Marketing of subliminal perception

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The Marketing of Subliminal Perception

by

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B.S., University of Montana, 1979

Presented in Partial Fulfillment of the Requirements for the Degree of
Masters in Business Administration

UNIVERSITY OF MONTANA
1985

Approved by:

[Signatures]

Dean, Graduate School

[Date] 3/12/85
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INTRODUCTION

Subliminal perception is the impression of information upon the mind, below the threshold of conscious awareness. By its very nature of being outside the realm of an individual's conscious state of awareness, it is unique among all forms of auditory and visual communication. To many people, the concept of subliminal perception is disturbing. Few individuals feel comfortable knowing that they are being influenced by information over which they have no conscious awareness. Whether the information is being presented intentionally, or whether it is simply the subconscious filtering of background 'noise', the process of subliminal perception exists without conscious awareness. The idea that it is impossible to exercise control over the perception of information that may be affecting attitudes, behaviors, and decisions, runs contrary to feelings of independence and individuality. Indeed, it is this lack of control that has fostered so much of the controversy and criticism surrounding the phenomenon of subliminal perception.

The intentional presentation of subliminal information can be accomplished through the use of either: 1) Tachistoscopic methods that supply the message at speeds higher than an individual's level of conscious perception; or 2) The embedding of symbolic images in a print medium.

The purpose of this paper is to present a comprehensive review of the existing literature on subliminal perception with the following goals in mind:

1) Discuss the effects of content, timing, interval and extent of cues upon the perception process.
2) Assess the degree of influence that a subject's predispositions have upon attitude and behavior changes using subliminal stimuli.

3) Evaluate the effectiveness of subliminal devices that are currently being marketed to consumers.

4) Synthesize present administrative and case law to determine the legal status of subliminal technology, especially regarding current commercial applications.

5) Discuss the public's perceptions of subliminal advertising.

6) Review the ethical issues involved in the implementation and development of subliminal technology.

7) Develop a profile for the future use of subliminal perception in a marketing environment.

The recognition of the concept of subliminal perception dates back to the writings of Democritus, Plato and Aristotle. In modern times, the French physicist and philosopher "Leibnitz seems to have been among the first to point out possible effects from subliminal stimuli" (Collier, R. M., 1940, p. 5). Leibnitz realized that noticeable perception exists along a continuum, saying that "...there are countless indicators that there is at every moment an infinity of perceptions within us, but without appreciation and without reflexion; ...because the impressions are either too small or too numerous, so that each is not distinctive by itself, but nevertheless in combinations with others each has its effect and makes itself felt, at least confusedly, in the whole" (Leibnitz, G. W., 1898, p. 370).

1An interesting discussion of the earliest writings on perception can be found in J. I. Beare's Greek Theories of Elementary Cognition: From Alcmaeon to Aristotle.
BACKGROUND

Experimentation in the field of subliminal perception can be traced back to the late 1800s; however, it was not until Fisher's studies in the 1950s (Fisher, C., 1954 and 1956), and the well known movie theatre experiment conducted by market researcher James Vicary, that the phenomenon caught the interest of experimental psychologists as well as the general public. During the 1960s, many of these experiments were criticized for lacking proper methodology. The largest single complaint leveled at the subliminal advocates dealt with their inability to control the influence of "partial cues".2

In 1966, Guthrie and Wiener offered the explanation that "the part-cue response characteristic model remains a tenable explanation for perceptual behavior ascribed to subliminal perception" (Guthrie, G. & Wiener, M., 1966, p. 619). This view has been convincingly countered by Silverman and Shapiro (1967, 1968, 1976), probably the best known and certainly most published researchers using the subliminal perception process for studies into psychoanalytic theory. In their 1967 article they make the point that:

"It is true that early experiments which attempted to demonstrate a subliminal effect were highly vulnerable to the criticism that the effects reported could have been attributable to partial cues. For the criterion of subliminality in these studies revolved around S's (subjects) verbal report of what he saw during ascending (and sometimes descending) threshold procedures. Cogent criticisms of this type of criterion have been made (e.g., Erikson, 1960), but it is important to note that these criticisms did not go unheeded. The proponents of subliminal perception then introduced the

2Partial cueing refers to the possibility of influencing a subject's response through the unintentional communication of supraliminal information on the part of the experimenters or the experimental process itself.
suggested rigorous procedure into their experiments in order to determine whether the results obtained could be attributed to partial cues. The most notable of these was the "discrimination task" which consists of the following procedure. Experimental and control stimuli are presented randomly under the same tachistoscopic conditions as they were in the experiment proper and S's task is simply to tell them apart. Presumably if the stimuli are yielding different partial cues...a better than chance discrimination should be made. Yet in a number of studies (e.g., Spence & Holland 1962; Fiss, Goldberg & Klein, 1963; Silverman and Silverman, 1964)... almost all S's were unable to make this discrimination.... Thus, to the extent that partial information was available for certain S's, if anything it seemed to handicap rather than help the demonstration of subliminal effect" (Silverman, L. H., Spiro, R. N., 1967, p. 325).

Silverman and Spiro have conducted extensive research into the area of psychoanalytic theory using the subliminal perception process. Most of their studies have centered around the psychoanalytic proposition that certain types of psychopathology are related to unconscious conflicts over aggression. They have consistently shown that: 1) pathological thinking and other "clinical reactions" were always significantly increased after exposure to the aggressive subliminal stimuli; 2) exposure to the neutral subliminal cues caused no increase in pathological phenomena; 3) the subjects were not affected by supraliminal exposure to the same stimuli; and 4) the subjects were consistently unable to consciously discriminate, on a better than chance basis, between the aggressive and neutral stimuli.

Thus, as Dixon (1971) points out in his exhaustive and scholarly book tracing research in this area, a careful review of all the pertinent literature to date leads one to the conclusion that subliminal registration has been demonstrated beyond any reasonable doubt. "As a result of being tested in eight different contexts, subliminal stimulation has been shown to affect dreams, memory, adaptation level,
conscious perception, verbal behavior, emotional responses, drive related behavior, and perceptual thresholds" (Dixon, 1981, p. 320).

Although the available literature points out that subliminal stimuli are retained for an undefined period of time in the subconscious and do have an effect upon those states, market researchers studying the phenomena continue to complicate their efforts at finding behavioral effects by seeking to substantiate the existence of the phenomenon itself.

It has been widely accepted that the subconscious plays a substantial role in the buying behavior of an individual. The degree of effect may vary among decisions, and its total effect may never be known. However, the successful use of subliminal stimuli for communicating information must by their very nature remain in the subconscious state.

VARIABLES OF ADMINISTRATION

Given that the presentation of subliminal information can indeed have an effect on the subconscious state of a particular individual, it next becomes necessary to review issues regarding the method of administration subliminal stimuli. Content, timing, interval, extent and predisposition are the primary variables of administration that can affect the process of subliminal perception. The impact that each of the variables has upon the process can be better understood by considering them independently.

Content

Content refers to the substance of the subliminal cue. When attempting to produce a clinical effect upon a subject's subconscious,
the message that is being perceived plays a vital role. "A stimulus containing wish-related content first should make content with derivatives of the related wish if the wish is currently active in the individual" (Silverman, L. H., 1976, p. 625). This suggests that if a person finds the concept that underlies the subliminal stimuli to be acceptable, it is more likely that the stimuli will be able to provoke a conscious response. On the other hand, if the concept relating to the wish is deemed unacceptable to the subject, it is unlikely that the stimulus will gain access to awareness. The expression of the subliminal stimulus will be more likely to exist entirely within that individual's subconscious.

"In a typical experiment (Dixon, 1956), subjects were asked to 'write down the first word that comes to mind' every time they received a supraliminal visual signal. These signals were preceded, for alternate responses, by subliminal auditory presentation of single English words classified in terms of emotional backing. So far as the subject was concerned, the experiment consisted of giving single word free associations to a flash of light. Contrary to expectation, the responses given in this situation were not identical with the stimulus items. That the subjects had responded to the meaning of the stimulus words was, however, suggested by a positive relationship between the emotionality of the stimulus word and the subjects response latency (i.e., the time it took him to think of a word following the light signal). Moreover, an examination of the verbal responses suggested these to be associations, often of a Freudian kind, to the immediately preceding stimulus" (Dixon, 1971, p. 72).

The content of the word is being subliminally impressed upon the mind, although the consciousness is unable to correctly identify the specific structure of the word itself. When content of the cue is considered in a marketing context, there are several implications. If the objective of the process is to establish or reinforce a particular word specific concept upon the subject, the subliminal reception of that concept may not be consciously perceived in its intended context. For example,
consider the following partial replication of the association table produced through the previously mentioned study (Dixon, 1956):

<table>
<thead>
<tr>
<th>Subliminal Stimulus</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>birth</td>
<td>gnome</td>
</tr>
<tr>
<td>pubic</td>
<td>hole</td>
</tr>
<tr>
<td>figure</td>
<td>log</td>
</tr>
<tr>
<td>woman</td>
<td>mother</td>
</tr>
<tr>
<td>wet</td>
<td>water</td>
</tr>
<tr>
<td>cool</td>
<td>temperature</td>
</tr>
<tr>
<td>red</td>
<td>meat</td>
</tr>
<tr>
<td>blue</td>
<td>car</td>
</tr>
</tbody>
</table>

One finds that the conscious responses, although similar and related, do not accurately reflect the definitive meaning of the subliminal stimulus. The subconscious feelings that are being aroused appear to be applicable to psychoanalytic analysis. These feelings are inappropriate to a marketing situation, due mainly to a lack of directional control. The associations that are made offer no indication that brand preference could be developed from any specific wording of the stimuli. In the case of drive level, it appears that it would be possible to develop associations that would reflect the desired behavior. Whether this reflection of the possible behavior would ever manifest itself into purchasing behavior remains unclear.

One of the few studies that have been conducted into subliminal influence on drive level and brand preference, (Hawkins, 1970) concluded with this observation, "the question of whether associations with behavioral consequences can be induced with subliminal stimuli remains open. Perhaps a larger number of exposures or a more skillfully composed subliminal message (emphasis mine) could influence
choice behavior" (p. 325). However, Hawkins did find that the subliminal presentation of the stimuli "Drink Coke" and "Coke" resulted in a higher reported thirst rating. Thus, although drive level increased, brand preference did not. However, subsequent attempts to replicate Hawkin's experiment have even failed to produce an increased drive level. This could mean that either: 1) "Hawkins' results may have simply been a type one error, especially in view of the fact that other tries have been made" (Saegert, 1979, p. 55); or 2) the content of the cue in the additional studies differed significantly (i.e., George & Jennings, 1975); or 3) other differences in methodology significantly affected the results (i.e., timing, presentation method, interval, extent). Whether Hawkins' study, regardless of stimuli content, can be considered as within the realm of subliminal perception depends upon the conditions of applicability that are set forth.

Dixon (1981) has presented the following three criteria as being necessary in validating the perception of a subliminal presentation.

1) The eliciting of contingent responses by stimulation below the absolute awareness threshold, where this threshold is itself defined as the lowest level of stimulus energy at which the subject ever reports hearing (or seeing) anything of the stimulus.

2) The retrospective reporting by the subject that he neither saw nor heard anything of the stimulus.

3) The occurrence of contingent responses, without reported awareness of the stimulus, that differ qualitatively from those elicited by the same stimulus when presented above the awareness threshold (p. 18).
Content of the stimuli can be discussed in relation to the third criterion. In the studies of drive level and brand awareness that have been conducted to date (Hawkins, 1970; George & Jennings, 1975; Bryne, 1959; Spence, 1964), each study, without exception, has failed to meet the third criterion as presented by Dixon. For example, in a 1975 study by George & Jennings, an attempt was made to influence the buying behavior of a test group comprised of university students. The experimental group was presented with the subliminal stimulus "Hershey's Chocolate", projected over a meaningful background using a slide projector. Although no mention was made of the supraliminal stimulus response value of the cue, it can be assumed that it would not differ qualitatively from the subliminal presentation. The question of whether it is possible to discover a cueing content that would serve to alter buying behavior remains unanswered. "So far as individual laboratory studies are concerned, the evidence suggests that, whereas verbal behavior can be affected by subliminal stimuli, these may have little effect upon other overt acts of choice." (Dixon, 1971, p. 176)

Timing and Threshold

Timing of the subliminal presentation refers to the length of exposure of the cue. To a large degree, the greatest influence that timing and exposure have upon the perception process is individually dependent. Different individuals have varying levels of threshold awareness. The threshold of awareness for each individual varies over time and depends upon a wide range of circumstantial variables. The reaction threshold has been referred to as the ".. minimal effective reaction potential which will evoke observable reaction" (Hull, 1952, p. 324). Somewhat similar, yet operationally different, is the
recognition threshold. The recognition threshold can best be viewed as a continuum; ranging from a level at which no information is provided to the receiver, to a level at which maximum information is provided. Within the realm of subliminal perception, one can view an individual's threshold as the point at which he would rather say that he had been unaware of the stimulus as opposed to aware (Swets, 1964).

The problems that are encountered using the method of verbal description, when considering threshold awareness, have been singled out by Eriksen (1960) among others. "The popularity of a definition of awareness in terms of verbal report is understandable. It creates the illusion of operational precision and helps to mask the fact that many of the more important characteristics of awareness are avoided by the definition" (Eriksen, 1960, p. 280). These other characteristics can be thought of in terms of an individual's perception processes. When a person becomes aware of a stimulus, especially a highly complex and familiar one, he may be able to relate only a small portion of his total awareness of the stimuli in a verbal manner (i.e., a verbal description, by itself, provides little insight into an individual's ability to recognize a familiar face among a crowd). A major problem that this author has found to exist among several of the marketing studies dealing with subliminal perception is the lack of valid pretesting (and qualification of conditions) for threshold awareness. Although the most frequently cited studies (George & Jennings, 1975; Hawkins, 1970; Spence & Ehrenberg, 1964) have included a pretesting stage for threshold awareness, the degree of difference among and between individual thresholds over time raises serious doubts concerning their methodologies. To illustrate this point, the following excerpt is taken
from Hawkins, 1970; "The presentation of the subliminal stimuli took place during a cover experiment which had the stated purpose of establishing recognition thresholds for various brand names. Group I, the control group, received the nonsense syllable NYTP at the subliminal speed of 2.7 milliseconds (a pretest with different subjects (emphasis mine) indicated only a slightly better than chance forced choice recognition of "something" or nothing when either the stimulus or blank card was shown). . . ." Recognizing that individuals have different thresholds and these thresholds vary over time, it would have been desirable to conduct the pretest on the same subjects that were actively involved in the experiment.

Due to major differences in methodology among the subliminal market research experiments, it is impossible to compare findings between studies. Likewise, it is also difficult to compare the effect of timing upon the findings. While Hawkins tachistoscopically presented stimuli at 2.7 milliseconds over an undefined level of background illumination; George & Jennings used a rheostatically controlled slide projector to present stimulus against a meaningful background at a timing level of 1/50 second.

In an attempt to isolate the effects of timing on perception levels, the psychological research offers some clarification. "First in one study (Silverman, 1966) S's were divided into two groups of which one was shown aggressive and neutral stimuli at 4 milliseconds, while the other was exposed to the same stimuli for 6 milliseconds (S's in neither group could make a discrimination at the end of the experiment). There was no significant difference between the groups in the degree to which they were affected by the aggressive condition and
the nonsignificant trend was in the direction of a greater effect for 4 millisecond exposure" (Silverman & Spiro, 1967, p. 329). At first inspection, it would appear that the 2.7 millisecond exposure levels of Hawkins' (1970) study would fall below the level of subconscious perception. However, as has been already mentioned, his pretest subjects did experience "...(a) slightly better than chance forced choice recognition of something or nothing". The explanation for this discrepancy can most likely be traced to the illumination levels used with the tachistoscopic device. Unfortunately, the most logical conclusion is that any comparison of stimulation levels is impractical given the variances in methodologies. In most studies (even among those that have used similar tachistoscopic devices) the stimuli to background contrasts have such a high potential for variation that even an assignment of a meaningful contrast index appears unrealistic.

Viewed in light of possible marketing applications (excluding directly marketed subliminal devices for personal use), the issue of timing and threshold presents another major stumbling block against any successful implementation. "The main snag is individual differences in threshold. It would almost certainly be impossible to find an intensity, or duration value, for the subliminal message that ensured its subliminality for all, without missing out on some people altogether" (Dixon 1971, p. 175).

Interval

I have defined interval as spacing between successive presentations of the subliminal cue. In the case of experiments conducted under laboratory conditions, this variable does not play a significant role in the subliminal stimulation process. The majority of laboratory
studies use tachistoscopically presented cues on an individual basis. After presentation of the cue, the subject is then instructed to indicate a response (which will vary depending on the character of the stimuli). The exposure of any particular cue is limited to one presentation.\(^3\)

In the case of the marketing oriented experiments conducted under a less controlled setting, the interval variable may have some degree of impact upon the results. However, the studies that have been conducted to date fail to assess the implications of alternate interval exposure. Although Hawkins (1970) did specify his interval (40 exposures over 15 minutes) for the drive level experiment, he apparently felt that its affect on response was not significant enough to warrant future modification. He also failed to include interval in discussing the methodology of his behavior experiment. George and Jennings (1975) failed to even consider the interval variable, it is not possible to ascertain the interval between exposure for their subliminally presented cue "Hershey's Chocolate".

In the case of audio subliminal devices such as Dr. Becker's "black box" there have been varied intervals used in its application (Krass, 1981). The optimum exposure, according to Becker, is up to 9,000 times an hour with the standard rate falling between 2,000 and 3,000 repetitions/hour. However, Becker does not seem to be able to

\(^{3}\)There has been some research into this area (Hase]rud 1964; Haber, 1965) that has found that repeated exposures of a word stimulus without lengthening the duration improved perception of the word. However, the application of these findings to a discussion of differences in response as a function of alternate intervals is limited. The conclusion that increasing exposures while decreasing the interval, leads to a greater perception would apply only to a situation in which the total extent of exposure was undefined. In a marketing context the availability of extent is often limited.
relate the variations in interval to the frequency of desired response or duration of effect. Whether the interval variable can substantially affect the response rates of individual subjects will remain an unanswered question until further research is conducted using methodologies that are considerably more defined. The continuous and unspecified alteration of variables such as interval, timing, and extent, will continue to prevent the scientific determination of the effect of subliminal stimulation in a marketing context.

**Extent: Duration Of Effect**

"In recent years, a number of researchers (Balchino, 1962; Haslerud, 1964; Harcum, 1964; Haber and Hersherov, 1965; Doerries and Harcum, 1967) have provided very strong evidence for...the claim that complex visual stimuli may be 'registered' in the nervous system and maintained there in, below the awareness threshold, for an extended period of time" (Dixon, 1981, p. 142). This concept ties in very closely with the interval variable. The model for demonstrating duration of effect consists of repeating presentations of the same stimuli. It has been found that a subject's threshold will decrease for that stimuli - even though the subject may not have been able to offer a response indicating subliminal awareness after the initial presentation, additional exposures of the same duration produce responses that indicate awareness. The conclusion is that the prior presentations were retained for a certain period of time and that they were combined to eventually produce an awareness response (Haslerud, 1964).

The degree to which a subliminally presented stimulus can affect the drive level or behavior of an individual, outside the influence of
the exposure setting, is one of the central issues involved in a discussion of marketing subliminal presentation. The idea that successive presentations (each below the threshold for response awareness) may combine to eventually produce the desired response, holds some promise for a practical application of the subliminal phenomenon. As has been already stated, one of the problems involved in developing a subliminal presentation that would be effective in increasing drive level or altering buying behavior is the wide individual variance in awareness thresholds. If it is possible to present a stimulus below the awareness threshold and rely upon successive presentations to develop the desired response and awareness, it may also be possible to present the stimulus at a level below even the lowest threshold and thus solve the problem of threshold variance. The number of repetitions would become the critical factor. It would be hard, if not impossible, to evaluate the number of exposures that would have to be offered on a mass communication basis to ensure a coverage that would be effective.

Another aspect of duration and effect that must be considered is the possibility of producing long-term effects which are never quantified. The lack of control over variables of administration that would be involved in assessing the impact of drive or behavior related stimuli over a long period of time seems to prohibit the possibility of documenting the effects.

Predisposition

The extent to which subliminally presented stimuli prove effective in influencing an individual's behavior depends upon the attitudes and unconscious wishes of the subject. The cue that is presented must be
directed towards a specific wish or predisposition of the subject. The experiments that have proven most successful in demonstrating the effects of subliminal perception have been carefully developed to ensure this type of compatibility. For example, Silverman (1967, 1968, 1976) has studied the effects of presenting the specific stimulus "Destroy Mother" to groups of individuals who experience abnormal depression. He found that after presentation, the experimental groups rated themselves significantly higher in depression ratings than the control groups who were exposed to the stimulus "People Thinking". In additional studies by Silverman he exposed groups of schizophrenics, homosexuals and stutterers to stimuli that were related to the different group's unconscious wishes. In each case, he found that presentations of specific stimuli, aimed at increasing (or decreasing) the groups predisposed behavior, had the desired effect. Silverman has also tested the hypothesis that the stimuli would only be effective in influencing the specific unconscious wishes of the targeted groups. In addition to presenting each group with stimuli designed to affect their particular predisposition, he also crossed stimuli presentations to check the effects of different stimuli on the other groups. The inappropriate stimuli did not effect the nonspecific groups. Saegert (1979) made the following point when discussing results of Silverman's studies; "(These) results suggest that the reason a subliminal perception effect has not been demonstrated in a marketing context is that studies have not attempted to use stimuli that would appeal to specific groups of individuals who may be more receptive to certain kinds of commercial appeal. For example, a subliminal stimulus such as "choose Revlon" might influence persons who maintain an
unconscious desire for social affiliation, as measured by a sociability scale on a personality inventory." (p. 56) Saegert has made a good attempt at addressing the issue of attitude specific stimuli; however, his choice of a cue "choose Revlon", again highlights a current misunderstanding in the marketing research community. Dixon (1971) and Silverman (1976) have repeatedly emphasized the need for subliminal cues to provoke responses "...that differ qualitatively from these elicited by the same stimulus when presented above the awareness threshold" (Dixon, 1981, p. 18). The stimulus "choose Revlon" would presumably have a very similar effect on purchasing behavior when presented supraliminally. Predisposition and the existence of unconscious wishes that can be manipulated through the tachistoscopic presentation of the appropriate stimuli may not lend themselves to a marketing application. It has been shown that the pathological behavior of depressives can be influenced by the cue "Destroy Mother" - but would it be possible to develop cues that likewise effect the purchasing behavior of normal individuals and their predispositions? Another finding that Silverman and other clinical psychologists repeatedly point to is the apparent need for the wish to be unconscious.

Silverman's studies have all involved wishes that the subjects were unaware that they possessed. Attempts to increase their pathological behavior by presenting the specific stimuli supraliminally failed. Among the few marketing experiments that have been conducted, Hawkins (1970) is often pointed to as the only one showing evidence supporting the concept. His subliminal presentation of the cues "Coke" and "Drink Coke" both resulted in higher thirst ratings for his subjects after exposure. However, Saegert (1979) proposes that "this finding might be
consistent with the 'unconscious wish' hypothesis, but in this case it is extremely difficult to treat 'thirst' as an unconscious wish, at least in the context of Freudian theory."

This does not mean that it would be impossible to discover and connect unconscious wishes with buying behavior - more research is needed before any definite conclusions can be drawn. In light of current findings by experimental psychologists, the effort may prove to be extraordinarily useful. "The main studies show that the unconscious mind may understand and respond to meaning, form emotional responses and guide most actions, largely independent of conscious awareness" (Daniel Goleman, New York Times). Viewed in this light, the implications for the use of subliminally presented advertisements are quite interesting. The following excerpt is taken from a July 23, 1979 Advertising Age article entitled "The Myth of Memorability in Commercial Music" by Norm Richards. "Listening to your commercial and remembering your message are essentially conscious intellectual activities. Psychologists, however, tell us that most of our decisions are made on a subconscious, emotional level (that's why so many of us still smoke cigarettes, although rationally we know it's unhealthy . . . or why, when interviewing someone for a job, we frequently make our decision [emotional] in the first 30 seconds, and spend the rest of the interview going through the correct motions [intellectual]. . .if being easy to remember is a function of intellectual activity, it's possible for the consumer to remember your commercial consciously, but not have it count as a factor in his emotional decision of whether to buy your product or service." (Richards recalls being struck by the validity of the 'easy to recall' concept when he noticed a man ordering Lucky's
while humming the Winston song.) If one agrees with the recent findings in experimental psychology, that over 90% of all our decisions come into our conscious awareness already made, and that these decisions are a product of subconscious predisposed attitudes, then one would be compelled to draw the following conclusion -- supraliminal advertisements and marketing efforts aimed at the conscious state, that prove effective in altering purchasing behavior, must be at least partially retained in the subconscious prior to decision making. Or, as expressed by Saegert (1979, p. 11) "it seems reasonable to hypothesize that many of the wishes advertisers seek to satisfy are at least unexpressed, if not unconscious. At any rate, the appeal to "suppressed motives has long been of interest to marketing strategies, and Silverman's work seems to reopen the possibility for systematic study of such effects in an applied setting" (p. 57).

Individual differences in predisposition are quite varied. Any effort to address these subconscious wishes will have to be directed toward specific sets of individual attitudes, . . . "this finding, that susceptibility to subliminal stimulation depends upon certain characteristics of the subject, is quite a commonplace occurrence" (Dixon, 1971, p. 100). "On the other hand, users of conventional advertising are aware that their promotional efforts, while directed to a large number of people, are only perceived by a small subset and ultimately will be responded to by those people whose needs can be satisfied by the product" (Saegert, 1979, p. 57).
THE DIRECT MARKETING OF SUBLIMINALS

There are currently two major offerings of subliminal communication products that are being marketed directly to consumers: 1) Behavioral Engineering Center, Inc.'s "black box" (an audio conditioning subliminal device); and 2) Stimutech's "Expando-Vision" (a visual conditioning subliminal device).

B.E.C.'s black box was invented by the company's founder and president, Hal C. Becker. "Becker has acquired an interdisciplinary PhD in behavioral science, psychology and education from Tulane University in New Orleans, LA as well as degrees in electrical engineering and physics" (Krass, 1981, p. 37). Becker holds patent rights to a tachistoscope and several other subliminal perception devices. These patents were acquired in 1962 and 1966 (Key, 1976). With a 17 year holding period, Becker's patents were due to expire in 1979 and 1983. The fundamental question is whether Becker's "black box" stimuli can actually be considered as subliminal. The machine has received several commercial applications in the last five years. Although Becker was issued a U.S. patent in 1966, he apparently failed to successfully market the device until the late 1970s. The "black box" is a sound mixer that combines preprogrammed messages with commercial 'canned Muzak', at exposure rates of up to 9,000 times an hour. Technically there is no limit to the variety of messages that can be superimposed over the background music. The primary uses to date have been within: 1) retail outlets who have purchased or leased the device in attempts to reduce shoplifting and employee theft; and 2) weight loss centers as part of an audiovisual approach for control of obesity. A New Orleans supermarket chain broadcast the message, "I will not steal, if I steal,
I will go to jail" (Maxwell, 1980). The store claimed a subsequent drop in theft from $50,000 to $13,000 over a six month period. At the same time, cashier shortages decreased from $125 to $10 on a weekly basis. Over 50 east coast department stores have used the box to solve the same theft problems - one chain reported a drop in thefts by 37%, with an annual savings of $600,000 (Time, 1979). Becker has been quoted as saying that someday he foresees audio conditioning to be on the same scale as air conditioning. Becker has also used his black box in combination with visual presentations to control obesity and promote weightloss. Supraliminal signals provide information on nutrition while subliminals are used to offer adverse stimulus to unproper foods. By combining subliminals with supraliminal presentations, Becker has claimed to produce effects that show an encouraging success rate (Lander, 1981). Unfortunately, even though Becker has dozens of testimonials from satisfied customers (all preferring to remain anonymous), he has not yet published any scientific research into the actual effects of his product. Becker has already summed up his feelings on this matter. "They may worry about those things in the ivory towers, but when I talk to the president of a company, he doesn't care. He wants results. I show him results" (Lander, 1981).

Becker advertises his device's stimuli as being subliminal; however, this doesn't appear to be a valid claim for two reasons: 1) the messages that Becker uses to deter theft would also be effective when presented supraliminally; and 2) when careful attention is payed to the recording, the messages become audible to the consciousness. Although these may be technical points when considering the effectiveness of Becker's device, nevertheless they are salient in a
discussion of the "black box" and its impact on subliminal research.
In order to make an objective assessment of the effectiveness of audio conditioning devices such as Becker's "black box", scientific research must be conducted in laboratories as well as field settings. The device may prove useful when combined with other measures to reduce shoplifting, control weight, or motivate employees. The device may even prove to be successful by itself. However, until the necessary research has been conducted, any opinion, including Mr. Becker's, is pure speculation.

The other major offering, Stimutech, Inc., is an East Lansing, Michigan mail order company that sells the visual subliminal device, "Expando-Vision." The device is designed to change behavior by "...bombarding television viewers with split second subliminal messages once a minute as they watch regular programs. Lasting 1/30 of a second, the subliminal blips carry messages like: "I see me slender," "Exercise is fun," and "Let's make love" (Kneale, 1983). There are 45 messages in total, "...designed to help in each of eight vital areas of American life: weight loss, stress control, alcohol consumption, smoking, study habits, careers and success motivation, sex - and golf" (Kneale, 1983). In summary, although Stimutech's offering uses visual stimuli and B.E.C. uses audio stimuli, they have two factors in common: 1) Neither stimuli are truly subliminal; Becker's box has been reported as being "...barely audible to shoppers and employees" (Time, 9/10/77), and Stimutech's "Expando Vision" flashes cues at 1/30 of a second with no illumination rheostat. The varying light intensity of background during television exposure and the lack of control over cue intensity, would provide opportunities for conscious perception.
2) Both provide cues that are similar in content to those that modify behavior supraliminally. However, the difference between the two products is enormous. "Expando-Vision" is sold to individuals who are fully aware of its presence while it is being used. Becker's "black box", on the other hand, is often sold to corporations who are using it to manipulate consumer and employee behavior without express consent. "(Dr. Becker) did not originally support covert use of his theft control devices and intended to install them only if storeowners publicly disclosed use of this subliminal technique. However, Dr. Becker changed his mind when he found that storeowners were unwilling to buy the devices from him if disclosure to store customers was required" (Goodkin, Phillips, 1981, p. 1085). While Stimutech freely admits that their product hasn't been proven effective, and that "if it didn't work, it wouldn't be illegal" (Keale, 1983, quoting Stimutech's vice president, James Crawford); B.E.C. has opened the door for potential lawsuits that may interest the American Civil Liberties Union. "People have a right to go about their business without being subjected to manipulation they don't even know about" (Time, 9/10/77, quoting Arych Neir, former executive director of A.C.L.U.). Becker would seem to be in disagreement with this line of thought. "The law states that a property owner has the right to use reasonable force to protect his property," he says, "My customers and I consider that no subliminal message has ever been proved to hurt anyone. It's probably the most reasonable kind of force one could use" (Krass, 1981, quoting H. Becker).
LEGAL IMPLICATIONS OF SUBLIMINAL TECHNOLOGY

The major problem with regulating the use of subliminal technology, is that by definition, it is never consciously perceived by the individuals to which it is directed. "People usually know when they have been physically injured, when their belongings have been stolen, or when a contractual obligation has not been honored. It is more difficult to know when one's communications have been intercepted, when one is being observed or followed, or when others are reading one's dossier. This absence of awareness is a serious problem in a legal system that relies primarily on complaints initiated by victims." (Gavison, 1980, p. 457). Although subliminal communication techniques have been under development for several decades, there are still no specific laws or regulations dealing with their use. The public outcry over the publication of Vance Packard's bestseller, The Hidden Persuaders prompted several legislative committees to address the issue but no legislation was ever enacted. The only exception is a 1976 ruling by the Federal Communications Commission which states that the transmission of subliminal stimuli by television stations is contrary to the public interest (Krass, 1981). This ruling was, in part, prompted by the use of subliminal inserts to promote the game "Husker-Do" in 1973. The words "Get it" were flashed in sixty-second spots aimed primarily at children. The ad was brought to the attention of the National Association of Broadcasters (how it was discovered is unclear) who determined that it violated their ban on subliminal messages (McDaniel, et al., 1982). The manufacturer voluntarily deleted the subliminal message and no further action was taken.
The use of subliminal messages to influence behavior without the knowledge of the intended recipients, can be considered, in a legal context, as an invasion of personal privacy. Goodkin and Phillips, in a 1981 review entitled "The Subconscious Taken Captive: A Social, Ethical and Legal Analysis of Subliminal Communication Technology", point out that "tort law has recognized and extended protection to autonomy and privacy rights in contexts that are analogous to subliminal communication (p. 1140). They cite several cases (Roach v. Harper; Pearson v. Dodd; Nader v. General Motors Corporation) in which individual rights to privacy were violated and remedy was obtained. The important aspects of the cases that apply to the use of subliminal communication technology can be summarized as follows: 1) Contrary to most tort actions, many courts have found that individual invasion of privacy need not show specific damage to obtain relief. This is relevant to subliminal invasions of privacy in that it is often difficult or impossible to prove any specific harm has occurred as a result of subliminal influence. "By dispensing with the cumbersome analysis of the extent of the harm resulting from a particular infringement of privacy, recovery is based on grounds similar to those used for libel or slander per se" (Prosser, 1971, p. 815). 2) The courts have defined invasion of privacy as "...an unreasonable violation of a private sphere" (Goodkin and Phillips, 1981, p. 1115). Although the privacy cases that serve to illuminate the applicability of tort law to subliminal communication involve information that has been taken from an individual; the reversal of the situation, as with the presentation of subliminal messages, applies equally well when considered as a violation of an individual's private sphere. "Since the victim is unaware
of the subliminal communication, and thus cannot have consented to the intrusion, every invasion by this means will be upon a private sphere. In this respect, the degree of effectiveness of the subliminal communication is irrelevant in determining whether an intrusion into a private sphere has occurred" (emphasis mine) (Goodkin and Phillips, 1981, p. 1116).

Although it appears that the foundation has been laid for use of private remedies, there are several potential problems that may confront the unwilling subject of subliminal presentation that seeks to use this method. In the traditional case of intrusion (wiretapping, stolen files, hidden microphones, etc.) the victim could simply point to alleged intrusion and offer evidence that it had occurred. In order for a victim of subliminal stimuli to prove the intrusion, he would have to show that he was subconsciously perceiving the stimuli - yet at the same time he would be unable to show that it did, in fact, penetrate his mind. This might then force the victim back into relying on the effectiveness of the communication to prove the intrusion. The victim of a stimulus that is directed at altering a drive level, or prompting a previously meditated decision, would have a harder time showing that invasion had occurred than a victim who actually underwent a behavioral change as the result of the stimuli (Goodkin and Phillips, 1981). Another problem with the private remedy approach is that, although many courts find no need to prove specific damages in an intrusion case, some jurisdictions do require proof. The effectiveness of the action would depend, to a large extent, on the jurisdiction in which the case was filed.
Finally, "it is obvious that privacy will have to give way, at times, to important interests in law enforcement, freedom of expression, research and verification of data. The result is limits on the scope of legal protection of privacy" (Gavison, 1980, p. 457). In the case of Becker's 'black box', the storeowners may be able to defend their actions by claiming that their objective of preventing theft is legitimate and socially desirable.

Goodkin and Phillips (1981) argue that the assessment of damages against users of subliminal devices will serve to deter further abuse. However, they suggest that the optimal solution to prevent the possibility of harm is to regulate their use. There are three different ways in which subliminal communication could be regulated: 1) total prohibition of all use and manufacture of subliminal devices; 2) regulation based on the content of the message and location of the device; and 3) regulation that forces users to disclose the time, place, and content of the communication. When discussing the options for regulation of subliminal communication, it is necessary to weigh the first amendment right of free speech against individual rights to personal privacy. "The Court has held that in some cases, freedom of speech permits a speaker to reach only willing recipients. When the audience is unwilling or captive, the first amendment rights of the speaker clash with the privacy rights of the listeners or viewers. This conflict is posed by subliminal communication as well" (Goodkin and Phillips, p. 1124, citing Kovacs v. Cooper, 366 U.S. 77, 87 (1949)). An analysis of the related cases [Lehman v. City of Shaker Heights, 418 U.S. 298 (1974); Public Utilities Commission v. Pollack, 343 U.S. 451 (1952); Cohen v. California, 403 U.S. 15 (1971)]; by Goodkin and Phillips
(1981), shows that the rights of privacy can override the rights to free speech if a high degree of captivity occurs. This is largely dependent upon the ability of the subject to remove himself from the influence. Viewed in a marketing context, it appears that the use of subliminals such as Becker's "black box", may be held by the courts to be an exercise in freedom of speech accorded to a commercial enterprise. However, the use of subliminal stimuli in television and radio may not be afforded the same protection. Although the Court has held (Public Utilities Commission v. Pollack, 343 U.S. 451 (1952)) that the playing of a commercial radio station on a bus is not a violation of that riders' rights to privacy, the Court has also continuously stressed its desire to avoid making individuals captive in their homes (Westin, 1968, pp. 342-343). "Regardless of the [stimuli] presented, subliminal communication itself presents so high a degree of captivity that the Court should find it intrusive; the audience could not avert its eyes, shut its ears or retreat to private places. The subliminal communication audience is an unknowing audience and has even less control than the unwilling audience. The listeners or viewers don't know if they are willing to receive the communication because they are unaware of it. In the more traditional captive audience alterations, the recipient could decide whether to shut out the speech. Subliminal communication, however, does not offer the recipient such a choice" (Goodkin & Phillips, 1981, p. 1131).

In summary, the regulation of subliminal communication seems to have a sufficient constitutional base for consideration of the three aforementioned proposals.
Total prohibition of subliminal communication devices and stimuli was the first position taken by many Americans following James Vicary's movie theatre experiments in 1957. Despite all the public debate and legislative hearings, as previously mentioned, no legislation was ever passed that directly dealt with the issue. Representative William A. Dawson (R., Utah), vowed that congress would provide whatever legislation was necessary to control. "...(this) revolutionary and frightening new development in the communications field" (Westin, 1968, p. 282). While James Vicary argued that he "...expected a few bursts from the eggheads, but not this" (Advertising Age, December 23, 1957, p. 3). Aldous Huxley, in his book *Brave New World Revisited* (1958) said that legislation should be passed "...prohibiting the use of subliminal projection in public places or on television screens" (p. 90). Again, Vicary responded by saying that "we have a freedom to communicate", and "if we get into a hassle (with legislation) we'll go to the Supreme Court" (Talese, 1958, p. 59).

Vicary was aware that any proposal of total prohibition would probably be in violation of the first amendment. However, a total ban would be much easier to enforce than a regulation over content and placement. If a total ban could be passed, and Goodkin and Phillips have argued that "...forbidding subliminal communication altogether may be constitutionally justified" (p. 1133). The magnitude of administrative problems with regulating specific uses would be eliminated. Legislation that discriminated between different uses of subliminal technology, based on content, would put too much of a burden on the administrative body responsible for exercising the law, in addition to putting too much power in the hands of the individuals who make the
final decisions. It is obvious that there are some socially desirable uses of subliminal technology, a total ban, or a ban relating to content may have the effect of reducing some of these benefits (Westin, 1968).

Goodkin and Phillips (1981), after a thorough discussion of these issues, concluded that "the optimal solution is a legislative requirement that users of subliminal devices disclose their use of such devices and the precise content of the message communicated. . .to the extent that the statute is enforceable, commercial users of the device will be hesitant to use a message that may offend their clientele. Indeed, this is the most powerful aspect of this relatively innocuous statutory scheme of disclosure" (pp. 1138 and 1140).

PUBLIC PERCEPTIONS OF SUBLIMINAL COMMUNICATION

Despite a lack of conclusive evidence on the effectiveness of marketing subliminal communication, the popularity of recent books on the subject indicate that public perceptions of the phenomenon may be substantially different, especially in the case of print embeds. Wilson Bryan Key has written three best selling books on the topic. The first, Subliminal Seduction (1973), has sold over one million copies. It was followed by Media Exploitation (1976), sales of 330,000, and most recently, The Claim Plate Orgy (1980), with sales in excess of 200,000 copies (Haberstroh, 1984). Key claims that advertising agencies and manufacturers consistently employ symbolic subliminal embeds in everything from liquor ads to the dies used to stamp out "Ritz" crackers (Key, 1976). According to Key, subliminal embedding is a technique whereby erotic, death or other symbols are blended into the
ad illustration. The intention is to arouse subconscious emotional responses that will in some way connect with the supraliminal stimulus of the ad, provoking the viewer into purchasing the product. Only one study has been conducted that directly addresses the concept of subliminal embeds in advertising. Kelly (1979) used a convenience sample of college students to test the influence of embeds on unaided brand recall. He used ads that Key had specifically singled out as having embedded messages for the experimental advertising vehicle, and "similar" ads containing no embeds for the control vehicle. Kelly concluded his findings with the following observation, "A portfolio of ads containing subliminal embeds did not produce significantly greater recall of brands or illustrations than did normal ads. An obvious explanation for these results is that embedding symbolic images does not generate any greater stimulus than one would find in normal ads. Very probably, the total impression of an ad illustration overpowers any stimulus created by suggestive objects so any differential effect between embedded and normal ads has an insignificant impact on unaided recall" (p. 23). Whether the use of embeds has an affect on purchasing behavior was left unanswered. Kelly recognized this problem with his research, calling for its inclusion in further experimentation. A more fundamental problem with embeds, is whether they can even be classified as subliminal. Key (1976) contends that the embeds act more as a visual than print stimuli due to the skimming, glance-like attention paid to magazine ads. However, if subjects are taught to look for and recognize subliminal embeds (without modification of the presentation) they can no longer be considered subliminal, and by definition (Dixon, 1981) were never originally subliminal.
"Quite apart from the questions of whether or not there are really subliminal embeds in ads or whether they are effective, it is important to know what the general public believes to be the case. This is because people do not act on reality; rather, they act on their own perceptions of reality" (Zanot, et al., 1983, p. 40). There have been two surveys conducted that have attempted to measure public awareness of subliminal perception, and its use by advertisers. The first survey was administered following the introduction of the topic to the public via James Vicary in the late 1950s (Westin, 1968). The questionnaire, administered randomly to 324 San Francisco residents, asked respondents: "Have you heard of the possibility of using advertising on television where the ads would be so dim, or flashed so fast, that you would not be aware of their being there?" (Haber, 1959, p. 292). Forty-one percent of the respondents were aware of the technique. Haber considered this a high level of awareness compared to general questions about civic issues or world affairs. Of the informal respondents, 50 percent thought it was unethical to use subliminals in advertising, while 67 percent said they would still continue to watch television programs that contained subliminals. This led Haber to the conclusion that "the fact that half the people who had heard of subliminal advertising thought there was nothing wrong with it, in spite of the tenor of the current mass media attacks on it, shows that the man on the street is not so frightened of subliminal advertising as are the more intellectual writers" (Westin, 1968, p. 293).

4However, the wording of the awareness question may be considered biased or leading. It is unclear whether similar language was used for the civic issue/world affair questions.
In 1983, Zanot et al. noticed the apparent lack of research into public perceptions of subliminals in advertising since Haber's study in 1958. Haber's study measured the respondent's awareness and attitudes towards subliminal stimuli on television. Zanot et al. choose to measure awareness and attitudes of print embeds. The survey was administered randomly over the telephone to 207 residents of the Washington, D.C. metropolitan area. Seventy-eight percent of the respondents knew what subliminal advertising was. Of this group, 81 percent believed subliminal advertising is being used in advertising, and 68 percent believed subliminal advertising to be successful in selling products. Additionally, only about half of the respondents believed the technique to be unacceptable, unethical, and harmful (48.9%, 45.4% and 44.9%, respectively). The contrary view was held by 32.6%, 21.9% and 22.5%. A relatively large percent of the informed respondents were uncertain; 18.5%, 32.6% and 32.6%. To Zanot, his findings represent a need for those in the advertising field to pay more attention to public awareness of subliminal advertising methods since "the individual most likely to have heard of subliminal advertising is white, well educated (at least some college) with a relatively high income (over $20,000 per year). Thus, the people who are aware are included in the "heavy buying" demographic groups often targeted by marketers" (p. 43). Zanot may be right in this respect, however, the findings also indicate that 47% did not feel, or were uncertain, that the advertisers use of subliminal techniques would affect their purchasing behavior. This finding compares favorably with the study by Haber, 25 years previously. It would suggest that the use of subliminal advertising techniques, contrary to Key's assertions and the
majority of respondent's beliefs in the Haber and Zanot studies, is not a widespread practice. Haberstroh (1984) put it this way, "All of us, of course "see" all sorts of things in clouds, trees, clothing texture, mountain tops...but seeing or perceiving something in an ad's illustration is light years from accusing an art director of the deliberate retouching of that illustration for the purpose of embedding a subliminal" (p. 42).

ETHICAL ISSUES

The major ethical problem regarding the use of subliminal stimuli to influence behavior and attitudes is inherent in the nature of the phenomenon. When asked, "Have you been influenced by a subliminal message today?" Most people would immediately respond negatively, with a high degree of confidence. Unfortunately, at present, there is no way to be sure. The phenomenon is, quite simply, outside the realm of conscious awareness. The ultimate invasion of a person's privacy is the covert manipulation of his mind, the extent to which this can be considered 'good' or 'bad' depends upon the content and subsequent effect of the stimuli. It is not difficult to imagine stimuli that, if effective, could substantially contribute to the self-expressed values of any society. Few people would argue with a successful subliminal campaign that reduces theft, smoking, drunk driving, or drug abuse (Gratz, 1984). "Indeed, it would appear the technique of production and communication now in use could make our world virtually anything we desire - a place of happiness, fulfillment, and meaningful relationships" (Key, 1976, p. 216). However, the ethical problem still remains, who would determine what constitutes a socially desirable message?
Research has shown that subliminal communication is most effective when the audience is in a passive state of receptivity (Dixon, 1981). Would this lead to intentional priming of conscious states of awareness in an effort to increase the effectiveness of the stimuli's presentation? What additional and unmeasurable psychological effects could a particular message have upon select individuals? While these questions may be solved as the findings from current studies into the relationship between the consciousness and subconsciousness become available; the current state of understanding is too incomplete to allow subliminal technology to be used in any situation that is not expressly understood by the subject.

In a 1984 study by Haberstroh, art directors of 100 advertising agencies, selected from the standard directory of advertising agencies, were mailed questionnaires designed to assess the extent of subliminal use in advertising. Forty-seven usable responses were received, anonymity was promised. Forty-five respondents never placed a subliminal in an ad, 44 had never supervised the placement of a subliminal in an ad, and 43 had no personal knowledge of it ever having been done. Two of the respondents had placed a subliminal in an advertisement, two respondents had supervised a placement, and three respondents had personal knowledge of someone else placing a subliminal message in an advertisement. The remaining responses were 'no opinion'. One of the respondents who indicated that she had deliberately placed a subliminal in an advertisement had the following comment: "All advertising is a mixture of product and subliminal messages, i.e., a product with an attractive person means if you use the product, subliminally you can look like this, feel like this, or receive a positive response from
people" (p. 42). Although Haberstroh's survey only considered art directors and print embeds, his findings conflict with the public's perception of the advertising community's use of subliminals. One explanation for this discrepancy may be that the practice is being carried out a bit more than Haberstroh's respondents were willing to admit for fear of bringing undue attention upon themselves. Perhaps the more important point is that some advertisers are using subliminal techniques.

CONCLUSION AND RECOMMENDATIONS

When all the psychological experiments are considered in total, one finds a better than 3:1 ratio of positive vs. negative fundings, supporting the concept of subliminal perception. There are few areas in experimental psychology that can claim such a high level of success (Silverman, 1983). Even so, critics of the phenomenon have yet to fully accept the process as valid. They continue to confuse the operation of the phenomenon with their inability to ascertain an effective stimulus for experimentation. It is important to remember that subliminal perception does not depend upon the intentional projection of any specific stimulus. On the contrary, the majority of perception that takes place below the threshold of conscious awareness is simply the result of the conscious mind's inability to process all the consciously available information in any given surrounding. However, to be considered as being subliminal in context of this discussion, the stimulus cannot be one that the receiver "...could be made aware of if his attention were drawn to it" (Dixon, 1971, p. 13). Obviously, the majority of subliminal perception that takes place would not fit this
criterion as defined by Dixon. Therefore, the question that is most important, when considering the intentional use of subliminal cues in a marketing context, is whether the psychological effects of subliminal perception that have been empirically demonstrated are applicable to an advertising environment. In this regard, the following conclusions can be drawn...

° The use of subliminal stimuli, presented tachistoscopically via motion pictures or television, is unlikely to be cost effective because: 1) It is impossible to present the stimulus at a threshold level that guaranteed subliminality for all viewers; 2) Individual states of receptivity are variable over time and impossible to determine without direct observation; 3) The lack of control over supraliminal information would result in it negating the effects of the subliminal stimulus; 4) The use of word stimuli seldom produces responses that are directly related to the content of the word (p. 7); 5) The current F.C.C. ban on subliminal advertising in television, combined with the potential for recognition, could create expensive legal complications; and 6) The inability to document results from exposure to the subliminal message would prevent the process from being effectively costed.

° Contrary to public opinion, advertising agencies are not engaged in the widespread use of subliminal embeds. Although attempts have been made to influence the attitudes and behaviors of readers using symbolic images embedded in magazine advertisements, the added cost of the process, together with the uncertainty surrounding possible effects, has precluded wholesale adoption of the policy.

° There appears to be a constitutional basis for the total or partial banning of subliminal technology but it is unlikely that this will
happen for the following reasons: 1) It is extremely difficult to establish the present degree of use (the nature of the process prevents detection); 2) There are several beneficial uses of subliminal technology (investigations into the differences between unconscious and conscious processes); and 3) Adequate legal remedy exists under tort law for victims of the covert use of subliminals.

° Due to the nature of the phenomenon, the ethical issues involved in its usage are likely to continue generating hostile reactions to its acceptance. Few people appear to be comfortable with the idea that they can be influenced by information outside their realm of conscious perception. When subliminal technology was initially unveiled to the general public, following James Vicary's experiments in 1958, the outcry was so fierce it effectively eliminated further research without need of legislation.

° The current offerings of directly marketed subliminal devices have not been accompanied by any empirical research that substantiates the claims of manufacturers. However, it appears that the use of these products will accelerate in the near future for the following reasons: 1) They appeal to technological hunger of many individuals seeking help with what they perceive to be personally sensitive problems; 2) No laws or regulations currently exist that deal exclusively with the private sale of subliminal devices; and 3) The majority of individuals comprising heavy buying groups believe subliminal technology to be more effective than the current research findings indicate.

° Evidence for the practical use of subliminal influences in a marketing environment is scarce and unconvincing. In regards to the current state of research, the most that can be hoped for in the
immediate future is the possibility of producing positive affective responses towards a specific stimulus (Moore, 1982). In other words, it may be possible to provide a stimulus that tends to increase recipients' positive feeling towards a particular activity (drinking, eating, etc.), or situation (studying, writing, etc.). However, it is probably not possible to design a stimulus that would influence a complicated choice dealing with brand preference.

The major question that remains unanswered is the degree of effect that subconscious perception has upon the formation and subsequent alteration of attitudes, behaviors, and the decision-making process. Further research into the subconscious mind and the process of subliminal perception would undoubtedly provide a greater understanding of the way in which the myriad of influences that individuals are exposed to combine to produce cognitive activity. I suggest that the following directions would be useful avenues of exploration towards achieving this goal:

1) Additional research into public perceptions of subliminal perception. From a marketing as well as psychological perspective, more information is needed to determine how different subsets of the total population view the concept of subliminal perception. This information would be valuable in assessing opportunities for future offerings of subliminal technology. It would also aid in determining the degree to which future research into the concept of subliminal perception will be accepted.

2) Continued experimentation with captive audiences. One of the major difficulties encountered when using subliminal techniques to project information is the concurrent existence of supraliminal stimuli.
By using situations in which outside influences are controlled, such as a laboratory or closed classroom setting, it is possible to reduce the effects of supraliminal information and concentrate on the effects of the subliminal stimulus.

3) Experimentation with subliminal perception and alternate states of consciousness. It is possible that the subconscious mind has access to perceptions and sensations that are seldom shared with the consciousness. Man has a long history of altering his state of consciousness in an effort to probe deeper into his subconscious mind. If one rejects the idea of inherited memory, the only information that the altered state of consciousness could find would be that which has already registered in the subconscious. There is a need for research to be conducted on subjects who are in altered states of consciousness (i.e., sleeping, drugged, meditating) in order to see what changes occur in the subliminal perception process under varying conditions of consciousness.

4) Experimentation into the use of subliminal technology and the subliminal perception process as a method of learning complex information. It is possible that subliminal technology may prove useful as an instructional aid in the traditional classroom setting.

Research is needed to determine the feasibility and effectiveness of varying the content of the cue in order to present a continued flow of new information.

5) Timing and Threshold. Research in this area needs to be continued in an effort to further document individual differences in threshold and retention ability.
6) Interval and Extent. Research into the effects of presentation interval on individual subjects would clear up some of the controversy surrounding exposure variations. For example, Becker's "black box" has used exposure levels ranging from 2,000 to 9,000 times per hour - without documentation as to how, if at all, the perception process varied.

7) Content. Experimentation in this area is needed in order to establish effective cues that relate to subconscious predispositions. For example, "Destroy mother" has proven to be an effective cue in its intended application while "Eat Hershey's chocolate" has not.
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