# Subliminal Self-help Tapes: Promises, Promises...

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An offspring of the New Thought movement in the 19th century and nurtured by the positive thinking and human potential movements of this century, self-improvement has attained the status of a secular religion (Meyer, 1956, Starker, 1989). Not surprisingly, a huge industry has arisen, catering to the fond hope that positive thinking wedded to the latest in a never-ending stream of self-improvement products could revamp our personalities, habits, and abilities. Such transformations, the hucksters suggest, can be rapid and enduring, requiring minimal effort and sacrifice (except, of course, of the monetary type). The banalities and exaggerations of the current generation of "New Age" entrepreneurs cap a long line of attempts to cash in on the human longing for an quick, painless fix for the frustrations and hardships of daily existence.

The burgeoning self-help industry consists of three major streams: (a) self-help groups, (b) self-help books, and (c) technological self-help products (e.g., audio and video tapes, "smart cocktails," various "brain tuning" contraptions, etc.). While some of these products may be useful on occasion, the majority are noteworthy for their conceptual naivete and their lack of empirical support. The first of these paths to enlightenment was the subject of a trenchant analysis by Kaminer (1992). The second has received careful scrutiny from Rosen (1987), Starker (1989), and Gambrill (1992), and a part of the third, the plethora of devices alleged to rewire the brain for improved efficiency and well-being, has been examined by Beyerstein (1990).

The hard-sell tactics of the would-be vendors of unorthodox seminars, gadgets and techniques to government agencies finally led the US Congress to commission a study by its research arm, the National Research Council (NRC), into the dealers' claims for various "performance enhancement" products. The resulting reports, prepared by outside experts for the NRC (Druckman and Swets, 1988; Druckman and Bjork, 1991), represent the most comprehensive evaluations to date of professed methods for improving human performance. The second author of the present essay was invited to sit on the NRC's "Committee on Techniques for the Enhancement of Human Performance." He, along with fellow panelist and CSICOP Executive Council Member Ray Hyman, wrote the committee's report on subliminal self-help tapes (Eich and Hyman, 1991).

## What are the claims?

Proponents of subliminal auditory tapes assert that they contain embedded information that is too faint or fleeting to reach conscious awareness but which can produce remarkable benefits nonetheless. These benefits are claimed to be long-lived and in areas psychologists have long known to be highly resistant to change. Paradoxically, the very weakness of the signal is purported to be a strength as it allegedly heightens the penetrability of the message to the rather curious systems the manufacturers believe to be the inner wellsprings of human motivation. And best of all, virtually no concentration or effort is required: "Subliminal tapes work so you don't have to...," asserts a major manufacturer's promotional brochure.

The range of suggested applications for subliminal training is truly astounding--e.g., the producers offer to build self-confidence, improve memory and creativity, treat phobias, overcome smoking, alcoholism and other drug abuse, achieve rapid potty training and to conquer overeating, shyness, fear of public speaking, and a host of other psychological and physical ailments. In addition to tackling such worldly concerns as improving one's bowling scores, purveyors of subliminal tapes also offer access to such other-worldly pursuits as astral projection, psychic healing, and past-life regression. A particular favorite of ours is the subliminal *auditory* tape sold by Potentials Unlimited that offers to *cure deafness!*

According to *Newsweek* magazine (July 30, 1990), American sales of subliminal audiotapes exceed $50 million annually and the market for the over 2000 manufacturers continues to grow. Hawked by magazine ads, TV "infomercials," booksellers, and supermarkets, these tapes are often lent, with implied endorsement, by public libraries. Although the majority of producers lack even modest professional qualifications, their wares are recommended (if not actually sold) by many members of the helping professions whose training ought, one might have hoped, to have made them at least somewhat wary of such grandiose claims.

So appealing are these pitches that many people who wouldn't think of buying a toaster without consulting *Consumer Reports* nonetheless flock to the subliminal tape merchants without examining even the flimsy documentation they provide. As all but the most gullible should know, personal testimonials are virtually worthless in such matters, especially if they are assembled by someone with a financial stake in the pending transaction. Yet, such testimonials constitute the bulk of the tape sellers' "evidence." Even sincere endorsements from one's friends should be weighed carefully in light of ample proof that strong psychological pressures make it extremely difficult for individuals who have invested their reputation, time, and money in something to admit, even to themselves, that they have been taken. Even if improvements do follow adoption of some practice or apparatus, it requires sophisticated measures to ensure that the changes were specific to the intervention itself, rather than merely a placebo effect. In addition, long term follow-ups are essential because almost anything can produce a temporary change; staying power is quite another matter. And finally, there is the question of value for money and effort expended. Do the confirmed, lasting benefits justify the outlay, or could an easier, cheaper alternative have done as well or better?

The NRC panel examined these issues in the context of two central questions about self-help tapes. First, what reason is there to believe that mass-marketed subliminal self-help products are effective in practice? And even more fundamentally, is there any scientific rationale to suggest that such products could, in principle, live up to their promises?

## The Theoretical Rationale

Before reviewing empirical tests of the subliminal products themselves, we should mention some relevant findings in the areas of perception and cognitive psychology. As Dale Beyerstein (1992) has observed, many pseudoscientific technologies "piggy-back" on legitimate research. That is to say, their advocates overextend or misapply reliable findings to add plausibility and prestige to otherwise unsupportable assertions. Such, we fear, is the case with popular subliminal merchandise.

According to Merikle (1988), although the reality of subliminal perception remains somewhat contentious in scientific circles, "recent research has led to a growing consensus that subliminal perception is a valid phenomenon that can be demonstrated *under certain well-defined conditions*" (emphasis added). It should be noted that most scientifically acceptable demonstrations involve visual rather than auditory presentation of very simple subliminal stimuli, under laboratory conditions quite different from those home tape users would encounter. Furthermore, the effects found in the lab are not remotely like the ones the tape sellers promise for their products. Nor do they persist for anything like the durations that would be required for a subliminal make-over (assuming that were possible) to be useful in practice.

Its questionable relevance to subliminal self-help claims aside, there is research from respected laboratories confirming certain subliminal effects (for details see the reviews by Merikle, 1988; Moore, 1982, 1988, 1992; and Eich and Hyman, 1991). Perhaps most convincing are "lexical priming" studies showing that cues for which people claim no awareness can influence their subsequent decisions. On a variety of semantic or perceptual tasks, performance can be biased *for a short while* by information in priming stimuli that people *claim* they have not consciously perceived. Examples are decisions such as whether or not a string of letters constitutes a word or an ambiguously described person is friendly or hostile. Additional support comes from demonstrations that in such tasks information presented above and below the level of claimed awareness can have qualitatively different effects. A study by Cheesman and Merikle (1984) contains a nice example of such a dissociation of effects (for details, see their original report). Because opposite outcomes can be produced by stimuli above and below the threshold of phenomenal awareness, this argues that "effects observed in the supposedly unaware condition were not actually due to the subjects' being aware of an item without the experimenter's detecting that awareness" (Jacoby and Whitehouse, 1989, quoted in Eich and Hyman, 1991).

Obviously, how we define the word "awareness" is crucial in this debate. The most straightforward way is simply to ask the person if she was aware of a stimulus. A reply in the negative indicates, by definition, that the stimulus was below her introspective threshold. Here, unconscious or "subliminal" perception merely means that the subject's responses can be shown to have been affected by a stimulus whose presence she honestly does not report (Merikle, 1988; Moore, 1992). As far as it goes, this would not startle the average cogmtive psychologist who could cite many similar phenomena. The controversy surrounds the effectiveness of subliminal suggestions in therapy or persuasion, not the existence of unconscious mental processes. Almost all psychologists concede that behavior can be influenced by variables of which the individual is essentially unaware (Kihlstrom, 1987; Bowers, 1987).

Much controversy stems from a confusion about what it means for a stimulus to be "subliminal." Following the work of German psychologists in the last century, it was assumed that sensory systems have all-or-none limits to their sensitivity--i.e., there is a stimulus intensity (called the "absolute threshold" or "limen") above which the signal evokes a sensation virtually without fail and below which it would always be missed. By this token, any effect attributable to a stimulus of sub-*liminal* intensity assumes a near-supernatural property: detection of the (by definition) undetectable. Modern research has clarified this seeming contradiction, however. We now know that, in reality, there is no fixed barrier that demarcates the always-detectable from the never-detectable stimulus. There is no such abrupt transition because the limen is a statistical abstraction that varies across individuals and situations (Synodinos, 1988). Rather, there is a range within which the momentary cut-off floats and the yes-no response of the observer is essentially a decision determined by a transitory mix of physiological, psychological, and even social parameters. One's verbal decision is influenced by sensory as well as non-sensory factors such as the relative pay-off for a correct detection versus the costs of a false alarm and even the personality of the observer (under weak stimulus conditions some people habitually insist on being "more sure" than others before they allow themselves to conclude that something was really there).

Given this inherent variability when operating near the noise level of a perceptual channel, it is not surprising that there would be a "gray area" in which there might be useable information from a weak stimulus, even when phenomenal awareness is lacking. It may still be possible to influence a decision with the partial information available to the processing system. Often this can be uncovered by asking the observer to guess, from a number of stated alternatives, what the extremely faint or brief signal might have been. Those required to make such a "forced choice" usually exceed the chance hit rate, even when the stimuli fail to reach the threshold of subjective awareness.

When an individual's perceptual system has extracted partial information, although she honestly thinks she has received no useful cues, Merikle (1988) has characterized this as "perception in the absence of subjective confidence." He and his colleagues refer to information not available to introspection but revealed by forced guessing as being beneath one's "subjective threshold." Information so degraded as to yield chance performance in a forced choice test is said to be beneath the more stringent "objective threshold." In the former case, we are dealing with stimuli whose presence is not reported; in the latter, their presence cannot be detected. Subliminal perception, in this view, is not perception without stimulus detection; it is simply that subjective experience does not match objective measures of signal detection (Moore, 1992). Exceeding the subjective threshold by subliminal techniques is hardly revolutionary, beating the objective threshold would be tantamount to ESP.

Well-controlled studies have shown how performance differs when objective as opposed to subjective threshold conditions have been met (e.g., Cheesman and Merikle, 1984, 1986). They indicate that some perception is possible below the subjective (but not the objective) threshold--i.e., an effect of the stimulus can be detected on a subsequent judgement, despite the absence of phenomenal experience. Conceived of in this way, subliminal effects lose much of the mystical aura with which popular, often alarmist, writers endow them (e.g., Packard, 1957; Key, 1973, 1980). Also removed is the need to postulate a "supersensitive" unconscious perceptual system

for which there is no independent evidence (Merikle, 1988). Rather, this interpretation simply accepts that we can sometimes discriminate among stimulus states, as indicated by verbal responses, even if our phenomenal experience reveals no basis for confidence that any useful information has been imparted. Interesting as this is, it is a far cry from claims that subliminal messages can eradicate bad habits, reduce shoplifting, raise our IQ's, or bend consumer preferences and political affiliations.

The differing impact of stimuli below the subjective as opposed to the objective threshold was demonstrated by Cheesman and Merikle (1984). The task was to name, as quickly as possible, color patches flashed on a screen. Each flash was preceded by either a congruent or incongruent color name (called a "prime"). E.g., on a congruent trial, if the word *blue* appeared it would be followed by a blue patch; on incongruent trials, the word *red* might appear before, say, a green flash. It was already known that when such primes are clearly visible, congruent stimuli are identified more quickly than if they are preceded by an incongruent prime.

Cheesman and Merikle wanted to know if the advantage of congruent over incongruent primes would persist if the prime were rendered invisible by a technique known as "backward masking" In a pretest, the experimenters determined which temporal lags between target and mask would produce complete, partial, or no backward masking of a target. For target-mask separations sufficiently long to produce no masking, the targets remained clearly visible--i.e., "suprathreshold." Other intervals were determined where the mask rendered the targets subjectively invisible but observers could still guess them well above chance (i.e., the targets were below the "subjective threshold"). For very brief delays between target and mask, accuracy of target guessing dropped to the chance level (the "objective threshold" condition).

The main study consisted of many trials, each containing the following events in rapid succession: a congruent or incongruent color-word prime, a masking flash (random letters), and the to-be-named colored patch. Under different conditions, the interval between prime and mask was set to suprathreshold, subjective, or objective threshold values. In suprathreshold trials the advantage of congruent over incongruent primes was present, as expected, and amounted to nearly a tenth of a second. In the subjective threshold condition, the congruency effect was cut by more than half but it persisted, even though the subjects had no awareness of what the prime had been. in the objective threshold condition, there was virtually no priming effect.

These and other results reviewed by Eich and Hyman (1991) and Moore (1992), indicate that stimuli below the subjective, but not the objective, threshold can influence certain cognitive acts for short periods. However, it is also clear from these studies that if there is to be a conscious or subconscious influence on behavior, the irreducible requirement is a stimulus that could conceivably be encoded by a sense organ. Since the majority of subliminal self-help products are audiotapes supposedly containing covert motivational messages, sound frequency spectrograms of the tapes' contents should reveal patterns corresponding to the amplitudes and frequencies of discernable speech. Merikle (1988) submitted over 40 samples from four different subliminal tape distributors to spectrographic analysis. None showed any evidence whatever of embedded speech.

To counter possible rejoinders that spectrographs may not be sufficiently sensitive to expose hidden signals which the human ear might still detect, Merikle (1988) designed a further experiment using human listeners. Subliminal tape manufacturers supplied tapes that were overtly identical but only some of them contained subliminal messages. Subjects in the study were asked to distinguish in blind auditions the tapes that did from those that did not. Their random allocations in this forced choice task--reinforcing the failure of the sound spectrograph to make the distinction either--led Merikle (1988) to conclude "the widely marketed subliminal cassettes do not contain embedded messages that could conceivably influence behavior."

Merikle's conclusion is strengthened by a recent study by Moore (1993). Reminding us that subliminal perception has never been satisfactorily demonstrated under conditions that preclude stimulus discriminability (i.e., below the objective threshold), Moore further explains that, to be therapeutically useful, subliminal tapes must contain speech capable of being semantically processed before it could conceivably generate any motivational changes. Otherwise, how would the tape inform the listener's motivational system, even subconsciously, that it was supposed to initiate weight loss rather than inhibit nail-biting?

To claim higher-order subliminal effects such as changing ingrained habits, proponents must first demonstrate that despite the absence of audible differences between tapes with different "subliminal" suggestions, people can still discriminate one from another in the now-familiar forced-choice test. Thus, Moore (1993) searched for these elementary stages of semantic activation, using a variety of commercial subliminal cassettes. He asked his subjects to distinguish between segments of tapes, from the same company, with different subliminal messages embedded in identical audible material. For comparison, participants first heard longer segments of the tapes said to contain the A- versus B-type subliminal message. Next, the computerized apparatus alternately fed numerous five-second snippets from either the A or B source into earphones on a random schedule. Listeners had to guess whether it was the A or B message on each exposure (not what the messages might be). Their failure to exceed chance accuracy argues that there was no differential semantic activation, casting further doubt on the shaky enterprise of subliminal self-help.

In sum, the aforementioned body of work implies that subjective awareness is a continuum rather than a dichotomy. Things not attended to but potentially detectable, as well as signals near but temporarily below the shifting cut-off for awareness, can still exert subtle effects. Whether this affords comfort to the subliminal tape industry is quite another matter, however.

## The Proof of the Pudding--Empirical Tests of Subliminal Manipulation

It would appear that there is very little basis for the belief that subliminal audio tapes could, in principle, live up to their promotional claims. In fact, much work on human sensory and motivational processes strongly suggests the contrary. But hope springs eternal and, as Eich and Hyman (1991) and Pratkanis (1992) remind us, there are legions of satisfied customers of the subliminal industry. While their testimonials are no doubt sincere, there are many reasons to doubt their conviction that subliminal imperatives are in any way responsible for their self-perceived improvements.

The first is that the act of purchasing and using a subliminal self-help product indicates a desire for self-improvement and an implied commitment to bring it about (Eich and Hyman, 199 1). Making such a resolution can, in and of itself, produce benefits by mobilizing changes in relevant behaviors. This may, in turn, affect how others react to the individual, thereby reinforcing the self-fulfilling prophesy.

A second reason buyers may feel they have been helped by the tapes is the phenomenon psychologists know as "effort justification." Research has shown that the harder we have worked at something, the more we tend to like it. After purchasing and using a subliminal product for some time, most people would be reluctant to admit that it was a waste of time and money. Instead, they would be motivated to find some sort of change in their lives to rationalize their investment.

Another major source of customer satisfaction is the ubiquitous placebo effect. Our society is permeated by the belief that subliminal messages are potent, leading to strong expectancies on the part of tape purchasers (Pratkanis, 1992). It is a rare individual who has not heard of the "studies" by James Vicary in the 1950's, claiming that imperceptibly brief insertions in a film at a neighbourhood theatre had impelled viewers to massively increase their consumption of popcorn and Coca-Cola. Unfortunately, very few today are aware that the famous Vicary "study" was a hoax, fabricated to shore up his failing marketing business (Pratkanis, 1992). Public alarm initiated by this incident led to various attempts to outlaw or control subliminal advertising, adding to its aura of irresistibility. Fortunately, it also prompted a few well-conducted tests such as one by the Canadian Broadcasting Corporation in 1958:

During a popular Sunday night television show viewers were told about the Vicary...study and were informed that the station would do a test of subliminal persuasion (although the content of the message was not revealed). The message "phone now" was then flashed subliminally on the screen 352 times. Telephone company records indicated that phone usage did not increase nor did local television stations report an increase in calls. However, almost half of the nearly 500 letters sent in by viewers indicated that they felt compelled to "do something" and many felt an urge to eat or drink. It appears that expectations created by the Vicary study influenced what people believed had happened (Pratkanis and Greenwald, 1990, cited in Eich and Hyman, 1991).

That expectancy can account for most of the satisfaction expressed by subliminal self-improvement patrons is apparent from a recent study by Greenwald and his colleagues (1991). They recruited a sample of ardent believers in subliminal self-help and began by testing their memory skills and levels of self-esteem. Each participant was then given one of two commercial audio tapes: both were claimed by the manufacturer to contain subliminal suggestions superimposed on classical music, one for enhancing self-esteem, the other for improving memory. Unbeknownst to the recipients, however, only a randomly selected half of them received the memory or self-esteem tape they thought they were getting--the remainder received the memory tape mislabled as the self-esteem tape or vice versa.

After five weeks of daily home listening, all groups were asked to rate the impact of their tapes and were also tested on another battery of self-esteem and memory measures. Although there was no discernable change on any of the objective tests of self-esteem or memory, many of the

participants *believed* otherwise. Participants who thought they had been listening to the self-esteem tape--regardless of whether they had actually received it or the memory tape--were more likely to be convinced that their self-esteem had risen. Similarly, those who presumed, correctly or otherwise, that they had received the memory tape tended to think the tape had improved their memory. Pratkanis (1992) dubbed this an "illusory placebo effect"--placebo because it was based on expectations, illusory because no objective improvement occurred.

These results were replicated and extended by Greenwald *et al.* (1991) who noted that although many articles (often by researchers with a financial interest in the outcome) claim therapeutic effects of subliminal tapes, none has been able to get their "results" past the scrutiny of a competitively refereed psychological journal. Inadequate control groups and lack of random assignment of subjects and double blind assessments are among the flaws that lead to many non-replications of ostensibly positive results. In a study similar to that of Greenwald *et al.* that incorporated equally stringent controls, Auday *et al.* (1991) could find no evidence that subliminal tapes improved memory, reduced stress and anxiety, or improved self-confidence, despite the manufacturers' pledges.

Of all bad habits, the most notoriously difficult to break is smoking and desperation has driven many thousands of would-be quitters to the subliminal tape racks. In a double-blind study, Beyerstein and Marchant (in preparation) compared the effectiveness of several different manufacturers' subliminal quit-smoking tapes to that of a placebo tape. The successful quitting rate was slightly (but not statistically significantly) higher in the placebo control group.

Likewise, the desirability and difficulty of losing weight has been a frequent motive for purchasing subliminal tapes. In an interesting variation on the theme, Merikle and Skanes (in press) added to the usual subliminal versus placebo comparison a matched non-treatment control group who simply waited to join the study and listened to no tapes at all. Over a five week period, all three groups lost small but roughly equivalent amounts of weight. This result deflates even the weak justification by subliminal tape peddlers that their products can at least take credit for beneficial placebo effects. Here Merikle has adduced support for the contention of Eich and Hyman (1991) that the mere fact of drawing attention to a problem can have beneficial spinoffs.

## The Devil's Backside

If "ordinary" subliminal messages are incapable of producing semantic activation, what then of allegations by Christian fundamentalists who accuse recording companies of inserting satanic messages, *played backwards*, in popular music? These alleged diabolical exhortations are examples of so-called "backmasking," not to be confused with the real effect called "backwards masking," discussed above. Following the tragic suicides of two young music fans in Nevada, their parents sued the Heavy Metal band, Judas Priest and CBS Records, claiming the suicides were precipitated by backwards messages in their music. Timothy Moore of York University, who testified on behalf of the ultimately exonerated defendants, reproduces in an unpublished manuscript some of the testimony by the plaintiff's star witness, Wilson Brian Key, which reads more like a Marx Brothers' routine than court proceedings. In a series of replies to defence counsel's probes, Key admits having made one far-fetched claim after another about subliminal depravities lurking in well-known ads. Seeing where his admissions are leading, Key finally

blurts out, "Yes .... You're asking me in the idea of making a fool of me. You're saying things that make me appear absurd and ridiculous, and I'm simply trying to defend myself."

Vokey and Read (1985) put the idea of subliminal backward messages to an empirical test. Not surprisingly, they found no support for conscious or subconscious effects of the semantic contents of "backmasking." In one particularly amusing demonstration, they found that subjects were equally likely to identify reverse-played Christian aphorisms as pornography and vice versa. In another experiment, Vokey and Read found evidence that those who claim to perceive satanic messages in commercial recordings are guilty of actively reading them into ambiguous sound patterns in the recordings--i.e., of letting their well-primed imaginations run wild. Begg *et al.* (1993) devised another way to test whether any intelligible information is conveyed by backward speech. Different groups heard verbal statements played normally or backwards. Both groups then underwent a test of recognition memory in which everyone heard statements from the first series interspersed with new ones, but all were played backwards. People who initially heard backward statements could reliably distinguish the old backward statements from new ones, but the "forward" listeners to the first series could not. Then all participants were asked to rate the probable truth of statements typed in normal fashion. This time it was the subjects who heard the statements played forward in the first phase who discriminated old from new ones by rating more of the old ones as true. Those whose first exposures were to the backward versions showed no such effect. nus there was no indication that the meaning of the backward-played statements "leaked through," regardless of the fact that people can remember the purely acoustic features of backward speech, much as they might remember phrases in a language they don't understand. Of course, the idea that any highly degraded and jumbled message could commandeer the controls for complex behaviors, even if there were any reason to believe its meaning could be discerned, remains the fond hope of those blinded by desperation, the allures of pseudoscience, or the prospect of monetary gain.

## The Backlash

As might be expected, this spate of negative findings has prompted rebuttals from subliminal self-help advocates. One of these was from Michael Urban who earlier threatened to sue the NRC committee over its critique. Rather than generating new data in support of subliminal products that would be acceptable to a peer-reviewed journal, Urban (1992) attempted to explain away their dismal showing in refereed publications. He did this mainly by resorting to methodological quibbles and convoluted technical arguments, of questionable relevance, about the physics of sound recordings. Urban also suggested that researchers *might* have found effects if they had used different measures, ignoring the fact that the measures that were used adequately cover any reasonable interpretation of the breathtaking promises of the tapes' manufacturers. Lacking credible positive evidence for therapeutic effects of the tapes, Urban (p. 520) finally retreats behind the lame excuse that the unconscious processes he posits are inaccessible to empirical methods. In essence: since subliminal effects are real by definition and science can't find them, there must be something wrong with science! Urban has much to learn from Gertrude Stein's admonition that "A difference isn't a difference unless it makes a difference." Numerous fair tests have found no differences attributable to subliminal entreaties.

Examination of Urban's bibliography revealed additional problems: a number of the supporting authors, articles, and journals he cited do not exist (Timothy Moore, personal communication). Furthermore, on p. 538, Urban (1992) offers to make his specially-produced subliminal tapes (which he claims will convince the critics, even if the commercial tapes do not) "available to qualified investigators." When Elliott Marchant, a psychology graduate student at SFU who has worked in this area, wrote asking Urban to make good on his offer, he replied that he would only do so if he could be involved in the conceptualization, design, and publication of the study, and was given all the raw data. He also demanded to know about the backgrounds of the "investigators and/or their advisors" before he would cooperate. Such disregard for the principle that highly unusual claims must be *independently* verifiable, lead one to doubt the seriousness of Urban's offer as much as the reality of the subliminal effects he proposes.

## Conclusion

Like so many occult and pseudoscientific beliefs, faith in the therapeutic effects of subliminal persuasion seems to be immune to empirical failure because it is so comforting to think that solutions for our nagging shortcomings are so easily available. Devotees ignore the fact that laboratory evidence for subliminal perception has only been found with simple stimuli that are far less complex than those used by the subliminal industry. Effects in the lab require special conditions, including exclusion of concurrent activity and competing motivations. They have only involved semantic activation leading to cognitive, as opposed to volitional or lifestyle, changes. To claim the latter are possible, subliminal enthusiasts cling stubbornly to an outmoded Freudian conception of the unconscious that few academic psychologists today find tenable. Critics point out that it is ludicrous to think that if strong, unmistakable exhortations are often ineffective in changing problematic behaviors, that weak, unattended ones could miraculously do the trick.

Outstripping its tardy North American counterparts, the British Psychological Society recently decided to act on the mounting evidence against subliminal self-help products. Their policy paper, prepared by a working group that included CSICOP Executive Council member Susan Blackmore, concludes that the human "capacity to absorb and react to complex meaningful messages that are too weak to produce awareness appears to be very limited." After reviewing the empirical evaluations of publicly available subliminal tapes, the committee, like the NRC's experts, found no reason to believe that they can enhance human performance or any other personal attributes. Hence, they unequivocally state, "We do not recommend purchasing them."

Given this overwhelming record of impotence, it seems that government intervention to protect us from subliminal advertising is unnecessary (perhaps all ads should be *required* to be subliminal?). Consumer protection against marketing claims that cannot be substantiated is another matter, however.

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