

YOU CAN'T ALWAYS THINK WHAT YOU WANT: PROBLEMS IN THE SUPPRESSION OF UNWANTED THOUGHTS

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I. Introduction

Try to pose for yourself this task: not to think of a polar bear, and you will see that the cursed thing will come to mind every minute.

(Fyodor Dostoevsky, *Winter Notes on Summer Impressions*)

Trouble is, a guy tries to shove it out of his head. That don't work. What you got to do is kind of welcome it.

(John Steinbeck, *The Winter of Our Discontent*)

It is not easy to suppress a thought. One can demonstrate this to oneself in a moment merely by resolving to stop a thought about something, anything. The thought at once seems more important for this resolve, and even when other thoughts are brought to mind as distracters, the unwanted thought intrudes again and again. Still, it can be tempting to suppress thoughts under certain conditions. We imagine the placid mental landscapes that await us should we escape the unwanted thought. Ahead lies freedom from traumatic memories, from unpleasant emotions, from hateful addictions or untoward impulses, from fears, obsessions, and worries about the future—and we decide to suppress thoughts despite whatever adversity this choice might portend.

This article is about this psychological deadlock—between the urge to suppress and the daunting task of suppression. A general account of thought suppression is offered that considers the pressures that instigate suppression, the process of suppression, and postsuppression processes and consequences. This account treats thought suppression as one of a class of phenomena of *mental control*—conscious attempts to control psychological contents and processes (Wegner, 1989; Wegner & Pennebaker, in press; Wegner & Schneider, 1989),

and suggests how thought suppression may be involved in the larger enterprise of the self-control of emotion, action, and communication in social life.

II. Suppression in the Shadow of Repression

Sigmund Freud is responsible both for what we know about thought suppression, and for what we do not know. He became responsible for what we know by initiating the study of repression. In his most sweeping definition of this process, he held that "the essence of repression lies simply in the function of rejecting and keeping something out of consciousness" (Freud, 1915/1957, p. 105). Repression thus captured a variety of forms of motivated unawareness, both intentional and unintentional, with forgetting and without it. Although Freud's study of repression has installed it in the vocabularies of psychologists everywhere, his focus on examples that entail unconsciously motivated, unintentional memory loss has yielded a modern psychology that is curiously stilted in its treatment of the conscious avoidance of unwanted thoughts (Erdelyi, 1990).

In current use, *repression* is the term for unintentional, unconscious forgetting, and *suppression* has come to be understood as the intentional, conscious removal of a thought from subsequent conscious attention. Suppression is almost never studied, whereas a wide literature has formed around the concept of repression. Repression does seem to carry a certain excitement and mystique, perhaps because it is believed to involve processes that not only push thoughts out of conscious awareness but even erase memory from a position deep within the realm of unconscious motives. Although repression and suppression processes are by no means mutually exclusive or contradictory, the interest value of repression has tended to exclude suppression from scientific study. It is in this sense that Freud was responsible for what we do not know about suppression.

Practically, the focus on a narrowly defined version of repression has been a nightmare. Examinations of processes of disattention have become limited to the study of an odd psychological event that, by definition, must occur without awareness, must spring from motives the person cannot acknowledge, and must result in the eradication of both some particular memory trace and the trace representing the event of repression itself. One of the few natural methods for studying repression so defined has been to ignore process and assume that it somehow happens to some people more than others. Such individual-difference research examines the characteristics of individuals who do not report thinking about unpleasant thoughts. Although this approach has yielded evidence of repression as a trait, in that reliable measurements of it can be made that converge with other measures of theoretical relevance (see, e.g., Davis, 1987; Weinberger,

Schwartz, & Davidson, 1979), it remains the study of the absence of reported negative affect rather than the study of any active repressive process.

The presumption of a powerful repressive process has been so sweeping, though, that research investigating it has carried on for many years in the face of little supportive evidence. It is now generally realized, however, that outside of case reports of some clinical amnesic phenomena (e.g., Breznitz, 1983; Rapa-port, 1959), evidence for repression is thin indeed. Laboratory research indicates that amnesia induced through ego threat (Holmes, 1974, 1990), threat of physical harm (Sears, 1943), hypnosis (Kihlstrom, 1983), and even direct instruction (Bjork, 1989; Geiselman, Bjork, & Fishman, 1983; Weiner, 1966) remains at least an order of magnitude less pronounced than the memory losses envisioned by Freud. Even researchers who are sympathetic to the concept of repression still are not convinced by their own attempts at experimental demonstration (Erdelyi, 1990; Erdelyi & Goldberg, 1979).

It is time to reconsider suppression. Thorough, unexpected memory loss, after all, is not the sole criterion of a person's struggle to overcome unwanted thoughts (Greenwald, 1988). It may be that people do *not* commonly experience amnesia for unwanted thoughts. Rather, conscious struggles may be undertaken repeatedly against unwanted thoughts in everyday life in hopes that these thoughts can be kept from further conscious awareness. Conscious efforts to suppress unwanted thoughts are reported by normal individuals (Rachman & de Silva, 1978), as well as by those suffering from problems such as depression (Turner, Beidel, & Nathan, 1985), anxiety and worry (Borkovec, Robinson, Pruzinsky, & DePree, 1983), obsessions and compulsions (Rachman & Hodgson, 1980; Reed, 1985), addiction (Marlatt & Parks, 1982), obesity (Polivy, 1990), and post-traumatic stress (Ellis, 1983; Horowitz, 1975; Pennebaker, 1988; Tait & Silver, 1989). It makes sense that the consciously instigated mental disturbances accompanying suppression could have greater psychological impact than the unaccountable disappearances of memory accompanying repression, even though repression has long overshadowed suppression in the literature of psychology. Suppression is a street battle raging in the forefront of the mind, not a few random muggings hidden deep in its alleyways.

The added benefit of this approach is that suppression is far easier to study. Because the onset and offset of conscious suppression can be precisely controlled through instruction, and because the course of its operation can be examined through standard self-report techniques and other probes, its full range of influence can be mapped. The study of suppression can begin where the study of repression seems to have come to a standstill. All that is needed are assumptions that (1) people can control their attempts to suppress unwanted thoughts, at least for the purposes of investigation, (2) they are able to report recurrences of the unwanted thoughts, and (3) the interesting result of attempted suppression is not

always memory loss, but rather simple inattention to the unwanted thought. Far from the folly of looking for a lost object where the light is better, however, this emphasis on suppression may allow us for the first time to look beyond the shadow of repression to where there is any light at all.

III. Instigation of Suppression

Although it may seem that we elect to suppress thoughts arbitrarily, controlling ourselves by whim or simple choice, we are normally brought to this pass by very predictable conditions that place us in a unique state of mind. It is important to examine the character of these circumstances, and to explore the state of suppression readiness as well, if we are to understand the natural progression leading to each instance of suppression.

A. CIRCUMSTANCES OF SUPPRESSION

Thought suppression is provoked when the person's situation prompts the inhibition of some external expression of a thought. Normally, the external expressions people attempt to forestall in this way take the form of actions, communications, or emotional expressions. In each case, thought suppression is attempted as a preemptive strategy aimed at inhibition of the overt psychological consequences of the thought.

1. Action Inhibition

Thought suppression is used for behavioral self-control. When people are dieting (Polivy & Herman, 1985) or trying to abstain from addictive substances (Marlatt & Parks, 1982), for example, they may attempt thought suppression in these efforts. People suffering from unwanted compulsive actions report using thought suppression as a prophylaxis as well (Rachman & de Silva, 1978; Rachman & Hodgson, 1980). Although thought suppression might be of little use for avoiding involuntary acts such as sneezing or being startled, it could often be useful as a strategy for the inhibition of voluntary actions.

The most well-developed research program on the inhibition of unwanted action is the work on delay of gratification by Mischel (see Mischel, Shoda, & Rodriguez, 1989). These studies indicate in general that the self-control of behavior—in particular, foregoing a small immediate reward for a larger delayed reward—is strongly influenced by the person's thinking. The relationship between thinking and self-control is not always simple. Directing people to think

about rewards by making them available for viewing (Mischel & Ebbesen, 1970), or by offering reminders of them (Mischel, Ebbesen, & Zeiss, 1972), for example, substantially undermines behavioral self-control among children. Presenting children with the rewards in an "abstract" format that deemphasizes their rewarding properties, however, (e.g., thinking of pretzel sticks as long, thin brown logs) can reverse this effect and in fact promote delay of gratification (Mischel & Baker, 1975). It seems, then, that the need to suppress thoughts should be most demanding when abstraction and other forms of cognitive distancing are difficult and the immediate pressure to act is strong. When this happens, people may intuit that thinking can soon lead to acting, and so attempt to forestall the process by stopping the thought of action.

A child in one of these studies who sees the reward at arm's length just crying out to be taken, for example, may find thought suppression is the last line of defense, the only apparent avenue to behavior control. Other examples suggest the same principle. Someone who wants to avoid striking out in anger, for instance, may find it particularly effective to suppress thoughts of this act only when the target of the anger is in close proximity (and sticking out its tongue). When the behavior is not in imminent danger of being elicited, thought is really not a problem. Allowing oneself the luxury of thoughts of chocolate, prime rib, or sex with forbidden partners, after all, may be highly enjoyable as long as one is locked in a vault at the time. Thoughts of these things just when such proscribed behaviors are immediately available, on the other hand, could be quite unwanted.

It is also worth noting that thought suppression can be prompted when behaviors are desired rather than inhibited. In a class, for example, a student may find that irrelevant daydreams are getting in the way of learning the day's lesson. Under these conditions, the social pressure to deploy attention appropriately and focus on the lesson can be almost palpable, and the pressure to suppress distracting thoughts must be proportionately strong. Because thought suppression is frequently instigated in service of concentration, those circumstances that promote concentration will bring suppression along (Wegner & Schneider, 1989). So, thought suppression may emerge both to aid behavioral inhibition and to foster behavior production.

2. Communication Inhibition

The desire to suppress a thought can arise in social circumstances as the result of attempts to prevent the verbal and nonverbal disclosure of thoughts or emotions to others. Keeping a secret, for instance, can require thought suppression, especially when one is in the presence of the audience from whom the secret is to be kept (Pennebaker, 1990). Wegner, Lane, and Dimitri (1992) have shown in this regard, for example, that people suppress thoughts of relationships that are

secret. In a survey calling for descriptions of past relationships, respondents indicated that they were more likely to suppress thoughts about former relationships that were once secret—and that such secret loves were a continued target of obsessional thinking later on as well. This was also true for unrequited crushes. Those that were never revealed to anyone were more often the topic of suppression and subsequent obsession than crushes that had been revealed.

Laboratory research by Wegner, Lane, and Dimitri was arranged to examine this effect through the manipulation of secrecy. Impromptu mixed-sex couples in this experiment were induced to keep a physical relationship secret. They were asked to engage in nonverbal communication with their feet and ankles under the table—in essence, playing “footsie”—while they competed in a card game with another couple. The couples who were in secret contact in this way reported greater attraction between partners following the session than did couples who did not have any contact at all. The secret contact couples also expressed greater attraction between partners than couples who experienced precisely the same physical relationship, but for whom the relationship was nonsecret. The imposition of secrecy heightened the degree to which partners in a physical relationship became preoccupied with one another, perhaps by virtue of thought suppression that the secrecy induced.

Secrecy of sorts is required in many other social entanglements, and thought suppression is likely to result from these as well. Managing others' impressions of oneself (Gilbert, Krull, & Pelham, 1988), deceiving others (DePaulo, 1992), watching others without their awareness (Olson, Barefoot, & Strickland, 1976), or avoiding prejudicial social judgments (Devine, 1989; Fiske, 1989; Showers & Cantor, 1985) are all ways in which one may be induced to suppress thoughts in the service of appropriate communication to others. These activities require the management of mind in service of social goals, and cannot by their nature be carried on with others' full knowledge. Keeping thoughts suppressed at times when circumstances make their communication dangerous would seem to be one of the major intrapsychic activities accompanying successful social interaction.

3. *Emotion Inhibition*

Thought suppression often occurs in the service of dampening or eliminating emotional expression—particularly if the emotion is negative. Reports of suppression often accompany emotional stimuli such as pain (Cioffi, 1991), loss (Coyne, 1989), or threat (Rachman, 1978), and are found as a result of stress in general (Selye, 1956; Wegner, 1988). Contemporary theories of mood control appear to agree with this assessment, as they converge on the idea that cognitive strategies aimed at the modification of moods are deployed primarily to avoid bad

moods and approach good ones (e.g., Clark & Isen, 1982; Klinger, 1982; Zillman, 1988).

This much was anticipated by Freud, of course, as his theory holds that processes of repression are instantiated by real or potential negative emotion (Freud, 1915/1957, 1914/1958). It is possible to move beyond his general idea that suppression arises only to quell the experience of unpleasant emotion, however, if it is recognized that thought suppression might be used to control emotional experiences of any kind—positive or negative—if social pressures militate against emotional expression. There do exist commonplace circumstances in which one may stifle a smile or generate a tear, after all, so a broadened conception of the strategic control of emotion seems necessary. In this view, it is not only negative emotion that instigates thought suppression, but the occurrence of emotional experience and/or expression of any kind that the individual deems somehow too extreme in the current circumstance—and thus worthy of elimination through thought suppression or other means (see, e.g., Hochschild, 1979, 1983; Salovey & Mayer, 1990).

There are many social settings, for example, in which both negative and positive emotional expressions might be unsuitable. Lyman and Scott (1968) suggest that “coolness” is generally the most appropriate response to unknown social circumstances, and that the self-control of emotion must often be undertaken to this end. According to Goffman (1963), people who indulge in private emotions in public places are quickly stigmatized; he pointed out that this sort of behavior occurs only in settings allowing deviance (e.g., a mental hospital) or promoting estrangement (e.g., a waiting room filled with strangers). Such observations suggest that mood control through thought suppression may commonly be prompted by the anticipation of social interaction. When people expect to meet and interact with others, they may be inclined to avoid moods of any kind in the search for a self-presentation of emotional collectedness.

Evidence that people do avoid moods in social situations has been provided by Erber and Wegner (1992). In this research, musical mood inductions were used to place subjects in good or bad moods, and subjects were led to expect that they would soon interact with another person or that they would spend some time alone. Subjects' mood control strategies were then measured by allowing them to choose from among a variety of newspaper articles the ones they would prefer to read. Headlines were presented that had identified the articles in pretesting as depressing (e.g., “Man facing death penalty for killing tot”), neutral (e.g., “Shuttle workers load Galileo on Atlantis”), or cheerful (e.g., “Adventurer aborts attempt to cross Bering Strait in a tub”), and subjects' selections were recorded. Those subjects who anticipated being alone selected articles to read that were consistent with their induced mood. However, those who anticipated social interaction selected articles that contrasted with their current mood—

seemingly in an attempt to neutralize their mood in service of the upcoming interaction. This was even the case with subjects in a positive mood; they selected depressing articles in preparation for their interaction.

Results of this kind suggest that there may be a variety of sources of mental control or thought suppression that transcend simple hedonic origins. Thought suppression may not always move the person directly toward positive affect, at least immediately, and may sometimes even seem to undermine pleasure. In essence, then, whereas extreme affective expression may well be allowed and even indulged at length when people are alone in their rooms, it must be cut short in many of the more constraining situations of everyday life. The suppression of thoughts as a preventative measure against emotional expression seems most likely to occur when the emotion expression is situationally maladroit.

In sum, the circumstances of thought suppression are familiar to social psychologists as the social pressures that compel individuals to control themselves for social purposes. A history of psychoanalytic themes in thought suppression theorizing has often blurred this realization, emphasizing emotion and intrapsychic conflict at the expense of a full assessment of the multiple social pressures that regularly motivate individuals to seek detachment from their own thoughts. People seek to avoid thoughts because thoughts must be stopped to avoid the expression of unacceptable inner workings to others (Wegner & Erber, 1993). Thought suppression becomes an internal activity that prevents external expressions that people cannot or will not allow. This means that suppression is likely to be quite responsive to variations in social circumstance, and yet will over time become a habitual response to social settings that afford no options other than inhibition.

B. SUPPRESSION READINESS

William James (1890) observed that consciousness appears fluid to us, a stream that is steadily flowing and always changing. This means that at any one point, we usually have more than one thought in mind. We may be focused on one idea, but meanwhile have in mind the “fringes” of other thoughts—the trails of thoughts that are now largely over and the hints and beginnings of thoughts that are soon to come. As we make our way along the stream of thoughts, we give each attention in turn, but never give all of our attention to any one thought. The contemporary literatures on conscious flow (Klinger, 1978; Singer, 1988) and on priming effects in memory (e.g., Marcel, 1983) provide ample evidence in support of James’s insight. People seem to think many things at once, and at many levels.

The state of mind that prompts suppression, however, seems to represent an

exception to this rule. The circumstances that precede suppression lead to entrainment of attention on some single thought. There is a tendency to focus on one thought in the experience of strong emotion, in the impulse to perform a compelling behavior, or in concentration on some burning secret. The pressure to express the thought meets head-on the desire to inhibit the expression, and the collision leads to a deadlock, a prolonged focus on the thought of what may imminently be felt, done, or said.

In essence, then, we suppress a thought when we find ourselves with only one thought in mind—the thought we fear will produce an undesired expression of some kind. Historically, this mental state, the “fixed idea,” has been accorded broad importance as a source of psychopathology. James claimed that a wide array of exceptional mental states—from dreaming and trance to genius and demonic possession—could be traced to the case of narrowing of the normal range of consciousness. He observed that “In a healthy life, there are no single ideas” (Taylor, 1983, p. 18). Janet (1907) was similarly impressed by the ubiquity of the *idée fixe* in mental dysfunction, and held that it produced dissociative states of mind. More recently, Minsky (1987) has elaborated similar logic in suggesting that the mental equivalents of computer program “bugs” can bring thinking to a stop on some single idea and leave the person without a pathway to another thought.

All of these views emphasize the role of attention entrainment in thought suppression. Quite simply, it seems that we attempt to stop a thought when the thought stops us. The state of suppression readiness, in other words, is a state in which the individual has become focused on some single idea—one that normally would lead to some unwanted act, emotion, or communication. This state is described in rich detail by a population of individuals who have significant experience with unwanted thoughts—people suffering from obsessive-compulsive disorder. They recount the dramatic paralysis of attention that occurs when the unwanted thought intrudes (e.g., Rapoport, 1989; Toates, 1990). Thought suppression is undertaken, then, both for these special cases and for normal individuals, as a controlled attempt at attention management designed to draw attention away from its one-track focus toward something else.

The only escape from a fixed idea seems to be through thought suppression. As a first step toward suppression, one normally moves from direct awareness of the idea to a reflective awareness of one’s relationship to the idea (“I am thinking this thought too much”). Such reflective awareness is still fixed on the idea, of course, as it retains the idea even though it expresses a desire to avoid it; knowing that one is thinking about chocolate too much, for example, is also a case of thinking about chocolate. Ultimately, however, it is this reflective awareness that appears to prompt the attempt to dispel the thought and release the stream of consciousness to flow elsewhere. The fixed idea is pushed away following one’s realization that one’s thinking has become stalled on it.

IV. Thought Suppression Processes

How then does thought suppression proceed? It is likely that different kinds of suppression processes are involved depending on the timing of the suppression attempt. In what might be termed *momentary suppression*, there is an attempt to stop a thought just as the thought is prompted by a stimulus. Logan (1983, 1988) and Logan and Cowan (1984) have made a series of studies of this process by the use of stop signals presented during various cognitive tasks. The conclusion of this research is that while actions can often be inhibited in midstream, thoughts once underway carry on to completion in a ballistic fashion.

The processes of *continuous suppression*, on the other hand, appear to allow a somewhat greater measure of success. Given a period of minutes or hours to suppress a thought, people can attain lengthy intervals of effective distraction by adopting strategies that allow them to preempt future occurrences of the thought. When individuals are asked to report their thoughts as they try not to think of a white bear, for instance, they indicate multiple occurrences of the thought but not its constant presence (Wegner, Schneider, Carter, & White, 1987). This state of continuous suppression resembles the chronic dilemma people confront when they experience unwanted thoughts in everyday life, and it is this state that invites further analysis.

A. THE SUPPRESSION CYCLE

The exercise of continuous thought suppression is reminiscent of the task of Sisyphus, the figure of Greek myth who was condemned forever to push a stone up a mountain only to have it roll back down. As a rule, people asked to suppress a thought (e.g., of a white bear) while they deliver verbal reports of their thinking show a cyclic sequence of activities with precisely this up-and-down character (Wegner et al., 1987). Suppression begins with a plan to self-distract (e.g., "Okay, I'll think of something else"), continues with the choice of a distracter (e.g., "I'll think about the telephone") and a period of concentration on distracter-relevant thoughts (e.g., "This phone is a portable, etc."), and is completed with an intrusive return of the suppressed thought (e.g., "There's the white bear again"). The cycle then repeats with a return to the plan to self-distract (i.e., "Okay, I'll think of something else").

It is possible to understand this cyclic reiteration as a product of the interplay of two cognitive processes instantiated by the intention to suppress (Wegner & Erber, in press). One is a controlled process, the other is automatic (see Bargh, 1984; Hasher & Zacks, 1979; Logan, 1988; Posner & Snyder, 1975; Shiffrin & Schneider, 1977). The first process is a *controlled distracter search*—a con-

scious, attention-demanding search for thoughts that are not the unwanted thought. This process involves a significant allocation of cognitive resources to the task of finding distracters and maintaining their presence in mind by reviewing thoughts about them. The second process is an *automatic target search*—a relatively less attention-demanding process that searches for any sign of the unwanted thought.

The controlled distracter search operates to replace the unwanted thought with a different thought. It is the more obvious of the two processes, as it is clear that this is what we are doing when we try to "think of something else." A great deal of our attention can be invested in the pursuit of appropriate distracters during suppression (Gilbert et al., 1988), and this expenditure of cognitive capacity is what qualifies the process as "controlled" (see, e.g., Bargh, 1984). The automatic target search is a somewhat less obvious feature of intentional suppression, but its role in the suppression process is entailed by the need to prompt the operation of the controlled distracter search. The automatic target search is set to detect whether the controlled distracter search is necessary. To carry out the intention to suppress the thought, after all, requires that failures of the intention must be detected and then counteracted by the reinstatement of the controlled distracter search. This can happen if there exists an automatic process that tests constantly for indications of the unwanted thought.

The two processes that operate in suppression can be understood as components of a feedback mechanism aimed at the control of thought (cf. Uleman, 1989). Normally, control systems that operate through feedback are composed of an operating process and a test process that detects the need for the operating process (Carver & Scheier, 1981; Miller, Galanter, & Pribram, 1960). The controlled search for distracters is the mental operating process that carries out the suppression, and this is the part of suppressing that seems effortful and requires conscious attentional guidance. Potential distracters must be identified, one must be chosen, and it must then be explored and elaborated—and all these sub-processes take cognitive capacity. The automatic target search can be understood as a relatively less effortful mechanism enlisted to test whether the operation of the controlled distracter search is needed at any particular moment. Like the "test" and "operate" components of a "test-operate-test-exit (TOTE)" unit (Miller et al., 1960), these two processes in combination create a purposive system that functions to suppress a thought.

The interplay of the two processes is responsible for the cycle of suppression. Beginning with the intention to suppress, both processes are initialized. The automatic target search immediately indicates that the target is in consciousness, and thus initiates the controlled distracter search. The controlled distracter search brings a series of distracters to mind until one is selected that absorbs attention. At this point, attention is drawn from the controlled distracter search to the absorbing distracter itself, and in this sense the controlled distracter search is no

longer functioning. There occurs here a plateau of indeterminate length that may be called "successful" suppression. In the background, however, the automatic target search is still looking continually for signs of the target in consciousness. When a reminder is encountered, however vague or distant, the automatic target search is tuned to register this discovery, and so to return the unwanted thought to consciousness. This reintroduces the cycle from the start and the controlled distracter search begins again.

The automatic target search that is instituted to test for failures of the controlled distracter search, therefore, will often produce these very failures. The automatic target search should act in the same way as an externally encountered prime to make the unwanted thought highly accessible. It is usually observed in priming paradigms that the nonconscious priming of a thought promotes assimilation of incoming information to that thought (e.g., Lombardi, Higgins, & Bargh, 1987; Martin, 1986). During successful suppression, the automatic target search is indeed nonconscious, and it therefore could render the suppressed thought highly accessible to consciousness. The thought and its close associates should be activated with minimal prompting, and this should yield frequent reminders that in fact return the thought to conscious attention. Like other automatic processes, the automatic target search cannot be consciously inhibited (e.g., Logan & Cowan, 1984). So, it churns on for the entire suppression cycle, even when suitable distracters have been found and the individual has attained a plateau of successful suppression. This process thus explains the repeated intrusion of the thought both during the controlled distracter search and later when suppression has been achieved.

There is evidence for the operation of both the controlled distracter search and the automatic target search in suppression, and there is evidence about several features of these searches that may impinge on the nature and success of suppression. Evidence relevant to each search process is considered in turn.

B. CONTROLLED DISTRACTER SEARCH

The conscious search for distracters draws upon the individual's perception and memory to replace the unwanted thought with another thought. This search is thus dependent on the richness of the perceived environment and on the accessibility of memories for its effectiveness. Certainly, the availability of potential distracters in the environment influences suppression directly. Knutson (1990) has found, for example, that people asked to shut their eyes and report their thinking during suppression indicate more frequent occurrences of the unwanted thought than do those allowed to keep their eyes open. If the person is in a particular environmental context, distracters reported during suppression will often be drawn from stimuli in this context (Wegner, Schneider, Knutson, & McMahon, 1991).

The individual also turns to memory during suppression, and items are retrieved that might serve as reasonable distracters. The items chosen are, of course, highly reflective of the person's current mental contents. Items that are chronically or acutely accessible are likely to be retrieved and enlisted as distracters. If the person is suffering from depression, for example, it is likely that depressing distracters will be chosen (Wenzlaff, Wegner, & Roper, 1988). If the person is in a temporary good or bad mood, mood-relevant thoughts will often be selected as distracters (Wenzlaff, Wegner, & Klein, 1991).

As a rule, people do not focus on one distracter alone. Although most past research on distraction per se has examined what happens to perception when people are given a single distracting stimulus or are asked to focus on a single thought (McCaul & Malott, 1984), this is not what people do naturally when they suppress a thought. Rather, a person suppressing a thought seems to be prompted by the cyclic recurrence of the thought to select a new distracter at each new failure to suppress (Wegner et al., 1987). In this sense, natural self-distraction appears to be *unfocused* rather than *focused*, meandering rather than centered on a target. Although unfocused search seems to yield only a slight disadvantage in suppression effectiveness in the short intervals of suppression studied in the laboratory (e.g., Wegner et al., 1987, Expt. 2), it could be that the failure to find a focus might produce significant deficits in suppression effectiveness in the longer term. If no one absorbing distracter is found, prolonged suppression will make it difficult to assemble a thematic approach for what to think or do on any given day.

During unfocused self-distraction, targets of thought seem remarkably uninteresting. Nothing can be found that naturally absorbs attention, and one experiences the world as boring, shallow, and without value. In *Of Human Bondage*, Maugham describes this state in a young man who is trying not to think about his lover's infidelity:

He took a book and began to read . . . but he could make no sense of it, for his mind was elsewhere. He set his teeth and read on; he tried desperately to concentrate his attention; the sentences etched themselves in his brain by the force of his effort, but they were distorted by the agony he was enduring. . . . He discovered that the three pages he had read made no impression on him at all; and he went back and started from the beginning; he found himself reading one sentence over and over again; and now it weaved itself in his thoughts, horribly, like some formula in a nightmare. . . . He could not read any more now. He simply could not see the words. (1915/1991, pp. 386-387)

Unfocused self-distraction during suppression does have the interesting feature of making the person highly attentive to a variety of stimuli that might otherwise escape notice. The odd environmental object or event, the stray reminiscence, the whimsical hope, may each take center stage for the moment when suppression is the cardinal goal. This does not mean, however, that the controlled distracter search is entirely uninformed of the suppression target. Rather, distract-

ters may be sought according to some criterion of greatest anticipated semantic or affective distance from the suppression target. Wenzlaff et al. (1988) found that normal subjects attempting to suppress positive thoughts selected negative distracters when given a prepared list of positive, neutral, and negative topics, and generated negative distracters when such a list was not available. These subjects also selected and generated positive distracters when they were assigned the task of suppressing negative thoughts.

Depressed subjects in this research, however, showed a specific deficit in their controlled distracter search. They were less able than other subjects to generate positive distracters when they were asked to suppress negative thoughts. (This deficit was not present when they were selecting distracters from a prepared list, so it is clear they had trouble in the attempt to generate the positive distracters rather than in the attempt to choose them.) It is not surprising, given this deficit, that depressed individuals in this research were found to suffer an unusual resurgence of an unwanted negative thought several minutes after they had started to suppress it (see also Howell & Conway, 1991). Unlike nondepressed people, the depressed subjects attempted to distract themselves from a negative thought with yet *other* negative thoughts—and so quickly found that the unwanted negative thought returned. Their distracters may have been too near the unwanted thought in affective tone, and so acted later as reminders and increased the likelihood of the unwanted thought's recurrence. Depressed individuals did not suffer an inability to generate negative distracters to aid in the suppression of positive thoughts, and so were not subject to any general inability to suppress thoughts.

The research to date on controlled distracter search suggests, then, that the search (1) is assisted by the external availability of potentially distracting stimuli, (2) draws on current mental contents or accessible items, (3) is typically unfocused rather than focused on one or a few stimuli, (4) may be more successful when it inclines toward distracters that are semantically or affectively distant from the unwanted thought, and (5) may be dependent on the individual's capacity to generate new distracters internally that are sufficiently distant in this way.

C. AUTOMATIC TARGET SEARCH

The operation of an automatic search for the unwanted thought during suppression can be inferred most obviously from the great frequency with which a suppressed thought recurs. For example, an undergraduate student I asked to think aloud while she tried not to think of the Statue of Liberty began talking about the books on the wall of the room and in a matter of moments mentioned that one was just the greenish tint of the Statue. She then spoke of her upcoming

soccer practice and, in short order, added that the soccer team once visited New York but had not been to see where the Statue stands. In all of this, she was aware of the implications of these perceptions for her failure to suppress, yet remained profoundly sensitive to Statue relevance in almost everything.

Observations of this kind have parallels in the various studies in which people think aloud during suppression. When people are asked to ring a bell to indicate the occurrence of the thought (Wegner et al., 1987), for example, the bell tolls again and again. When people sit in privacy and try not to think of an exciting thought such as sex, their electrodermal responses (skin conductance levels) indicate continued excitement—and by implication, the continued recurrence of the thought (Wegner, Shortt, Blake, & Page, 1990). Just because a mental process happens over and over, of course, does not necessarily mean it is automatic, and for this reason it is worth considering the evidence for the automatic target search in two specific domains—the cognitive hyperaccessibility of suppressed thoughts and psychophysiological dishabituation to suppressed thoughts.

1. Hyperaccessibility

If the automatic target search is normally balanced by the controlled distracter search during suppression, the imposition of a cognitive load should undermine the controlled process and release the automatic target search to operate unimpeded. This means that suppression under cognitive load should make the suppressed thought unusually accessible to consciousness, likely to participate in perception and judgment far more than other thoughts. This idea was examined in two experiments by Wegner and Erber (in press).

In Experiment 1, subjects were asked either to suppress or to concentrate on a particular target word (e.g., *house*) as they performed a word association task. Some of their associative responses were called for under time pressure (a 3-sec response time limit) while others were prompted without such pressure (a 10-sec limit). Time pressure disturbs the operation of controlled, resource-dependent processes, while interfering only little with the operation of automatic processes (see, e.g., Bargh & Thein, 1985; Strack, Erber, & Wicklund, 1982). Over several trials, then, subjects' tendency to respond with the target word to related prompts (e.g., *home*) was observed.

Suppressing subjects who were under time pressure to report associates responded frequently with the target word to target-relevant prompts—blurring out the very word they had been trying not to think about (see Fig. 1). They did this more often than did suppressing subjects who were not under time pressure to give their associations. Indeed, suppression with time pressure boosted responses of the target word over even the response level of subjects under time pressure who were actively trying to think about the target. This result is consistent with

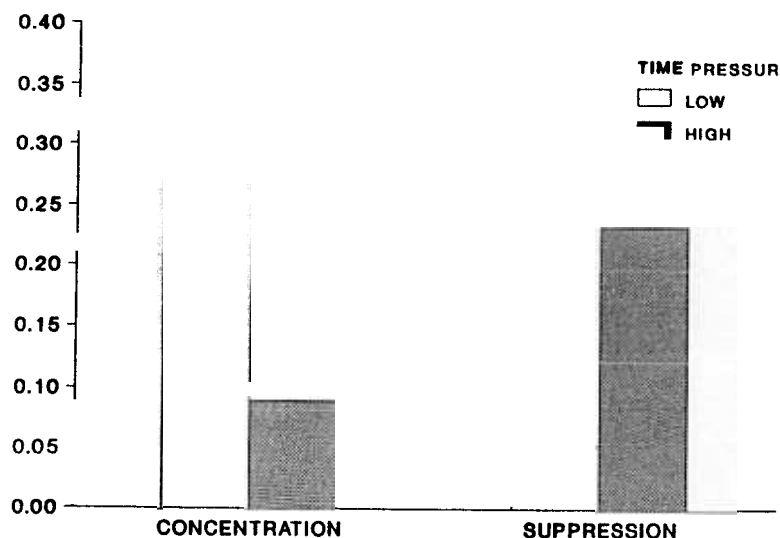


Fig. 1. Prompted target responses per trial. Subjects concentrating on or suppressing a target word were prompted to give the target word in a word association task with either high or low time pressure. Based on data from Wegner and Erber (in press).

an interpretation of suppression in which an automatic target search process is released to sensitize the person to the unwanted thought when the controlled distracter search is undermined by time pressure.

A second experiment by Wegner and Erber (in press) tested the hyperaccessibility prediction in the Stroop (1935) color-word interference paradigm. Subjects for this study were asked either to suppress or to concentrate on a target word while responding with key presses to indicate whether words on a computer screen appeared in red or blue. For the manipulation of cognitive load, some subjects did the task as they rehearsed a nine-digit number, whereas others did it while rehearsing only a one-digit number. Those subjects who were suppressing the target under high cognitive load showed interference with color naming when the target word appeared on the screen; their reaction times averaged 600 msec for targets and 561 msec for nontargets. Subjects who were suppressing the target with low load, or who were concentrating on the target in either load condition, showed no evidence of such interference; their reaction times for targets and nontargets differed by no more than 6 msec in any condition. Apparently, suppressing a word with cognitive load promoted hyperaccessibility of the target word.

In a related experiment, Wegner and Erber (1991) tested the accessibility of suppressed thought by examining memory for distracters that had been suppressed during study. The intention to suppress a thought sometimes occurs, after

all, in service of the desire to concentrate on something else (Wegner & Schneider, 1989). In trying to concentrate on a book, for instance, one might suppress thoughts of the music in the distance. Such implicit suppression during concentration should have the same properties as intentional suppression carried out in response to a direct instruction. Thus, when a cognitive load is imposed, items that are implicitly suppressed should be proffered greater attention. The music should be remembered better than if there had been no load at all.

In this investigation, subjects were asked to study a fictitious map consisting of names of little-known African cities. Half the cities were highlighted in blue and half were highlighted in yellow, and subjects were asked to concentrate either on the blue items or on the yellow items. Half performed this task while rehearsing a nine-digit number, and the other half performed it without such rehearsal. Recognition memory for all items was assessed following this, and while the focal items were, of course, recognized more often than the implicitly suppressed ones, the influence of cognitive load on memory for suppressed items was as predicted. Memory was reliably greater for suppressed items studied under load than for those studied with no load.

The results of the hyperaccessibility studies indicate that a suppressed thought becomes more rather than less accessible to consciousness when cognitive loads are imposed during suppression. The effect of this is that people say the very word they are trying not to think, attend to the very aspect of a stimulus they are trying not to consider, and encode the very distracting items they had hoped not to commit to memory. When the controlled distracter search is undermined while suppression is still underway, measures of cognitive accessibility indicate that the suppressed thought is very readily brought to mind.

2. Dishabituation

A somewhat different line of evidence on the automatic target search comes from findings on the enhancement of psychophysiological reactivity to an unwanted thought during suppression. As noted earlier, Wegner et al. (1990, Expt. 1 and Expt. 2) observed that skin conductance level (SCL) becomes elevated for up to 3 min when a person first suppresses an exciting thought—just as it does when the person concentrates on that thought. In research examining the process over longer time intervals (Expt. 3), the typical subject trying not to think about sex was able to do so for several minutes at a time following the initial flush of excitement. And indeed, the mean SCL reduced to normal later in these sessions. The thought returned at a regular rate nonetheless, such that the cumulative record of thought recurrence over 30 min appeared generally linear when averaged across subjects. This was true for exciting thoughts of sex, and likewise for unexciting thoughts of the weather (see Fig. 2).

exposure to sexual stimulation in adolescence appears to predict sexual offenses later on (Goldstein & Kant, 1973). These kinds of rebound effects, of course, are played out over much longer spans of time than those observed in the white bear situation.

If the suppression-induced rebound effect observed in the white bear studies indeed operates in the same way as even a few of these many similar effects, however, it is worth understanding in some depth. One possibility is that the rebound occurs because the automatic target search initiated during suppression is not stopped when suppression is intentionally halted. Research examining the accessibility of suppressed thoughts after suppression is discontinued, however, suggests that the automatic target search is indeed brought to an end when the intent to suppress is abandoned (Wegner & Erber, in press). Thus, it is useful to examine the explanation for this effect that has been more clearly suggested by research to date: The rebound effect may be due to the bond that is formed between the unwanted thought and the distracters that are enlisted during the prior suppression.

B. DISTRACTERS BECOME REMINDERS

Suppression brings to mind many items other than the suppressed thought. As noted earlier, the controlled distracter search is normally unfocused, in that the person turns from one distracter to another and another as each fails to keep the unwanted thought away. The critical feature of such unfocused self-distraction is that it creates associations between the unwanted thought and all the various distracters. If one has focused in turn on the wall, the stock market, and a project of wiggling one's ears as potential distracters from the thought of a white bear, for instance, the wall, market, and ears are now likely to be reminders of white bears, as is any other distracter that was used. This means that many of the person's current mental contents become linked to the unwanted thought. These items can then serve as cues to remind the person of the thought in a later expression period when the thought is invited, so to yield the observed rebound effect.

The creation of associations between a particular thought target and one's other mental contents does not happen so readily when one is simply thinking about that target. The person who thinks about a white bear, for instance, may mention Eskimos or the zoo or snow, but will seldom leap to such seeming irrelevancies as the stock market or ear flexing. In a meandering trail of thought, the person might eventually reach such distracters, of course, and they could then become linked to the target. But the sheer frequency of such juxtapositions of target with other mental contents will be far less during concentration on the target than during the unfocused self-distraction that occurs in suppression. The

suppression cycle guarantees a relatively constant reverberation of attention between target and distracters, and the connections forged in this fashion later can work both ways. Once formed as paths away from the target, they later can serve as easy paths back to the target.

One test of this explanation of the rebound was offered by Wegner et al. (1987, Expt. 2). This study called for some subjects to use a *focused self-distraction* strategy for suppression. They were told to try not to think of a white bear, but to think of a red Volkswagen in case they did. This instruction was intended to help subjects avoid using their current thoughts and context as distracters, and was expected to produce an attenuation of the rebound effect. In fact, this was observed both for bell rings and for think-aloud mentions. The results showed a rebound effect only among those subjects for whom no special strategy was suggested. Presumably, subjects given the red Volkswagen as a distracting focus were later unlikely to think about red Volkswagens very much during their opportunity to express the unwanted thought, and so escaped the unusual level of contextual reminding that underlies the rebound.

If unfocused self-distraction operates by forging connections between environmental features and the unwanted thought, then the continuity of context between suppression and later expression would seem to be a key condition for the rebound effect. This possibility was tested when Wegner et al. (1991) asked subjects to suppress or express thoughts of white bears in the context of a slide show featuring either classroom scenes or shots of household appliances. Subjects who next expressed white bear thoughts in a different slide-show context showed no evidence of rebound. However, when these same subjects were invited again to express white bear thoughts with the initial slide-show context reinstated, the rebound appeared. Those who had initially suppressed the thought later experienced a rebound of preoccupation with it—but only when they were once again exposed to the slide show during which the suppression had taken place.

These findings deeply implicate context in the suppression-induced rebound effect. They indicate that the items on a person's mind become bonded to the unwanted thought during suppression, such that later reinstatements of context that bring back those items may have the effect of reintroducing the unwanted thought. At the same time, these findings implicate suppression in the occurrence of context effects. They suggest that linkages formed between thoughts and a cognitive context may be strengthened when that thought is suppressed.

This latter observation led Wenzlaff et al. (1991) to investigate the role of thought suppression in the bonding of thought and mood. They noted that a variety of research programs had examined, with mixed success, the possibility that thoughts experienced while a person is in a particular mood state might be more easily retrieved when that mood was experienced anew (e.g., Bower & Mayer, 1985). Research of this kind had not investigated suppressed thoughts,

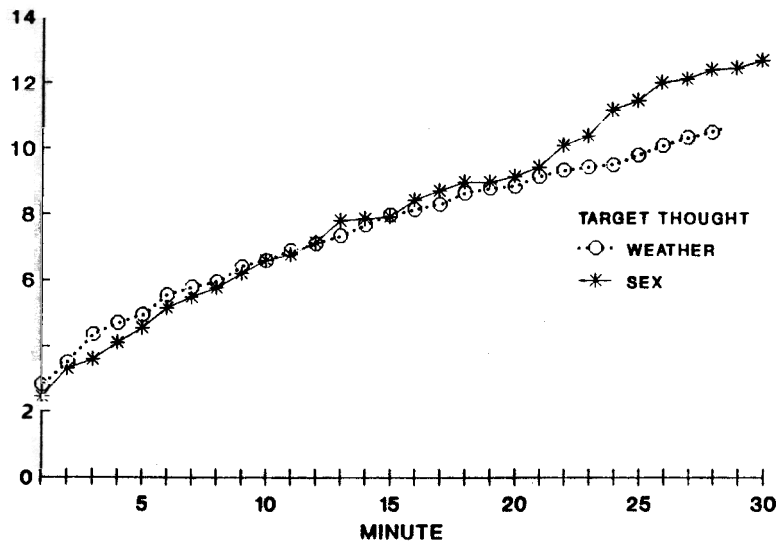


Fig. 2. Cumulative mean mentions in suppression. Subjects thinking aloud were asked either not to think about sex or not to think about the weather, but to mention it in case they did. Based on data from Wegner, Shortt, Blake, and Page (1990).

This experiment examined the consequences of further intrusions of the thought by measuring the correlation between SCL and mentions of the thought minute-by-minute as people reported their thoughts aloud over the course of the 30-min session. Subjects suppressing the exciting thought of sex showed a significant positive correlation between SCL and thought mentions over this time period. In essence, the subjects suppressing an exciting thought became reexcited by it each time it came back to mind. This is particularly interesting in light of the finding that no parallel correlation occurred for subjects who were actively trying to concentrate on the thought of sex. Occurrence of the thought during a particular minute yielded no accompanying increment in SCL. Such a correlation was also absent among subjects suppressing or concentrating on the unexciting thought of the weather (probably because the thought of weather was not arousing in either case).

The unusual electrodermal reactivity of subjects suppressing the exciting thought suggests the operation of an automatic target search during suppression. Normally, repeated exposure to an exciting thought yields habituation. The person gets used to it. And certainly one would think that over the course of recurrences such as those shown in Fig. 2, such habituation would have plenty of opportunity to take place. The continued psychophysiological reactions to the exciting target item under conditions of suppression in this study reveal a lack of habituation. Although concentration on the exciting thought did drain the thought

over time of its exciting character, suppression introduced a special vigilance or alertness that prolonged the capacity of the thought to produce excitement. The SCL reactions to intrusions during suppression could be the work of an automatic target search that counters habituation tendencies and keeps the person highly sensitive to the thought's recurrence. The psychophysiological reactivity, then, marks not just the recurrence of an exciting thought, but the recurrence of an exciting thought that some part of the mind has been seeking.

In summary, evidence from very different lines of research converges to suggest that the continuous suppression of a thought is accomplished in part by the operation of an automatic search process that makes the person ironically sensitive to that very thought. Disturbance of the controlled distracter search uncovers this automatic process in one way, in that the accessibility of the unwanted thought is increased under these conditions. And psychophysiological recording yields evidence for this automatic search process in another way, in that suppression prompts heightened sensitivity to the return of suppressed exciting thoughts.

V. Postsuppression Processes

Thought suppression busies the mind with a unique form of tumult. One's attention careens in turn from a frantic search for distraction, then to disattention, and then to an alarmed recognition that the thought is back—and repeats this ritual again and again as long as suppression is continued. It is natural to suspect that even when this state has been abandoned, there may be subsequent psychological consequences ranging from the trivial to the profound. One family of consequences observed in research arises in the *postsuppression rebound* of the unwanted thought. When people are encouraged to think about some item that they previously suppressed, they commonly show a remarkable level of preoccupation with it—more so than if they had never tried to suppress the thought. We turn now to the nature of this effect and its role in other psychological processes.

A. REBOUND EFFECTS

The rebound of a suppressed thought was initially observed by Wegner et al. (1987, Expt. 1) among subjects who had been asked to suppress the thought of a white bear. These subjects individually thought aloud for 5 min and rang a bell if the thought came to mind during suppression. As noted earlier, these subjects typically rang the bell and mentioned *white bear* occasionally during this time. When these subjects were next asked to think about a white bear for a similar

interval, they produced more mentions and more bell rings than did subjects who had simply been thinking of a white bear from the start.

The rebound effect has since been observed repeatedly for bell rings and mentions during a think-aloud period (Wegner et al., 1987, Expt. 2; Wegner et al., 1991), and has also been observed when individuals in group testing write their ongoing thoughts and make check marks on paper for thought occurrences (Wenzlaff et al., 1991). These experiments have typically contrasted thought frequencies that occur when subjects are asked to think about something with those that occur when subjects are asked to think about something following a period of suppressing that thought. The rebound has also been observed under two other circumstances that suggest it is not limited only to self-reported thinking.

In a study by Chandler and Wegner (1987), subjects were asked to write down their thoughts on any or all of a series of topics—some of which were related to white bears (e.g., iceberg) and some of which were not (e.g., gym shorts). Subjects performed this task while trying to think about a white bear, but subjects in one group did this after spending an initial 5-min period in silence under instructions not to think about a white bear. The postsuppression group showed greater preoccupation than did the group that had not suppressed, in that their written associations to the white bear-related prompts were reliably longer than those to unrelated prompts. Subjects who had not previously suppressed the thought of a white bear showed no such tendency.

Another observation of the rebound was made in psychophysiological research by Gold and Wegner (1991). Subjects initially spent 9 min thinking about a former romantic relationship—an “old flame.” As might be expected, those who reported that they were still in love with this person showed an elevated SCL during this period compared with those who reported no lingering attachment. Thinking about “hot” flames induced a greater SCL than did thinking about “cold” flames. Subjects then spent a subsequent 9-min period either suppressing the thought of their old flame or suppressing the thought of the Statue of Liberty.

All subjects were then given the opportunity to think again of their old flame in a third 9-min measurement period. As might be expected, the subjects who once again thought about their cold flame remained unexcited by these thoughts regardless of whether they had just suppressed them or had just suppressed the thought of the Statue. The individuals who had been aroused by their initial opportunity to think about the hot flame, but who were then directed to suppress the irrelevant thought of the Statue, were also relatively quiescent. Their SCL did not show any tendency to rise even while they thought about the hot flame once more. The tendency for SCL to become elevated with thoughts about the old flame was only clear in this final period for those subjects who had just previously suppressed the thought of the hot flame—the partner whose absence they lamented. In sum, people showed prolonged reactivity to their still-desired old

flame only if they had previously been attempting to suppress thoughts of that person. This result suggests a postsuppression rebound in preoccupation with the suppressed thought.

These observations are paralleled by a variety of observations of rebound-like effects in other research. One apparent analog, for example, can be found in the literature on diet-induced binge eating. Polivy and Herman (1985) report several lines of evidence indicating that initial inhibition of eating leads to subsequent eating disorders and obesity. To the degree that thought suppression is involved in inhibition of eating, and obsessive preoccupation is involved in obesity and eating disorders, these investigations suggest a behavioral reflection of the rebound effect. The finding that dieters are particularly inclined to overeat immediately after having broken the diet with a splurge is particularly reminiscent of the rebound effect. High levels of relapse following the violation of abstinence seem to be the rule with addictions such as smoking and alcoholism as well (Marlatt & Parks, 1982), so these phenomena also appear to follow a course like the suppression-induced rebound.

Rebounds of emotion, in turn, are commonly observed in the case of inhibited emotional response to traumatic events (e.g., Janis, 1958; Lindemann, 1944; Stiles, 1987). An emotional response to an event such as a health emergency, death of a relative, rape, or other victimization may be blunted for any of a variety of reasons during the event itself, and lack of communication about the emotional quality of the event can follow as well. When this happens, subsequent emotional upheaval signaled by cognitive and physiological distress is often observed. Pennebaker (1990) has accumulated significant evidence indicating that the consequences of long-term inhibition can include both psychological disorder and impaired physical health. The rebound of anxiety and arousal has also been found in cases when people have used thought suppression as a strategy for the self-control of phobic or anxiety responses. Borkovec (1974) observed, for example, that snake-phobic individuals during systematic desensitization who mentally rehearsed turning around and running from a snake exhibited exaggerated heartrate responses to snake thoughts later on. Foa and Kozak (1986), Rachman (1980), and Rosenbaum, Beiderman, and Gersten (1989) recount a variety of related demonstrations of acute anxiety and/or fear exacerbated by initial attempts at behavioral or cognitive avoidance.

One other set of rebound-like effects is found in the literature on the control of anger and violence. Megargee (1971) reviewed evidence suggesting that violent criminals show two contrasting patterns of response to violence-promoting situations—undercontrolled and overcontrolled. Whereas the undercontrolled individual responds too freely with violence across situations that prompt it only minimally, the overcontrolled person appears to hold back all aggressive tendencies until some one situation triggers an extremely violent episode. A similar pattern has been identified among violent sex offenders, in that suppression of

however, focusing instead only on thoughts that were given attention during a mood state. If suppression normally links the suppressed thought to context, then suppression of a thought during a mood state should link the thought to the mood such that the later reactivation of one would lead to the reinstatement of the other.

In one experiment, Wenzlaff et al. (1991) induced subjects by music to experience either a positive or negative mood, and asked them to report their thoughts in writing while trying to think or not to think about a white bear. Later, all subjects were asked to think about a white bear and write their thoughts during a second mood induction (using different but equally moody music). These thought reports indicated that subjects who experienced similar moods during the periods of thought suppression and expression displayed a particularly strong rebound of the suppressed thought during the expression opportunity. Those who experienced different moods during initial suppression and later expression showed no evidence of a rebound effect.

A second experiment tested the complementary connection—whether thought bonded to mood during suppression could later reinstate that mood. Initially, subjects who were in positive, negative, or neutral (music-induced) moods were asked to think or not to think about a white bear. Later, all subjects were asked to think about a white bear for a period, after which they reported their moods. The mood reports showed that subjects who had initially tried to suppress white bear thoughts experienced a reinstatement of the mood state that existed during the initial period of suppression. Those who first expressed white bear thoughts showed no evidence of such reinstatement.

These findings, taken together, suggest that suppression creates a remarkable bond between a thought and the cognitive and emotional context in which the thought is suppressed. It would not be surprising if, for example, when a person suppresses some sad thought in an attempt to overcome a depressed mood, the thought becomes more deeply linked to the very mood state that its avoidance was designed to dismiss. In this way, further occurrences of the thought could induce depression, and depressive episodes could rekindle the thought, leading to an unfortunate and perhaps unwanted pathway between negative mental contents. Because suppression would not be as likely to accompany positive mental states or positive thoughts, however, such connections would be less inclined to form between such positive mental contents. This suggests the interesting hypothesis that negative moods are generally more “cognitive”—more populated with mood-congruent thoughts—than are positive moods.

The contextualization of suppressed thoughts might be widely responsible for difficulties of self-control. The process could link suppressed thoughts of tobacco, alcohol, or drugs, for instance, with the mental states that accompany withdrawal from these substances, and so build up strong linkages between our cravings and thoughts of the items we crave. In suppressing a thought, the person may unwittingly play a role in making that thought more difficult to dispel in

future instances. This suggests that one strategy for overcoming addictions is to quit away from home. Although behavior therapists sometimes suggest that self-control should be conducted at home, in circumstances that will allow adequate generalization of training, there is little supporting evidence for the superiority of this (see, e.g., Polich, Armour, & Braiker, 1981). It may be instead that quitting bad habits in residential treatment facilities offers some advantage because the distracters found at the facility will no longer be present to act as reminders when the person returns home.

The transformation of distracters into reminders, in sum, seems to offer a fruitful way of conceptualizing the occurrence of suppression-induced rebound effects. Evidence from several quarters converges to support the conclusion that in suppression, the alternative thoughts that are chosen as distracters themselves become connected to the unwanted thought. They then may provide a wide and strong bridge back to that thought, for whenever they recur the thought may soon cross again into consciousness.

VI. Conclusion

When the Rolling Stones sang “You can’t always get what you want,” they provided a bit of relief by adding “but if you try some time, you just might find, you get what you need.” Regrettably, their refrain rings a false note in the world of thought suppression. The research to date suggests that you can’t always think what you want, and that even if you need ever so dearly to stop thinking of something, you still may not get what you need.

A. PROSPECTS FOR SUPPRESSION

Suppression is demanding and complicated at a number of levels. First, it requires a careful search for distracting thoughts—a search that can easily go awry. The search for distracters can remain too near the unwanted thought in a semantic sense and so invite its return, or the search for distracters can fail to encounter an absorbing topic, skip from one item to another, and so create links between the unwanted thought and a variety of things that can later serve as reminders. And in the meantime, the search for distracters can be undermined by concurrent cognitive load and thus fail to perform its function assigned by the intention to suppress. If the controlled distracter search fails, the automatic target search surfaces to guide attention, and the unperturbed operation of this process virtually guarantees that the unwanted thought will be back.

The difficulty of suppression is further complicated by the presence of emo-

tion. Suppression often occurs in the hopes that emotion stripped of its basis in cognition will somehow dissipate. The emotional thought is suppressed, but despite this measure the physiological concomitants of emotion continue to emerge. These are likely to serve as reminders of the emotional thought, of course, and so they reintroduce the thought in their own way. In the bargain, moreover, the connection between the emotional thought and the emotional reaction is strengthened. Habituation to the thought is prevented by suppression, and intrusions of the thought during suppression serve only to stir up accelerated physiological response. Suppression of exciting thoughts seems to ensure that they will remain exciting.

Finally, when the futility of suppression becomes tragically plain and the project is forsworn, the real trouble begins. Given license to think the unthinkable, the person will now be reminded of the formerly unwanted thought by the previous distracters used to dispel it. If the thought was suppressed at home, for instance, familiar things around the house may now serve as unintended reminders of the thought. If the thought was suppressed during a particular mood state, or perhaps because of it, the return of that mood will tend to elicit the thought and the thought will in turn provoke the mood. The embattled mental states from which thought suppression seems a reasonable solution will become married to the very thoughts that seem to be prolonging and inciting them.

Maybe thought suppression is not worth the trouble. All of these difficulties seem to point to the conclusion that suppression is more of a problem than a solution. If we can't always think what we want, or even what we need, it might be better if we simply learned to want what we think (Wegner, 1988). The paradoxical solution offered by some psychotherapists is that when thinking and emotion become deeply unwanted, it may be time to consider accepting these things (see, e.g., Ascher, 1989). A thought can only become unwanted because of the "unwanting," after all, and the decision to set aside suppression and simply think about the discomforting or taboo items may be the first step to getting over the preoccupation with them. When people spend time thinking about their unwanted thoughts (Borkovec, Wilkinson, Folsensbee, & Lerman, 1983) or disclosing them to others (Pennebaker, 1990), they often find that the thoughts lose their mysterious force and are easily set aside.

Accepting unwanted thoughts and discontinuing suppression, however, may itself be demanding in light of the broad array of pressures to suppress that occur in the course of social life. It would be so pleasant if we could put out of mind our bad habits, our transgressions, our worries, our humiliations. Just think of our sheer effectiveness in social interaction if we could put out of mind our nervousness, our misgivings, our fear of having deceptions revealed, even our ruminations about little secrets and private opinions. We could interact freely and comfortably for once, without that ever-present cloud hanging overhead of the things we should not say or do or feel or think. On the other hand, it may be precisely these unwanted thoughts that make us moral and social human beings.

B. IMPLICATIONS FOR SOCIAL LIFE

The mental turmoil into which we are thrown by the suppression of thoughts is, at its center, a social phenomenon. We suppress thoughts because of the actual, imagined, or implied presence of others (to borrow a phrase from Allport, 1985), and this means that the problem of thought suppression is ultimately a problem of the individual's adjustment to social life. When social circumstances force thought suppression, the person will be in a volatile and potentially anti-social state, ready to think exactly what should not be thought and so to disrupt the social setting in precisely the most inappropriate way.

Of course, much of this turmoil will transpire only internally. The person who sees someone of another race, for example, may only briefly arrive at some prejudiced judgment, and then counter the judgment quickly with suppression. A remark based on a stereotype may be stifled, or a negative emotional response to the person may be overcome and neutralized in this way. None of this is particularly visible to an outsider, even though the internal conflict is highly disturbing to its host, and thought suppression is thus temporarily successful. A potential social conflict has been turned into a mental conflict, and so played out in images and ideas rather than in actual confrontation and social disharmony. This may be why thought suppression is such an inviting option in these circumstances—it is fast and, used as a temporary solution, can be very effective in preventing interpersonal conflict.

The suppression of thoughts is likely to be a fleeting solution at best, though, as it gives way eventually to longer term consequences that can be insidious. On the outside, perhaps the first symptom of such inner conflict will be a general freezing or suppression of behavior (DePaulo, 1992). Then, more conspicuous manifestations of the suppressed thought can be expected. The person suppressing racist sentiments, for instance, may find that racially prejudiced opinions come to mind in just those situations where their expression would be least tolerable. Far from random, these slips may seem almost Freudian in character (cf. Baars, 1985), leaping forth in exactly the wrong circumstances. Not only despite the best intentions, but in fact because of them, the person finds that the most inappropriate thoughts course through the mind and so guide behavior.

Suppression-induced slips of mind will arise primarily when the person is under cognitive load or stress. Just when the cognitive demands of social interaction are strongest (Gilbert, 1991), when there is the most to fear or desire (Jacobs & Nadel, 1985), or when alcohol clouds the vision (Steele & Josephs, 1990), we will find ourselves not expressing merely haphazard thoughts but instead spewing forth unintended bursts of the most unwanted thoughts we have. The mental control we exercise in response to social constraints will, under duress, backfire to knock down those constraints and leave us wondering at the power of pent-up thinking. Piety achieved through thought suppression can spawn profanity, equanimity achieved through thought suppression can yield

violence, and tolerance achieved through thought suppression can turn into hate.

Even when suppression is relaxed, its social consequences continue to be counted. The rebound guarantees that the thoughts we have suppressed in particular social circumstances will tend to come back to us, most probably when those circumstances arise again. So, if we have suppressed thoughts in order not to laugh at someone, we may well be reminded to laugh each time we are near that person again. If we have held back thoughts to aid in controlling our anger, lust, or despair, these things are also likely to rebound when we return to the people and situations that first prompted them. Ultimately, we will find that the social controls we have visited on our minds for convenience at one juncture become recurrent goads that make us think again and again of just what we should not.

The experimental study of thought suppression, in sum, echoes some of the same implications that Freud drew from his psychoanalytic study of repression. Like repression, the suppression of thoughts acts to hide skeletons in the closet and so to provide for later capricious scarings. The paths of inference in these studies are strikingly different, of course. Freud reached the conclusion that repression is the source of neurosis by studying individual cases, and by developing a rich yet burdensome language for describing the circumstances of apparent forgettings. The present research program has used the direct expedient of telling people not to think, and has reached the initial conclusion that such thought suppression can be a surprisingly maladaptive response when it is used as a strategy for adaptation to social circumstances.

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