Thinking and Depression

I. Idiosyncratic Content and Cognitive Distortions

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The clinical and theoretical papers dealing with the psychological correlates of depression have predominantly utilized a motivational-affective model for categorizing and interpreting the verbal behavior of the patients. The cognitive processes as such have received little attention except insofar as they were related to variables such as hostility, orality, or guilt.[1]

The relative lack of emphasis on the thought processes in depression may be a reflection of—or possibly a contributing factor to—the widely held view that depression is an affective disorder, pure and simple, and that any impairment of thinking is the result of the affective disturbance.[2] This opinion has been buttressed by the failure to demonstrate any consistent evidence of abnormalities in the formal thought processes in the responses to the standard battery of psychological tests.[3] Furthermore, the few experimental studies of thinking in depression have revealed no consistent deviations other than a retardation in the responses to "speed tests" [4] and a lowered responsiveness to a Gestalt Completion Test.[5]

In his book on depression, Kraines [6] on the basis of clinical observations indicated several characteristics of a thought disorder in depression. The objective of the present study has been to determine the prevalence of a thought disorder among depressed patients in psychotherapy and to delineate its characteristics. An important corollary of this objective has been the specification of the differences from and the similarities to the thinking of nondepressed psychiatric patients. This paper will focus particularly on the following areas: (1) the idiosyncratic thought content indicative of distorted or unrealistic conceptualizations; (2) the processes involved in the deviations from logical or realistic thinking; (3) the formal characteristics of the ideation showing such

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deviations; (4) the relation between the cognitive distortions and the affects characteristic of depression.

Clinical Material

The data for this study were accumulated from interviews with 50 psychiatric patients seen by the author in psychotherapy or formal psychoanalysis. Of the patients, four were hospitalized for varying periods of time during the treatment. The rest of the patients were seen on an ambulatory basis throughout their treatment.

The frequency of interviews varied from one to six a week with the median number of interviews three a week. The total length of time in psychotherapy ranged from six months to six years; the median was two years. In no case did a single episode of depression last longer than a year. A large proportion of the patients continued in psychotherapy for a substantial period of time after the remission of their initial depressive episode. Thirteen patients either had recurrent depressions while in psychotherapy or returned to psychotherapy because of a recurrence. In this recurrent depression group, six had completely asymptomatic intervals between the recurrences and seven had some degree of hypomanic elevation. It was, therefore, possible to obtain data from these patients during each phase of the cycle.

Of the 50 patients in the sample, 16 were men and 34 were women. The age range was from 18 to 48 with a median of 34. An estimate of their intelligence suggested that they were all of at least bright average intelligence. The socioeconomic status of the patients was judged to be middle or upper class. Twelve of the patients were diagnosed as psychotic depressive or manic-depressive reactions and 38 as neurotic depressive reactions. (A study based on six of the patients in this group has already been published.[7])

In establishing the diagnosis of depression the following diagnostic indicators were employed: (*a*) objective signs of depression in the facies, speech, posture, and motor activity; (*b*) a major complaint of feeling depressed or sad and at least 11 of the following 14 signs and symptoms: loss of appetite, weight loss, sleep disturbance, loss of libido, fatiguability, crying, pessimism, suicidal wishes, indecisiveness, loss of sense of humor, sense of boredom or apathy, overconcern about health, excessive self-criticisms, and loss of initiative.

Patients showing evidence of organic brain damage or of a schizophrenic process and cases in which anxiety or some other psychopathological state was more prominent than depression were excluded from this group.

In addition to the group of depressed patients, a group of 31 nondepressed patients were also seen in psychotherapy. The composition of this group was similar to the depressed group in respect to age, sex, and social position. These patients constituted a "control group" for this study.

Procedure

Face-to-face interviews were conducted during the periods of time when the depressions were regarded as moderate to severe in intensity. The author was active and supportive during these periods. Formal analysis was employed for the long-term patients except when they appeared to be seriously depressed; the couch was utilized, free association was encouraged, and the psychiatrist followed the policy of minimal activity. The recorded data used as the basis for this paper were handwritten notes made by the author during the psychotherapeutic interviews. These data included retrospective reports by the patients of feelings and thoughts prior to the sessions as well as spontaneous reports of their feelings and thoughts during the sessions. In addition, several patients regularly kept notes of their feelings and thoughts between psychotherapeutic sessions and reported these to the psychiatrist.

During the period in which these data were collected handwritten records of the verbalizations of the nondepressed patients were made. These notes were used for purposes of comparison with the verbal reports of the depressed group.

Findings

It was found that each of the depressed patients differed from the patients in the nondepressed groups in the preponderance of certain themes, which will be outlined below. Moreover, each of the other nosological groups showed an idiosyncratic ideational content which distinguished them from each other as well as from the depressed group. The typical ideational content of the depressed patients was characterized by themes of low self-esteem, self-blame, overwhelming responsibilities, and desires to escape; of the anxiety states by themes of personal danger; of the hypomanic states by themes of self-enhancement; and of the hostile paranoid states by themes of accusations against others.

Although each nosological group showed particular types of thought content specific for that group, the formal characteristics and processes of distortion involved in the idiosyncratic ideation were similar for each of these nosological categories. The processes of distortion and the formal characteristics will be described in later sections of the paper.

Thematic Content of Cognitions

The types of cognitions * outlined below were reported by the depressed patients to occur under two general conditions. First, the typical depressive cognitions were observed in response to particular kinds of external "stimulus situations." These were situations which contained an ingredient, or combination of ingredients, whose content had some relevance to the content of the idiosyncratic response. This stereotyped response was frequently completely irrelevant and inappropriate to the situation as a whole. For instance, any experience which touched in any way on the subject of the patient's personal attributes might immediately make him think he was inadequate.

A young man would respond with self-derogatory thoughts to any interpersonal situation in which another person appeared indifferent to him. If a passerby on the street did not smile at him, he was prone to think he was inferior. Similarly, a woman consistently had the thought she was a bad mother whenever she saw another woman with a child.

Secondly, the typical depressive thoughts were observed in the patients' ruminations or "free associations," ie, when they were not reacting to an immediate external stimulus and were not attempting to direct their thoughts. The severely depressed patients often experienced long, uninterrupted sequences of depressive associations, completely independently of the external situation.

Low Self-Regard.—The low self-evaluations formed a very prominent part of the depressed patients' ideation. This generally consisted of an unrealistic downgrading of themselves in areas that were of particular importance to them. A brilliant academician questioned his basic intelligence, an attractive society woman insisted she had become repulsive-looking, and a successful businessman began to believe he had no real business acumen and was headed for bankruptcy.

The low self-appraisal was applied to personal attributes, such as ability, virtue, attractiveness, and health; acquisitions of tangibles or intangibles (such as love or friendship); or past performance in one's career or role as a spouse or parent. In making these self-appraisals the depressed patient was prone to magnify any failures or defects and to minimize or ignore any favorable characteristics.

A very common feature of the self-evaluations was the comparison with other people, particularly those in his own social or occupational group. Almost uniformly, in making his comparisons, the depressed patient tended to rate himself as inferior. He regarded himself as less intelligent, less productive, less attractive, less financially secure, or less successful as a spouse or parent than those in his comparison group. These types of self-ratings comprise the

* The term cognition is used in the present treatment to refer to a specific thought, such as an interpretation, a self-command, or a self-criticism. The term is also applied to wishes (such as suicidal desires) which have a verbal content.

"feeling of inferiority," which have been noted in the literature on depressives.

Ideas of Deprivation.—Allied to the low self-appraisals are the ideas of destitution that were seen in certain depressed patients. These ideas were noted in the patient's verbalized thoughts that he was alone, unwanted, and unlovable, often in the face of overt demonstrations of friendship and affection from other people. The sense of deprivation was also applied to material possessions, despite obvious evidence to the contrary.

Self-Criticisms and Self-Blame.—Another prominent theme in the reported thoughts of the depressed patients was concerned with self-criticisms and self-condemnations. These themes should be differentiated from the low self-evaluations described in the previous section. While the low self-evaluation refers simply to the appraisal of themselves relative to their comparison group or their own standards, the self-criticisms represents the reproaches they leveled against themselves for their perceived shortcomings. It should be pointed out, however, that not all patients with low self-evaluations showed self-criticisms.

It was noteworthy that the self-criticisms, just as the low self-evaluations, were applied to those specific attributes or behaviors which were highly valued by the individual. A depressed woman, for example, condemned herself for not having breakfast ready for her husband. On another occasion, however, she reported a sexual affair with one of his colleagues without any evidence of regret, self-criticism, or guilt: Competence as a housewife was one of her expectations of herself whereas marital fidelity was not.

The patients' tendency to blame themselves for their mistakes or shortcomings generally had no logical basis. This was demonstrated by a housewife who took her children on a picnic. When a thunderstorm suddenly appeared she blamed herself for not having picked a better day.

Overwhelming Problems and Duties.—The patients consistently magnified the magnitude of problems or responsibilities that they would consider minor or insignificant when not depressed.

A depressed housewife, when confronted with the necessity of sewing "name tags" on her children's clothes in preparation for camp, perceived this as a gigantic undertaking which would take weeks to complete. When she finally did get to work at it, she was able to finish the task in less than a day.

Self-Commands and Injunctions.—Self-coercive cognitions, while not prominently mentioned in the literature on depression, appeared to form a substantial proportion of the verbalized thoughts of the patients in the sample. These cognitions consisted of constant "nagging" or prodding to do particular things. The prodding would persist even though it was impractical, undesirable, or impossible for the person to implement these self-instructions.

In a number of cases, the "shoulds" and "musts" were applied to an enormous range of activities, many of which were mutually exclusive. A housewife reported that in a period of a few minutes, she had compelling thoughts to clean the house, lose some weight, visit a sick friend, be a "Den Mother," get a full-time job, plan the week's menu, return to college for a degree, spend more time with her children, take a memory course, to be more active in women's organizations, and start putting away her family's winter clothes.

Escape and Suicidal Wishes.—Thoughts about escaping from the problems of life were frequent among all the patients. Some had daydreams of being a hobo or going to a tropical paradise. It was unusual, however, that evading the tasks brought any relief. Even when a temporary respite was taken on the advice of the psychiatrist, the patients were prone to blame themselves for "shirking responsibilities."

The desire to escape seemed to be related to the patients' viewing themselves at an impasse. On the one hand, they saw themselves as incapable, incompetent, and helpless. On the other hand they saw their tasks as ponderous and formidable. Their response was

a wish to withdraw from the "unsolvable" problems. Several patients spent considerable time in bed; some hid under the covers.

The suicidal preoccupations similarly seemed related to the patient's conceptualization of his situation as untenable or hopeless. He believed he could not tolerate a continuation of his suffering and he could see no solution to the problem: The psychiatrist could not help him, his symptoms could not be alleviated, and his various problems could not be solved. The suicidal patients generally stated that they regarded suicide as the only possible solution for their "desperate" or "hopeless" situation.

Typology of Cognitive Distortions

The preceding section attempted to delineate the typical thematic content of the verbalizations of the depressed patients. A crucial characteristic of the cognitions with this content was that they represented varying degrees of distortion of reality. While some degree of inaccuracy and inconsistency would be expected in the cognitions of any individual, the distinguishing characteristic of the depressed patients was that they showed a *systematic error;* viz, a bias against themselves. Systematic errors were also noted in the idiosyncratic ideation of the other nosological groups.

The typical depressive cognitions can be categorized according to the ways in which they deviate from logical or realistic thinking. The processes may be classified as paralogical (arbitrary inference, selective abstraction, and over-generalization), stylistic (exaggeration), or semantic (inexact labeling). These cognitive distortions were observed at all levels of depression, from the mild neurotic depression to the severe psychotic. While the thinking disorder was obvious in the psychotic depressions, it was observable in more subtle ways among all the neurotic depressed.

Arbitrary interpretation is defined as the process of forming an interpretation of a situation, event, or experience when there is no factual evidence to support the conclusion or when the conclusion is contrary to the evidence.

A patient riding on the elevator had the thought, "He (the elevator operator) thinks I'm a nobody." The patient then felt sad. On being questioned by the psychiatrist, he realized there was no factual basis for his thought.

Such misconstructions are particularly prone to occur when the cues are ambiguous. An intern, for example, became quite discouraged when he received an announcement that all patients "worked-up" by the interns should be examined subsequently by the resident physicians. His thought on reading the announcement was, "The chief doesn't have faith in my work." In this instance, he personalized the event although there was no ostensible reason to suspect that his particular performance had anything to do with the policy decision.

Intrinsic to this type of thinking is the lack of consideration of the alternative explanations that are more plausible and more probable. The intern, when questioned about other possible explanations for the policy decision, then recalled a previous statement by his "chief" to the effect that he wanted the residents to have more contact with the patients, as part of their training. The idea that this explicitly stated objective was the basis for the new policy had not previously occurred to him.

Selective abstraction refers to the process of focusing on a detail taken out of context, ignoring other more salient features of the situation, and conceptualizing the whole experience on the basis of this element.

A patient, in reviewing her secretarial work with her employer, was praised about a number of aspects of her work. The employer at one point asked her to discontinue making extra carbon copies of his letters. Her immediate thought was, "He is dissatisfied with my work." This idea became paramount despite all the positive statements he had made.

Overgeneralization was manifested by the patients' pattern of drawing a general con-

clusion about their ability, performance, or worth on the basis of a single incident.

A patient reported the following sequence of events which occurred within a period of half an hour before he left the house: His wife was upset because the children were slow in getting dressed. He thought, "I'm a poor father because the children are not better disciplined." He then noticed a faucet was leaky and thought this showed he was also a poor husband. While driving to work, he thought, "I must be a poor driver or other cars would not be passing me." As he arrived at work he noticed some other personnel had already arrived. He thought, "I can't be very dedicated or I would have come earlier." When he noticed folders and papers piled up on his desk, he concluded, "I'm a poor organizer because I have so much work to do."

Magnification and minimization refer to errors in evaluation which are so gross as to constitute distortions. As described in the section on thematic content, these processes were manifested by underestimation of the individual's performance, achievement or ability, and inflation of the magnitude of his problems and tasks. Other examples were the exaggeration of the intensity or significance of a traumatic event. It was frequently observed that the patients' initial reaction to an unpleasant event was to regard it as a catastrophe. It was generally found on further inquiry that the perceived disaster was often a relatively minor problem.

A man reported that he had been upset because of damage to his house as the result of a storm. When he first discovered the damage, his sequence of thoughts were, "The side of the house is wrecked. . . . It will cost a fortune to fix it." His immediate reaction was that his repair bill would be several thousand dollars. After the initial shock had dissipated, he realized that the damage was minor and that the repairs would cost around $50.

Often *inexact labeling* seems to contribute to this kind of distortion. The affective reaction is proportional to the descriptive labeling of the event rather than to the actual intensity of a traumatic situation.

A man reported during his therapy hour that he was very upset because he had been "clobbered" by his superior. On further reflection, he realized that he had magnified the incident and that a more adequate description was that his supervisor "corrected an error" he had made. After re-evaluating the event, he felt better. He also realized that whenever he was corrected or criticized by a person in authority he was prone to describe this as being "clobbered."

Formal Characteristics of Depressive Cognitions

The previous sections have attempted to categorize the typical thematic contents of the verbalized thoughts of depressed patients and to present observations regarding the processes involved in the conceptual errors and distortions.

The inaccurate conceptualizations with depressive content have been labeled "depressive cognitions." This section will present a summary of the specific formal characteristics of the depressive cognitions as reported by the patients.

One of the striking features of the typical depressive cognitions is that they generally were experienced by the patients as arising as though they were *automatic* responses, ie, without any apparent antecedent reflection or reasoning.

A patient, for example, observed that when he was in a situation in which somebody else was receiving praise, he would "automatically" have the thought, "I'm nobody . . . I'm not good enough." Later, when he reflected on his response, he would then regard it as inappropriate. Nonetheless, his immediate responses to such situations continued to be a self-devaluation.

The depressive thoughts not only appeared to be "automatic," in the sense just described, but they seemed, also, to have an *involuntary* quality. The patients frequently reported that these thoughts would occur even when they had resolved "not to have them" or were actively trying to avoid them.

This involuntary characteristic was clearly exemplified by repetitive thoughts of suicidal content but was found in a less dramatic way in other types of depressive cognitions. A number of the patients were able to anticipate the kind of depressive thoughts that would occur in certain specific situations and would prepare themselves in advance to make a more realistic judgment of the situation. Nevertheless, despite the intention to ward off or control these thoughts, they would continue to pre-empt a more rational response.†

Another characteristic of the depressive thoughts is their *plausibility* to the patient. At the beginning of therapy the patients tended to accept the validity of the cognitions uncritically. It often required considerable experience in observing these thoughts and attempting to judge them rationally for the patients to recognize them as distortions. It was noted that the more plausible the cognitions seemed (or the more uncritically the patient regarded them), the stronger the affective reaction. It was also observed that when the patient was able to question the validity of the thoughts, the affective reaction was generally reduced. The converse of this also appeared to be true: When the affective reaction to a thought was particularly strong, its plausibility became enhanced and the patient found it more difficult to appraise its validity. Furthermore, once a strong affect was aroused in response to a distorted cognition, any subsequent distortions seemed to have an increased plausibility. This characteristic appeared to be present irrespective of whether the affect was sadness, anger, anxiety, or euphoria. Once the affective response was dissipated, however, the patient could then appraise these cognitions critically and recognize the distortions.

A final characteristic of the depressive cognitions was their *perseveration*. Despite the multiplicity and complexity of life situations, the depressed patient was prone to interpret a wide range of his experiences in terms of a few stereotyped ideas. The same type of cognition would be elicited by highly heterogeneous experiences. In addition, these idiosyncratic cognitions tended to occur repetitively in the patients' ruminations and stream of associations.

Relation of Depressive Thoughts to Affects

As part of the psychotherapy, the author encouraged the patients to attempt to specify as precisely as possible their feelings and the thoughts they had in relation to these feelings.

A number of problems were presented in the attempt to obtain precise description and labeling of the feelings. The patients had no difficulty in designating their feelings as pleasant or unpleasant. In the unpleasant group of affects they were readily able to specify whether they felt depressed (or sad), anxious, angry, and embarrassed. When they were asked to discriminate further among the depressed feelings, there was considerable variability in the group. Most of the patients were able to differentiate with a reasonable degree of certainty among the following feelings: sad, discouraged, hurt, humiliated, guilty, empty, and lonely.

In attempting to determine the relation of specific feelings to a specific thought, the patients developed the routine of trying to focus their attention on their thoughts whenever they had an unpleasant feeling or when the feeling became intensified. This often meant "thinking back" after they were aware of the unpleasant feeling to recall the content of the preceding thought. They frequently observed that an unpleasant thought preceded the unpleasant affect.

The most noteworthy finding was that when the thoughts associated with the de-

† The foregoing features may suggest that the depressive thoughts are essentially a type of obsessional thinking. The depressive thoughts, however, differ from classical obsessional thinking in that their specific content varies according to the particular stimulus situation and also in that they are associated with an affective response. Obsessional thoughts, on the other hand, tend to retain essentially the same "wording" with each repetition are generally regarded by the patient as a "strange" or "alien" idea, and are not associated with any feeling.

pressive affects were identified they were generally found to contain the type of conceptual distortions or errors already described as well as the typical depressive thematic content. Similarly, when the affect was anxiety, anger, or elation, the associated cognitions had a content congruent with these feelings.

An attempt was made to classify the cognitions to determine whether there were any specific features that could distinguish among the types of cognitions associated respectively with depression, anger, or elation. It was found, as might be expected, that the typical thoughts associated with the depressive affect centered around the ideas that the individual was deficient in some sort of way. Furthermore, the specific types of depressive affect were generally consistent with the specific thought content. Thus, thoughts of being deserted, inferior, or derelict in some way, were associated respectively with feelings of loneliness, humiliation, or guilt.

In the nondepressed group, the thoughts associated with the affect of anxiety had the theme of anticipation of some unpleasant event. Thoughts associated with anger had an element of blame directed against some other person or agency. Finally, feelings of euphoria were associated with thoughts that were self-inflating in some way.

Comment

It has been noted that "the schizophrenic excels in his tendency to misconstrue the world that is presented. . . ." [8] While the validity of this statement has been supported by numerous clinical and experimental studies, it has not generally been acknowledged that misconstructions of reality may also be a characteristic feature of other psychiatric disorders. The present study indicates that, even in mild phases of depression, systematic deviations from realistic and logical thinking occur. A crucial feature of these cognitive distortions is that they consistently appeared only in the ideational material that had a typically depressive content; for example, themes of being deficient in some way. The other ideational material reported by the depressed patients did not show any systematic errors.

The thinking-disorder typology outlined in this paper is similar to that described in studies of schizophrenia. While some of the most flagrant schizophrenic signs (such as word-salad, metaphorical speech, neologisms, and condensations) were not observed, the kinds of paralogical processes in the depressed patients resembled those described in schizophrenics.[8] Moreover, the same kind of paralogical thinking was observed in the nondepressed patients in the control group.

While each nosological category showed a distinctive thought *content,* the differences in terms of the *processes* involved in the deviant thinking appeared to be quantitative rather than qualitative. These findings suggest that a thinking disorder may be common to all types of psychopathology. By applying this concept to psychiatric classification, it would be possible to characterize the specific nosological categories in terms of the degree of cognitive impairment and the particular content of the idiosyncratic cognitions.

The failure of various psychological tests to reflect a thinking disorder in depression [3,4,5] warrants consideration. It may be suggested that the particular tests employed may not have been adequately designed for the purpose of detecting the thinking deviations in depression. Since clinical observation indicates that the typical cognitive distortions in depression are limited to specific content areas (such as self-devaluations), the various object-sorting, proverb-interpreting, and projective tests may have missed the essential pathology. It may be noted that even in studies of schizophrenia, the demonstration of a thinking disorder is dependent on the type of test administered and the characteristics of the experimental group. Cohen et al,[5] for example, found that the only instrument eliciting abnormal responses in acute schizophrenics was the Rorschach test whereas chronic schizophrenics showed abnormalities on a Gestalt

Completion test as well as on the Rorschach.

The clinical finding of a thinking disorder at all levels of depression should focus attention on the problem of defining the precise relationship of the cognitive distortions to the characteristic affective state in depression. The diagnostic manual of the American Psychiatric Association (APA)[2] defines the psychotic affective reactions in terms of "a primary, severe disorder of mood with resultant disturbance of thought and behavior, in consonance with the affect." Although this is a widely accepted concept, the converse would appear to be at least as plausible; viz, that there is primary disorder of thought with resultant disturbance of affect and behavior in consonance with the cognitive distortions. This latter thesis is consistent with the conception that the way an individual structures an experience determines his affective response to it. If, for example, he perceives a situation as dangerous, he may be expected to respond with a consonant affect, such as anxiety.

It is proposed, therefore, that the typical depressive affects are evoked by the erroneous conceptualizations: If the patient incorrectly perceives himself as inadequate, deserted or sinful, he will experience corresponding affects such as sadness, loneliness, or guilt. On the other hand, the possibility that the evoked affect may, in turn, influence the thinking should be considered. It is conceivable that once a depressive affect has been aroused, it will facilitate the emergence of further depressive-type cognitions. A continuous interaction between cognition and affect may, consequently, be produced and, thus, lead to the typical downward spiral observed in depression. Since it seems likely that this interaction would be highly complex, appropriately designed experiments would be warranted to clarify the relationships.

A thorough exposition of the theoretical significance of the clinical findings is beyond the scope of this paper. It may be tentatively suggested that in depression there is a significant rearrangement of the cognitive organization. This modified organization channels a large proportion of the thinking in the direction of negative self-evaluations, nihilistic predictions, and plans for escape or suicide. It is postulated that this particular shift in the thought content results specifically from the activation and dominance of certain idiosyncratic cognitive patterns (schemas), which have a content corresponding to the typical depressive themes in the verbal material. To the extent that these idiosyncratic schemas supersede more appropriate schemas in the ordering, differentiation, and analysis of experience, the resulting conceptualizations of reality will be distorted. A more complete formulation of the cognitive organization in depression has been presented in another paper.[9]

Before this discussion is concluded, a few methodological problems should be mentioned. A question could be raised, for example, regarding the generalizability of the observations. Since the sample consisted largely of psychotherapy patients of a relatively narrow range of intelligence and social index, there may be some uncertainty as to whether the findings are applicable to the general population of depressed patients. A previous study by the author and his coinvestigators is pertinent to this question. An inventory was derived from the verbalized self-appraisals of the depressed patients included in the present study. A systematic study of the responses to this instrument by a much larger and more heterogeneous clinic and hospitalized sample demonstrated that the self-reports of the psychotherapy group were representative of the much broader group.[10]

In view of the obvious methodological problems associated with using data from handwritten notes of psychotherapy sessions, it is apparent that the findings of the present study will have to be subjected to verification by more refined and systematic studies. One promising approach has been developed by Gottschalk et al [11] who utilized verbatim recordings of five-minute periods of free association by depressed patients and subjected this material to blind scoring by

trained judges. Such a procedure circumvents the hazards of therapist bias and suggestion associated with verbal material recorded in psychotherapy interviews.

Summary and Conclusions

A group of 50 depressed patients in psychotherapy and a control group of 31 nondepressed patients were studied to determine the prevalence and types of cognitive abnormalities. Evidence of deviation from logical and realistic thinking was found at every level of depression from mild neurotic to severe psychotic.

The ideation of the depressed patients differed from that of the nondepressed in the prominence of certain typical themes; viz, low self-evaluation, ideas of deprivation, exaggeration of problems and difficulties, self-criticisms and self-commands, and wishes to escape or die. Similarly, each of the nondepressed nosological groups could be differentiated on the basis of their idiosyncratic thought content.

Abnormalities were detected consistently only in those verbalized thoughts that had the typical thematic content of the depressed groups. The other kinds of ideation did not show any consistent distortion. Among the deviations in thinking, the following processes were identified: arbitrary inference, selective abstraction, over-generalization, and magnification and minimization.

Since paralogical processes were also observed in the idiosyncratic ideation of nondepressed patients, it was suggested that a thought disorder may be common to all types of psychopathology. The thesis was advanced that the various nosological groups could be classified on the basis of the degree of cognitive distortion and the characteristic content of their verbalized thoughts.

In view of the observation that the distorted ideas of the depressed patients appeared immediately before the arousal or intensification of the typical depressive affects, it was suggested that the affective disturbance may be secondary to the thinking disorder. The possibility of a reciprocal interaction between cognition and affect was also raised.

The thesis was advanced that the cognitive distortions in depression result from the progressive dominance of the thought processes by idiosyncratic schemas. By superseding more appropriate schemas, the idiosyncratic schemas force the conceptualization of experience into certain rigid patterns with the consequent sacrifice of realistic and logical qualities.

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