CLASSIC ARTICLE

Aaron Beck's classic article is one of the first expositions of cognitive therapy. In particular, Beck defines the relationship of cognitive therapy to classic behavior therapy. Beck also lays out the philosophical, conceptual, and procedural (or technical) aspects of cognitive therapy and contrasts them to those of behavior therapy and to standard psychoanalytic psychotherapy.

The article is written for an audience of behavior therapists, which in 1970 comprised mainly psychologists. Therefore, most of the contrasts are with a behavioral approach. In 1970, the notion of dealing with subjective experiences such as loss, cognitions, beliefs, or visual fantasies was unacceptable to the classic stimulus-response behavior therapists. This is no longer the case in the 1990s. In Beck's article the reader can see the beginnings of a heavier reliance on empirical efforts to define the theory and to determine the efficacy of cognitive therapy—an empirical emphasis that eventually evolved more fully in Beck's work.

Beck identifies a number of dimensions shared by behavior therapy and cognitive therapy. For example, in both modes the therapeutic interview is rather structured and the therapist is more active than in standard psychodynamic psychotherapy. In both behavior and cognitive therapy, the therapist coaches the patient with regard to useful responses or behaviors. The goals of both therapeutic approaches are circumscribed; both aim at overt symptom remission or behavioral remediation. Neither relies heavily on childhood recollections or early family relationships as primary foci of treatment. Recent work by cognitive therapists (in the late 1980s and early 1990s) suggests that when cognitive therapy takes as one of its objectives the further explication of how dysfunctional attitudes develop, the process often uncovers, albeit secondarily, sources in early experiences that provide the basis for these tightly held beliefs or schemata. In addition, both behavior and cognitive therapy, compared with psychoanalytic therapy, are more likely to take patient self-report at face value. Neither makes high-level abstractions, as Beck notes. Finally, both aim at unlearning attitudes, which does not necessarily require insight into the origin of these attitudes.

Beck breaks the efforts of a cognitive therapist into three large steps: 1) recognizing idiosyncratic cognitions, 2) distancing (or becoming more objective) and 3) correcting cognitive distortions and deficiencies (key errors in thinking or logic, including arbitrary inference, overgeneralization, magnification, and cognitive deficiency). He illustrates the three steps by case example in the treatment of a patient with anxiety.

In this article, Beck lays out the basis for what has since become a well-explicated cognitive model of psychopathology. Important in this model is the notion that different forms of psychiatric disorders such as depression and anxiety differ from one another in the verbal cognitions and pictorial fantasies that predominate. For example, anxious patients most frequently think about the notion of personal danger, whereas depressed patients have a high frequency of thinking and daydreaming about issues that form a theme of deprivation or self-blame.

The article ends with a brief overview of the assumptions about how therapeutic change is accomplished. The basic change is the quieting of a hyperactive cognitive organization. Because of this hyperactivity, psychiatric

patients inappropriately apply irrational, hypervalent schemata to a variety of everyday stimuli, thereby converting them into ongoing, recurrent stresses that are not viewed as stressful by others. The therapeutic quieting effect may be a specific result of particular instructions, or it may be an important result of therapist empathy and general acceptance of the patient. The therapeutic sessions are viewed as an opportunity for the patient to identify, experience, and reality-test thoughts or cognitions that are causally connected to the ongoing depressed or anxious mood. This process automatically involves a desensitization, and patients subsequently become more objective about these kinds of thoughts or fantasies.

Thus, Beck is applying the behavioral concept of desensitization but is construing it as being effective through a cognitive rather than simply a behavioral mechanism. The patient's transfer of this new, differentiated understanding of the ideational system to everyday life is thought to result either from simple rehearsal or desensitization. When previously upsetting events are encountered, the patient, now desensitized and more objective, can logically assess the real, inherent dangers and difficulties in these day-to-day previously frightening or depressing circumstances.

Beck concludes with the notion that the theoretical framework of cognitive therapy is sufficiently broad both to encompass the basic notions of classic behavior therapy and to expand them beyond what was at that time a rather limited range of critical clinical phenomena—namely, those events that are observable by others. Since this article appeared in 1970, a plethora of treatment manuals and techniques have been published addressing a variety of psychiatric conditions with a cognitive approach. Beck provides a prelude to this era by indicating that the cognitive approach provides the framework for identifying and developing particular therapeutic strategies that the rather narrowly defined behavioral conditioning model of the time did not easily support.

In so doing, this paper is of substantial historic value. It denotes the differentiation of Beck's cognitive model from the classic stimulus-response behavioral model of the period; it also foreshadows what has become a substantial elaboration of cognitive theory and therapeutic techniques by Beck and his followers over the subsequent decades. Of interest, as well, is a brief section in which Beck discusses the issue of efficacy—even at this early date, when only the behavior therapists themselves were particularly interested in measuring the effectiveness of psychotherapy on symptoms or particular behaviors to be treated.

It is also notable that this article is relatively free from jargon and complex theoretical abstractions—a trend that has continued in the work of cognitive theorists and therapists over the 23 years since its publication. The consequence of such efforts is that many cognitive therapists use brief explanations to patients of the anticipated therapeutic process, as well as of the key concepts in the understanding of their psychiatric symptomatology. In noting that cognitive therapy has a limited set of objectives and in using language that is understood by most educated lay people, proponents of the "cognitive revolution" launched it with certain features that made it particularly acceptable and accessible to patients. Demystifying psychotherapy and bringing an em-

pirical focus to these efforts has sustained, and indeed expanded, the interests of practitioners from a variety of disciplines in the development and use of these techniques, as well as encouraging patients to pursue more timely treatment than perhaps was the case in the late 1960s and early 1970s.

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"Cognitive Therapy: Nature and Relation to Behavior Therapy," by Aaron T. Beck, M.D., was originally published in *Behavior Therapy* (1970; 1:184–200).

Cognitive Therapy

Nature and Relation to Behavior Therapy

AARON T. BECK, M.D.

Recent innovations in behavior modification have, for the most part, detoured around the role of cognitive processes in the production and alleviation of symptomatology. Although self-reports of private experiences are not verifiable by other observers, these introspective data provide a wealth of testable hypotheses. Repeated correlations of measures of inferred constructs with observable behaviors have yielded consistent findings in the predicted direction.

Systematic study of self-reports suggests that an individual's belief systems, expectancies, and assumptions exert a strong influence on his state of well-being, as well as on his directly observable behavior. Applying a cognitive model, the clinician may usefully construe neurotic behavior in terms of the patient's idiosyncratic concepts of himself and of his animate and inanimate environment. The individual's belief systems may be grossly contradictory: i.e., he may simultaneously attach credence to both realistic and unrealistic conceptualizations of the same event or object. This inconsistency in beliefs may explain, for example, why an individual may react with fear to an innocuous situation even though he may concomitantly acknowledge that this fear is unrealistic.

Cognitive therapy, based on cognitive theory, is designed to modify the individual's idiosyncratic, maladaptive ideation. The basic cognitive technique consists of delineating the individual's specific misconceptions, distortions, and maladaptive assumptions, and of testing their validity and reasonableness. By loosening the grip of his perseverative, distorted ideation, the patient is enabled to formulate his experiences more realistically. Clinical experience, as well as some experimental studies, indicate that such cognitive restructuring leads to symptom relief.

[Editor's note: In the following text, substantive footnotes to the original article appear in square brackets.]

Two systems of psychotherapy that have recently gained prominence have been the subject of a rapidly increasing number of clinical and experimental studies. Cognitive therapy [Ellis (1957) used the label *rational therapy*, which he later changed to *rational-emotive therapy*], the more recent entry into the field of psychotherapy, and behavior therapy already show signs of becoming institutionalized.

Although behavior therapy has been publicized in a large number of articles and monographs, cognitive therapy has received much less recognition. Despite the fact that behavior therapy is based primarily on learning theory whereas cognitive therapy is rooted more in cognitive theory, the two systems of psychotherapy have much in common.

First, in both systems of psychotherapy the therapeutic interview is more overtly structured and the therapist more active than in other psychotherapies. After the preliminary diagnostic interviews in which a systematic and highly detailed description of the patient's problems is obtained, both the cognitive and the behavior therapists formulate the patient's presenting symptoms (in cognitive or behavioral terms, respectively) and

design specific sets of operations for the particular problem areas.

After mapping out the areas for therapeutic work, the therapist explicitly coaches the patient regarding the kinds of responses and behaviors that are useful with this particular form of therapy. Detailed instructions are presented to the patient, for example, to stimulate pictorial fantasies (systematic desensitization) or to facilitate his awareness and recognition of his cognitions (cognitive therapy). The goals of these therapies are circumscribed, in contrast to the evocative therapies whose goals are open ended (Frank, 1961).

Second, both the cognitive and behavior therapists aim their therapeutic techniques at the overt symptom or behavior problem, such as a particular phobia, obsession, or hysterical symptom. However, the target differs somewhat. The cognitive therapist focuses more on the ideational content involved in the symptom, viz., the irrational inferences and premises. The behavior therapist focuses more on the overt behavior, e.g., the maladaptive avoidance responses. Both psychotherapeutic systems conceptualize symptom formation in terms of constructs that are accessible either to behavioral observation or to introspection, in contrast to psychoanalysis, which views most symptoms as the disguised derivatives of unconscious conflicts.

Third, in further contrast to psychoanalytic therapy, neither cognitive therapy nor behavior therapy draws substantially on recollections or reconstructions of the patient's childhood experiences and early family relationships. The emphasis on correlating present problems with developmental events, furthermore, is much less prominent than in psychoanalytic psychotherapy.

A fourth point in common between these two systems is that their theoretical paradigms exclude many traditional psychoanalytic assumptions such as infantile sexuality, fixations, the unconscious, and mechanisms of defense. The behavior and cognitive therapists may devise their therapeutic strategies on the basis of introspective data provided by the patient; however, they generally take the patients' self-reports at face value and do not make the kind of high-level abstractions characteristic of psychoanalytic formulations. [Although the patient may not be immediately aware of the content of his maladaptive attitudes and patterns, this concept is not "unconscious" in the psychoanalytic sense and is accessible to the patient's introspection. Furthermore, unlike many psychoanalytic formulations, the inferences can be tested by currently available research techniques.]

Finally, a major assumption of both cognitive therapy and behavior therapy is that the patient has acquired maladaptive reaction patterns that can be "unlearned" without the absolute requirement that he obtain insight into the origin of the symptom.

One of the major assets of behavior therapy has been the large number of well-designed experiments that support certain of its basic assumptions. Although of more recent vintage, several systematic studies supporting the underpinnings of cognitive therapy have also been reported (Carlson, Travers, and Schwab, 1969; Jones, 1968; Krippner, 1964; Loeb, Beck, Diggory, and Tuthill, 1967; Rimm and Litvak, 1969; Velten, 1968). The few controlled-outcome studies of cognitive therapy (Ellis, 1957; Trexler and Karst, 1969) provide preliminary evidence of the effectiveness of this therapy.

There are obvious differences in the techniques used in behavior therapy and cognitive therapy. In systematic desensitization, for example, the behavior therapist induces a predetermined sequence of pictorial images alternating with periods of relaxation. The cognitive therapist, on the other hand, relies more on the patient's spontaneously experienced and reported thoughts. These cognitions, whether in pictorial or verbal form, are the target for therapeutic work. The technical distinctions between the two systems of psychotherapy are often blurred, however. For example, the cognitive therapist

uses induced images to clarify problems (Beck, 1967; 1970), and the behavior therapist uses verbal techniques such as "thought-stoppage" (Wolpe and Lazarus, 1966).

The most striking theoretical difference between cognitive and behavior therapy lies in the concepts used to explain the dissolution of maladaptive responses through therapy. Wolpe, for example, utilizes behavioral or neurophysiological explanations such as counterconditioning or reciprocal inhibition; the cognitivists postulate the modification of conceptual systems, i.e., changes in attitudes or modes of thinking. As will be discussed later, many behavior therapists implicitly or explicitly recognize the importance of cognitive factors in therapy, although they do not expand on these in detail (Davison, 1968; Lazarus, 1968).

TECHNIQUES OF COGNITIVE THERAPY

Cognitive therapy may be defined in two ways: In a broad sense, any technique whose major mode of action is the modification of faulty patterns of thinking can be regarded as cognitive therapy. This definition embraces all therapeutic operations that *indirectly* affect the cognitive patterns, as well as those that directly affect them (Frank, 1961). An individual's distorted views of himself and his world, for example, may be corrected through insight into the historical antecedents of his misinterpretations (as in dynamic psychotherapy), through greater congruence between the concept of the self and the ideal (as in Rogerian therapy), and through increasingly sharp recognition of the unreality of fears (as in systematic desensitization).

However, cognitive therapy may be defined more narrowly as a set of operations focused on a patient's cognitions (verbal or pictorial) and on the premises, assumptions, and attitudes underlying these cognitions. This section will describe the specific techniques of cognitive therapy.

Recognizing Idiosyncratic Cognitions

One of the main cognitive techniques consists of training the patient to recognize his idiosyncratic cognitions or "automatic thoughts" (Beck, 1963). Ellis (1962) refers to these cognitions as "internalized statements" or "self-statements," and explains them to the patient as "things that you tell yourself." These cognitions are termed idiosyncratic because they reflect a faulty appraisal, ranging from a mild distortion to a complete misinterpretation, and because they fall into a pattern that is peculiar to a given individual or to a particular psychopathological state.

In the acutely disturbed patient, the distorted ideation is frequently in the center of the patient's phenomenal field. In such cases, the patient is very much aware of these idiosyncratic thoughts and can easily describe them. The acutely paranoid patient, for instance, is bombarded with thoughts relevant to his being persecuted, abused, or discriminated against by other people. In the mild or moderate neurotic, the distorted ideas are generally at the periphery of awareness. [In obsessional neurosis, of course, the idiosyncratic ideas are central and the patient has difficulty in ignoring them.] It is therefore necessary to motivate and to train the patient to attend to these thoughts.

Many patients reporting unpleasant affects describe a sequence consisting of a specific event (external stimulus) leading to an unpleasant affect. For instance, the patient may outline the sequence of (a) seeing an old friend and then (b) experiencing a feeling of sadness. Oftentimes, the sadness is inexplicable to the patient. Another person (a) hears about somebody having been killed in an automobile accident and (b) feels anxiety. However, he cannot make a direct connection between these two phenomena; i.e., there is a missing link in the sequence.

In these instances of a particular event leading to an unpleasant affect, it is possible to discern an intervening variable, namely, a

cognition, which forms the bridge between the external stimulus and the subjective feeling. Seeing an old friend stimulates cognitions such as "It won't be like old times," or "He won't accept me as he used to." The cognition then generates the sadness. The report of an automobile accident stimulates a pictorial image in which the patient himself is the victim of an automobile accident. The image then leads to the anxiety.

This paradigm can be further illustrated by a number of examples. A patient treated by the writer complained that he experienced anxiety whenever he saw a dog. [Ellis (1962) described a similar case.] He was puzzled by the fact that he experienced anxiety even when the dog was chained or caged or else was obviously harmless. The patient was instructed: "Notice what thoughts go through your mind the next time you see a dog—any dog." At the next interview, the patient reported that during numerous encounters with dogs between appointments, he had recognized a phenomenon that he had not noticed previously; namely, that each time he saw the dog he had a thought such as "It's going to bite me."

By being able to detect the intervening cognitions, the patient was able to understand why he felt anxious, namely, he indiscriminately regarded every dog as dangerous. He stated, "I even got that thought when I saw a small poodle. Then I realized how ridiculous it was to think that a poodle could hurt me." He also recognized that when he saw a big dog on a leash, he thought of the most deleterious consequences: "The dog will jump up and bite out one of my eyes," or "It will jump up and bite my jugular vein and kill me." Within 2 or 3 weeks, the patient was able to overcome completely his long-standing dog phobia simply by recognizing his cognitions when exposed to a dog.

Another example was provided by a college student who experienced inexplicable anxiety in a social situation. After being trained to examine and write down his cognitions, he reported that in social situations he would have thoughts such as, "They think I look pathetic," or "Nobody will want to talk to me," or "I'm just a misfit." These thoughts were followed by anxiety.

A patient complained that he was chronically angry at practically everybody whom he saw, but could not account for his angry response to these people. After some training at recognizing his cognitions, he reported having such thoughts as "He's pushing me around," "He thinks I'm a pushover," "He's trying to take advantage of me." Immediately after experiencing these thoughts, he would feel angry at the individual towards whom they were directed. He also realized that there was no realistic basis for his appraising people in this negative way.

Sometimes, the cognition may take a pictorial form instead of, or in addition to, the verbal form (Beck, 1970). A woman who experienced spurts of anxiety when riding across a bridge was able to recognize that the anxiety was preceded by a pictorial image of her car breaking through the guard rail and falling off the bridge. Another woman, with a fear of walking alone, found that her spells of anxiety followed images of her having a heart attack and being left helpless and dying on the street. A college student discovered that his anxiety at leaving his dormitory at night was triggered by visual fantasies of being attacked.

The idiosyncratic cognitions (whether pictorial or verbal) are very rapid and often may contain an elaborate idea compressed into a very short period of time, even into a split second. These cognitions are experienced as though they are automatic; i.e., they seem to arise as if by reflex rather than through reasoning or deliberation. They also seem to have an *involuntary* quality. A severely anxious or depressed or paranoid person, for example, may continually experience the idiosyncratic cognitions, even though he may try to ward them off. Furthermore, these cognitions tend to appear completely *plausible* to the patient.

Distancing

Even after a patient has learned to identify his idiosyncratic ideas, he may have difficulty in examining these ideas objectively. The thought often has the same kind of salience as the perception of an external stimulus. "Distancing" refers to the process of gaining objectivity towards these cognitions. Since the individual with a neurosis tends to accept the validity of his idiosyncratic thoughts without subjecting them to any kind of critical evaluation, it is essential to train him to make a distinction between thought and external reality, between hypothesis and fact. Patients are often surprised to discover that they have been equating an inference with reality and that they have attached a high degree of truth value to their distorted concepts.

The therapeutic dictum communicated to the patient is as follows: Simply because he *thinks* something does not necessarily mean that it is true. While such a dictum may seem to be a platitude, the writer has found with surprising regularity that patients have benefited from the repeated reminder that thoughts are not equivalent to external reality.

Once the patient is able to "objectify" his thoughts, he is ready for the later stages of reality testing: applying rules of evidence and logic and considering alternative explanations.

Correcting Cognitive Distortions and Deficiencies

The writer has already indicated that patients show faulty or disordered thinking in certain circumscribed areas of experience. In these particular sectors, they have a reduced ability to make fine discriminations and tend to make global, undifferentiated judgments. Part of the task of cognitive therapy is to help the patient to recognize faulty thinking and to make appropriate corrections. It is often very useful for the patient to specify the kind of fallacious thinking involved in his cognitive responses.

Arbitrary inference refers to the process of drawing a conclusion when evidence is lacking or is actually contrary to the conclusion. This type of deviant thinking usually takes the form of personalization (or self-reference). A depressed patient, who saw a frown on the face of a passerby, thought, "He is disgusted with me." A phobic girl of 21, reading about a woman who had had a heart attack, got the thought, "I probably have heart disease." A depressed woman, who was kept waiting for a few minutes by the therapist, thought, "He has deliberately left in order to avoid seeing me."

Overgeneralization refers to the process of making an unjustified generalization on the basis of a single incident. This may take the form that was described in the case of the man with the dog phobia, who generalized from a particular dog that might attack him to all dogs. Another example is a patient who thinks, "I never succeed at anything" when he has a single isolated failure.

Magnification refers to the propensity to exaggerate the meaning or significance of a particular event. A person with a fear of dying, for instance, interpreted every unpleasant sensation or pain in his body as a sign of some fatal disease such as cancer, heart attack, or cerebral hemorrhage. Ellis (1962) applied the label "castrophizing" to this kind of reaction.

As noted above, it is often helpful for the patient to label the particular aberration involved in his maladaptive cognition. Once the patient has firmly established that a particular type of cognition, such as "That dog is going to bite me," is invalid, he will be equipped to correct this cognition on subsequent occasions. For example, his planned, rational response to the stimulus of a toy poodle would be, "Actually, it is just a harmless poodle and there is only a remote chance

that it would bite me. And even if it did, it could not really injure me."

Cognitive deficiency refers to the disregard for an important aspect of a life situation. Patients with this defect ignore, fail to integrate, or do not utilize information derived from experience. Such a patient, consequently, behaves as though he has a defect in his system of expectations: he consistently engages in behavior which he realizes, in retrospect, is self-defeating. This class of patients includes those who "act out," e.g., psychopaths, as well as those whose overt behavior sabotages important personal goals. These individuals sacrifice long-range satisfaction or expose themselves to later pain or danger in favor of immediate satisfactions. This category includes problems such as alcoholism, obesity, drug addiction, sexual deviation, and compulsion gambling.

The deficient-anticipation patients show two major characteristics: First, when they yield to their wishes to engage in self-defeating, dangerous, or antisocial activities, they are oblivious of the probable consequences of their actions. At these times, they avoid thinking about the consequences by concentrating only on the present activity. They may fortify this *modus operandi* through an elaborate system of self-deceptions, such as "It can't do any harm to cut loose, now." Secondly, irrespective of how often the individual is "burned" as a result of his maladaptive actions, he does not seem to integrate knowledge of the cause-and-effect relationships into his behavior.

Therapy of such cases consists of training the patient to think of the consequences as soon as his self-defeating wish arises. Consideration of the long-range loss must be forced into the interval between impulse and action. A patient, for instance, who continually operated his car beyond the speed limit or drove through stoplights was surprised each time he was stopped by a traffic officer. On interview, it was discovered that the patient was generally absorbed in a fantasy while driving—he imaged himself as a famous racing-car driver engaged in a race. Therapy at first consisted of trying to get him to watch the odometer—but without success. The next approach consisted of inducing fantasies of speeding, getting caught, and receiving punishment. At first, the patient had great difficulty in visualizing getting caught even though, in general, he could fantasize almost everything. However, after several sessions of induced fantasies, he was able to incorporate a negative outcome into his fantasy. Subsequently, he stopped daydreaming while driving and was able to observe traffic regulations.

In the following case report, several cognitive techniques directed at modifying anxiety proneness are illustrated.

Case Report

[This patient was treated in collaboration with Dr. William Dyson.]

Mrs. G. was an attractive 27-year-old mother of three children. When first seen by the writer, she complained of periods of anxiety lasting up to 6 or 7 hours a day and recurring repeatedly over a 4-year period. She had consulted her family physician, who had prescribed a variety of sedatives, including Thorazine, without any apparent improvement.

In an analysis of the cause-and-effect sequence of her anxiety, the following facts were elicited. The first anxiety episode occurred about 2 weeks after she had had a miscarriage. At that time she was bending over to bathe her 1-year-old son, and she suddenly began to feel faint. Following this episode, she had her first anxiety attack which lasted several hours. The patient could not find any explanation for her anxiety. However, when the writer asked whether she had had any thought at the time she felt dizzy, she recalled having had the thought, "Suppose I should pass out and injure the baby." It seemed plausible that her dizziness, which was probably the result of a postpartum anemia, led to the fear she might faint and drop the baby. This fear then produced anxiety, which she interpreted as a sign that she was "going to pieces."

Until the time of her miscarriage, the patient had been reasonably carefree and had not experienced any episodes of anxiety. However, after her miscarriage, she periodically had the thought, "Bad things can happen to me." Subsequently, when she heard of somebody's becoming sick, she often would have the thought, "This can happen to me," and she would begin to feel anxious.

The patient was instructed to try to pinpoint any thoughts that preceded further episodes of anxiety. At the next interview, she reported the following events:

1. One evening, she heard that the husband of one of her friends was sick with a severe pulmonary infection. She then had an anxiety attack lasting several hours. In accordance with the instructions, she tried to recall the preceding cognition, which was, "Tom could get sick like that and maybe die."

2. She had considerable anxiety just before starting a trip to her sister's house. She focused on her thoughts and realized she had the repetitive thought that she might get sick on the trip. She had had a serious episode of gastroenteritis during a previous trip to her sister's house. She evidently believed that such a sickness could happen to her again.

3. On another occasion, she was feeling uneasy and objects seemed somewhat unreal to her. She then had the thought that she might be losing her mind and immediately experienced an anxiety attack.

4. One of her friends was committed to a state hospital because of a psychiatric illness. The patient had the thought, "This could happen to me. I could lose my mind." When questioned about why she was afraid of losing her mind, she stated that she was afraid that if she went crazy, she would do something that would harm either her children or herself.

It was evident that the patient's crucial fear was the anticipation of loss of control, whether by fainting or by becoming psychotic. The patient was reassured that there were no signs that she was going psychotic. She was also provided with an explanation of the arousal of her anxiety and of her secondary elaboration of the meaning of these attacks.

The major therapeutic thrust in this case was coaching the patient to recall and reflect on the thoughts that preceded her anxiety attacks. The realization that these attacks were initiated by a cognition rather than by some vague mysterious force convinced her she was neither totally vulnerable nor unable to control her reactions. Furthermore, by learning to pinpoint the anxiety-reducing thoughts, she was able to gain some detachment and to subject them to reality testing. Consequently, she was able to nullify the effects of those thoughts. During the next few weeks, her anxiety attacks became less frequent and less intense and, by the end of 4 weeks, they disappeared completely.

DIFFERENCES IN CONCEPTUAL FRAMEWORK BETWEEN BEHAVIOR THERAPY AND COGNITIVE THERAPY

Behavior therapists conceptualize disorders of behavior and procedures for their amelioration within a theoretical framework borrowed from the field of psychological learning theory and especially by means of concepts of classical and operant conditioning. Since these concepts are derived mainly from experiments with animals, they focus on the observable behavior of the organism. In fact, most of the published writings on behavior therapy tend to eschew inferred or hypothesized psychological states which cannot be directly observed and measured. Concepts and principles based on immediate referents in the organism's environment have advantages of parsimony, testability, quantifiability, and reliability. However, this framework does not readily accommodate notions of internal psychological states such as thoughts, attitudes, and the like, which we commonly use to understand ourselves and other people. Cognitive therapists are more willing to use these inferred psychological states, collectively called "cognitions," as clinical data. Consequently, large and useful sets of variables are directly taken into account.

In recent years, several writers in the area of behavior therapy have acknowledged the importance of mediational constructs or cognitive processes in behavior therapy (Brady, 1967; Davison, 1968; Folkins, Law-

son, Opton, and Lazarus, 1968; Lazarus, 1968; Leitenberg, Agras, Barlow, and Oliveau, 1969; London, 1964; Mischel, 1968; Murray and Jacobson, 1969; Sloane, 1969; Valine and Ray, 1967; Weitzman, 1967). Their cognitive formulations, however, have for the most part been brief. Substantial amplification of the nature of cognitive processes is necessary to account adequately for clinical phenomena and for the effects of therapeutic intervention (see Weitzman, 1967).

A greater emphasis on the individual's descriptions of *internal* events can lead to a more complete view of human psychopathology and the mechanisms of behavioral change. By using introspective data, the cognitive theorist has access to the patient's thoughts, ideas, attitudes, dreams, and daydreams. These ideational productions provide the cognitive theorist with the raw materials with which he can form concepts and models. Such concepts are also capable of generating hypotheses amenable to controlled experiments on psychiatric patients (Loeb et al., 1967). Also, introspective data, such as dreams and cognitions, have been adapted to systematic investigation (Beck, 1967).

Study and analysis of the introspective data suggest that the cognitive organization, far from being a mere link in the stimulus response chain, is a quasi-autonomous system in its own right. Although this system generally interacts with the environment to a large extent, it may at other times be relatively independent of the environment; for example, when the patient is daydreaming or in the grip of an abnormal state such as depression.

By getting inside the psychological matrix, as it were, the cognitive theorist gains a glimpse of considerable activity. Introspective data indicate the existence of complex organizations of cognitive structures involved in the processes of screening external stimuli, interpreting experiences, storing and selectively recalling memories, and setting goals and plans (Harvey, Hunt and Schroder, 1961). Data suggest that cognitive organizations are highly active and are much more than a simple conduit between stimulus and response.

A COGNITIVE MODEL OF PSYCHOPATHOLOGY

The total cognitive organization appears to be composed of primitive systems consisting of relatively crude cognitive structures (corresponding to Freud's notion of Primary Process), and of more mature systems composed of refined and elastic structures (corresponding to the Secondary Process). Some of the conceptual elements may be predominantly verbal, whereas others may be predominantly pictorial.

Many of the primitive concepts are idiosyncratic and unrealistic. Under ordinary waking conditions, these idiosyncratic concepts appear to exert only minimal or sporadic effects on the integrated thinking of the individual. Peculiar or irrational cognitions emanating from the primitive system are generally tested, authenticated, and rejected by the higher centers. However, when the cognitive organization is dislocated, as in depression, anxiety, or paranoid states, these idiosyncratic concepts are hyperactive. In such circumstances, the conceptual systems grind out a powerful stream of depressing, frightening, or paranoid thoughts. As these idiosyncratic ideas become hyperactive, they tend to supersede the more realistic conceptualizations and to become more refractory to reality testing and judgment.

The form of psychiatric disorder is related to the content of the predominant, perseverating verbal cognitions or fantasies. Depressed patients, for example, report a high frequency of themes of deprivation or of self-debasement in their waking thoughts, daydreams, and dreams. Anxious patients are dominated by the concept of specific or generalized personal danger. Paranoid patients are controlled by patterns relevant to unjustified abuse or persecution. The phobic pa-

tient has a disproportionate or unrealistic notion of personal danger in specific and avoidable situations. (When forced into these situations, he experiences anxiety in much the same way as does the anxiety neurotic.) The compulsive patient is dominated by doubts or by fears of some danger to himself or others and he seeks to put an end to the doubts or fears through rituals.

EXPLANATION OF THERAPEUTIC CHANGE

How does the cognitive model provide an explanation for the therapeutic effects of cognitive or behavior therapy in states such as depressions, anxiety reactions, or phobias?

First, the therapeutic situation produces a quieting down of the hyperactive organization (Rachman, 1968). The quieting down may be the result of either the therapist's empathy and acceptance (Truax and Carkhuff, 1967), his specific relaxation instructions (Wolpe and Lazarus, 1966), or his explicitly stated verbal approval (Wagner and Cauthen, 1968). The quieting effects may also be produced by automated relaxation instructions (Lang, 1969). In the treatment of phobias, the quieting effect is introduced after the schemas relevant to the phobia have been artificially stimulated by the imagery instruction. As Lader and Mathews (1968) have pointed out, reducing the level of arousal below a certain critical point tends to facilitate habituation (or desensitization).

Second, the therapeutic session affords an opportunity for the patient to experience and to reality test verbal or pictorial cognitions that are causally connected to his depressed or anxious affect.

This mode of operation may be illustrated by the treatment of a phobia through systematic desensitization. In this procedure, the patient reproduces the phobic situation in his fantasies, and experiences the same type of anxiety (but in lesser degree) that would occur if he actually were in the phobic situation. Whether he is actually in the phobic situation or is simply fantasizing himself in that situation, he believes to some degree that he is in danger. The more he believes in the reality of the danger, the greater is his anxiety. At times the fantasy may be so strong that the patient may lose cognizance of the fact that he is not actually in the phobic situation, and he may even scream for help.

Many patients report that their fantasy experiences are almost identical with the actual situational experiences. The patient may *live through* the frightening event in much the same way that a patient with a combat neurosis relives (abreacts) a combat experience under hypnosis or Amytal.

In systematic desensitization, the patient can experience the problem in graded doses. This process enables him, first, to experience the unpleasant event (via imagery) and, second, to reality-test his reactions in *status nascendi*. Since the anxiety is not allowed to mount up, the patient is able to regard the event objectively. Even when flooding or implosive technique (Stampfl and Levis, 1968) is employed, the patient still has the opportunity, when the fantasy has been completed, to examine his reaction, and he soon realizes that he has been reacting to a fantasy and not to a real danger.

Another way of viewing the process of desensitization is that the patient is enabled to increase his objectivity, i.e., to discriminate between a real danger and a fantasied danger as he proceeds in a stepwise progression up the desensitization hierarchy. With increasing objectivity, he is less prone to misread the situation or to accept his unrealistic conceptualization of a situation. His increased objectivity is reflected in a reduction in his anxiety arousal by the imaged or the real situation (London, 1964).

Patients who are questioned at the termination of an induced fantasy generally construe the threatening situation differently and more realistically than previously (Beck, 1970). The operation of cognitive factors in desensitization has also been illustrated in

case material cited by Brown (1967) and Weitzman (1967).

It could be argued that the phobic patient really *knows* that there is no danger. However, his belief that his fear is irrational exists only when the patient is "safely" removed from the phobic situation. When he is in the situation, he believes to some degree that he is in danger. Desensitization is effective because it provides a practice session in which the patient is able to experience his reactions to the feared situation, label them as inappropriate, and gain some inner conviction that the phobic reaction is irrational.

The same mode of operation described in relation to systematic desensitization may be observed in the techniques of cognitive therapy. In cognitive psychotherapy, the patient examines his distorted ideas and is trained to discriminate between rational and irrational ideas, between objective reality and internal embroidery. He is enabled to bring his reality testing to bear and to apply judgment. He is thus able to realize with conviction that his idiosyncratic ideas are irrational. Often the ideation is in the form of pictorial fantasy, and the patient is able to view the fantasy as a product of his mind and not as a veridical representation of a reality situation.

According to this analysis, a crucial mechanism in the psychotherapeutic chain is a modification or shift in the patient's ideational system. As his irrational concept that he is paralyzed (hysteria), helpless and hopeless (depression), in danger (anxiety or phobia), persecuted (paranoid state), or superhuman (mania) becomes deactivated, the abnormal clinical picture recedes.

MECHANISM OF TRANSFER OR GENERALIZATION

Transfer of the desensitization to the phobic situation can be explained readily using cognitive concepts. When the untreated patient is placed in the phobic situation (for example, an elevator, tunnel, or bridge), he reacts as if there were a clear and present danger to his life. His emotional reaction, namely anxiety, is the same that would be aroused if such a highly probable danger actually did exist.

For example, a woman with an elevator phobia would get the idea whenever she entered the elevator, "There won't be enough air in here and I will suffocate." Sometimes she would have a visual image of herself gasping for air and suffocating. In addition, she would experience a feeling of shortness of breath. This experience occurred even when she was the only passenger in a large, airy elevator. (The fear of elevators has a different content from patient to patient. Other patients believe that the elevator cables will break during the ascent or descent, or that the elevator will get stuck and they will starve to death, or that they will be attacked by other people in the elevator.) When away from the elevator, however, the patient believed that her expectation of suffocation was highly unreasonable.

In the therapy session the patient imagines that he is in a phobic situation. The patient with an elevator phobia, for instance, started to gasp for breath when she was asked to imagine herself in the elevator. It appears, both from the patients' descriptions and from external observation, that during the fantasy the patient actually relives the situation as though it were actually happening. In other words, the woman with the elevator phobia who is simply imagining herself in the elevator to some degree gets carried away by the fantasy and to some degree perceives herself as in the elevator at that time. Hence the fear of being suffocated is stimulated even though she is in the safety of the consultation room.

As the patient experiences her inappropriate reaction during the desensitization procedure, she is able to practice viewing her fears more objectively.

The transfer or the generalization to the real-life situation may be explained in two ways: (a) the rehearsal effect: the patient gains experience in attacking the frightening ideas and therefore, as a result of this prac-

tice, is able to counteract the irrational ideas in the phobic situation; and (b) the desensitization procedure produces a significant modification in the patient's concept of the phobic situation so that the latent fear of being suffocated, etc., is obliterated.

CONCLUSIONS

A question could be legitimately raised whether introducing another system of psychotherapy is warranted. The justification is twofold. First, the theoretical framework of cognitive therapy is broader than that of behavior therapy and of some of the more traditional psychotherapies. This theoretical framework is congruent with many of the assumptions of behavior therapy, but provides a greater range of concepts for explaining psychopathology as well as the mode of action of therapy. Moreover, the theoretical structure of cognitive therapy yields hypotheses that can be (and have been) readily tested through the experimental techniques currently available.

Secondly, the cognitive theories provide a framework for the development of a number of therapeutic strategies that are not derivable from the predominantly extrinsic concepts of the conditioning model. Since these cognitive techniques, as well as the behavior techniques, are easily defined and have demonstrated some preliminary evidence of their efficacy in clinical practice, further exposition seems warranted.

Ultimately, the strategies of psychological modification may be usefully regrouped into the cognition-oriented techniques and the behavior-oriented techniques. The cognitive techniques would include the methods making direct use of ideational material such as systematic desensitization and other forms of induced imagery and in the direct attempts to modify idiosyncratic cognitions. The behavioral techniques would include those operations of a nonintrospective nature, such as in operant conditioning, exposure therapy, graded task assignments, roleplaying, and assertive training.

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