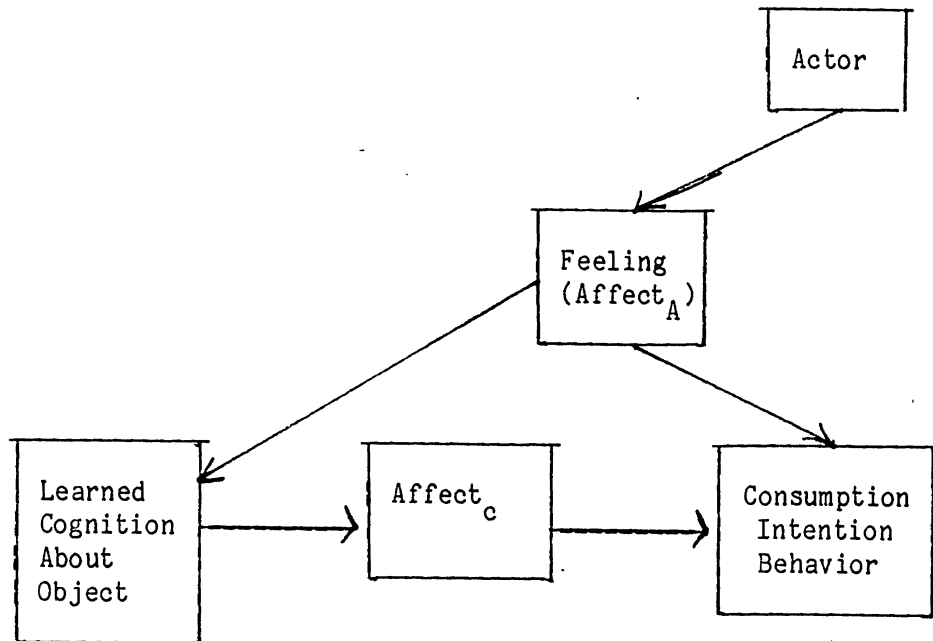


Figure 5  
A Systemic View of Affect

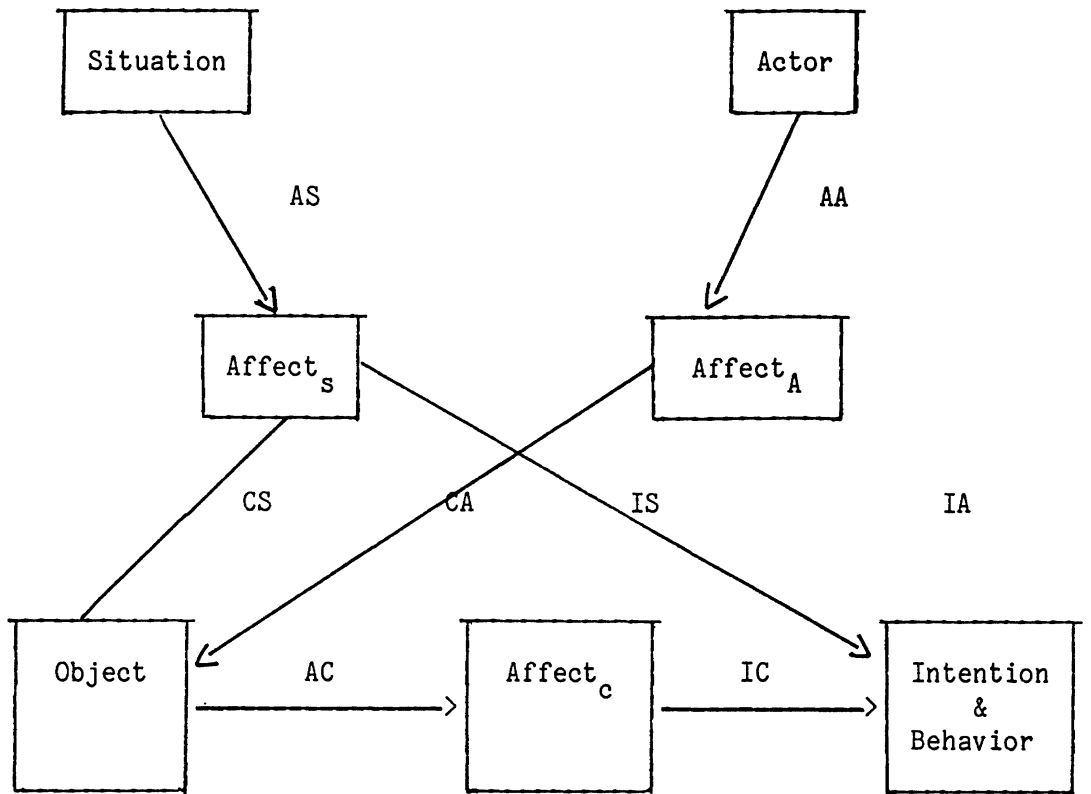
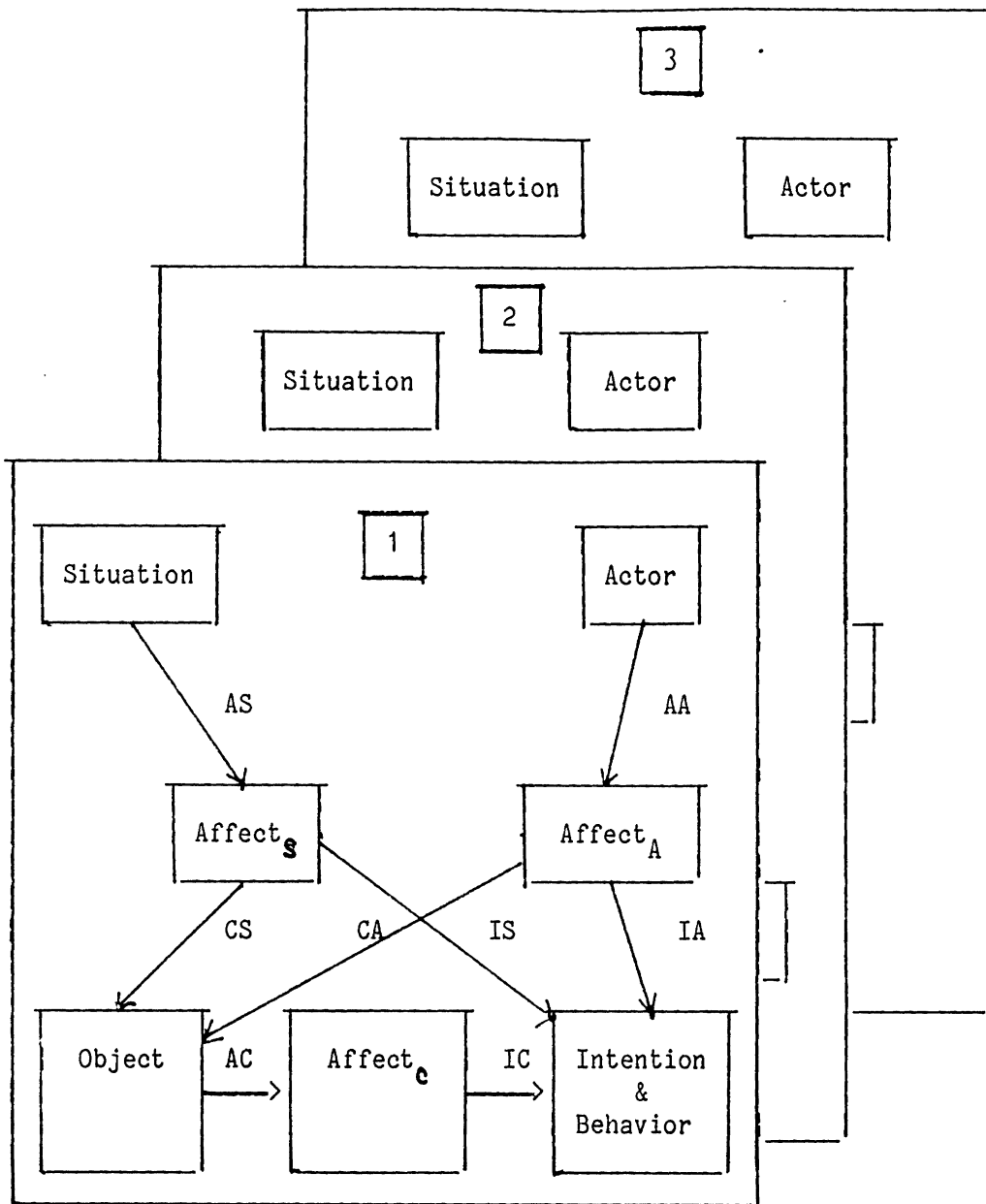




Figure 6

View of Affect According to Cognitive Aims  
of the Researcher



- Cognitive Aim 1 1
- Cognitive Aim 2 2
- Cognitive Aim 3 3



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