

PSYCHOANALYSIS AS SCIENCE

Is there any science in it at all? Here is what some researchers found out in trying to test some of the basic principles of psychotherapy.

By ERNEST R. HILGARD

PSYCHOANALYSIS is primarily a way of treating people who are emotionally disturbed. It is a medical psychology.

When we mention psychotherapy we are talking about cure by psychological means, as contrasted with cure by surgery, or by drugs, or by other forms of physical or medicinal treatment. Psychotherapy usually means a cure by way of conversations between the patient and therapist. It may be caricatured as a talking cure, if you will—so long as we know that this is a caricature.

Psychoanalysts sometimes distinguish between psychoanalysis and psychotherapy—meaning, by the former, the full-scale long-time analysis; by the latter, shorter methods of therapy. The shorter methods make use of psychodynamic principles, but do not employ complete psychoanalytic technique. Thus, if we follow this distinction, most child guidance clinics use psychotherapy, but the children and parents who go there for treatment do not get psychoanalyzed.

I do not intend to enter here into the professional problems of conducting a psychoanalysis, or into controversy as to just where psychotherapy ends and psychoanalysis begins. I am using the word psychotherapy as a classificatory word for the process of achieving

changes in emotional adjustment by psychological means. I am interested in what we have found out, and what we can find out, about how the changes in the patient take place, so that these changes, and the control of them, may become part of established psychological science.

The general conduct of a psychoanalysis has become familiar to the public through the motion picture, through cartoons in the weekly magazines, and even in the comic strip of the daily newspaper, with the usual distortions that these media produce.

Let me describe what psychoanalysis is actually like. The analyst usually begins by getting something of the personal biography of the patient, after the manner of a social worker's case history. The patient sits up and talks as he would to any physician. The analyst may have better interviewing methods, but there is little that is distinctive about the early sessions.

There may be several sessions before the patient takes to the couch, before the typical free association method is used. Then the patient is taught to follow, as well as he is able, *the basic rule*: to say everything that enters his mind, without selection. This is much harder than it sounds, even for patients who are eager to co-operate

"Psychoanalysis as Science," published in book form this month by the Stanford University Press, consists of a series of lectures delivered at the California Institute of Technology in the spring of 1950, under the sponsorship of the Hixon Fund. The lecturers—and authors: Ernest R. Hilgard, Lawrence S. Kubie, and E. Pumpian-Mindlin. The article above has been extracted from Dr. Hilgard's talks.

with the analyst. In fact, the whole lifetime has been spent learning to be tactful, to achieve self-control, to avoid outbursts of emotion, to do what is proper rather than what is impulsive. This all has to be unlearned for successful free association.

What free association aims at is the bringing to awareness of impulses and thoughts of which the person is not aware. Because these impulses are active, but out of awareness, they are called unconscious. It is necessary to break through resistances in order to bring them to awareness. The role of the psychoanalyst is, essentially, to help the patient break down these resistances, so that he may face his disguised motives and hidden thoughts frankly, and then come to grips in realistic manner with whatever problems or conflicts are then brought into view.

The activity of the analyst is directed skillfully at this task of helping the patient eliminate resistances. He does this in part by pointing out to the patient the consequences of his resistances: the times of silence when his mind seems to go blank; forgetting what he intended to say; perhaps forgetting to show up at an appointment; drifting into superficial associations; or giving glib interpretations of his own. The analyst not only calls attention to signs of resistance, but he also interprets the patient's associations in such a way as to facilitate further associations.

Interpretations—shallow and deep

Otto Fenichel¹ defines interpretation as "helping something unconscious to become conscious by naming it at the moment it is striving to break through." If this is accepted, then the first interpretations are necessarily fairly "shallow" ones, the "deeper" interpretations waiting until the patient is ready for them.

The deeper interpretations are the ones we often think of in characterizing psychoanalysis, but very much of the time in an actual psychoanalysis is spent in rather matter-of-fact discussion of attitudes toward other people and toward oneself as they show themselves in daily life—without recourse to universal symbols, references to libidinal stages, and so on.

Not all psychoanalysts agree on just how interpretations should be made, or when they should be made, and it is my guess that those who think they do agree may actually behave quite differently when conducting analyses of their patients. This is one reason why it is difficult to study psychoanalytic therapy—and a reason, also, why there are so many schisms within psychoanalytic societies.

Another aspect of the psychoanalytic therapy goes by the name of "transference." Transference refers to the tendency for the patient to make of the analyst an object of his motivational or emotional attachments. It is too simple to say that the patient falls in love with the analyst. Sometimes he makes of the analyst a loved parent, sometimes a hated parent; sometimes the analyst substitutes for a brother or sister, or for the boss at the office. The patient unconsciously assigns roles to

the analyst of the important people in the patient's own life. Part of the task of the analyst is to handle the transference. The word "handle" is easily spoken, but this handling of the transference is said to be the most difficult part of the analyst's art.

The psychoanalytic interview is a social one, an interpersonal one, with two people involved. The analyst is a person, too, and he reacts to the adoration and abuse of the patient he is analyzing. He is a good analyst to the extent that he understands himself well enough so that he preserves his role in the analytic situation, and does not himself become involved, as his patient is, in what is called countertransference—that is, using the patient as an outlet for his own emotions.

I have gone this much into detail here because the public does not always understand why psychoanalysts insist that they must themselves be analyzed. The reason is that they could not otherwise handle the problems of transference with the kind of detachment that is necessary if the patient is to be helped. The reason is *not* that they must have a laying on of hands or special indoctrination in order to transmit the faith held by their therapist. If it works that way, as it occasionally does, then the training analysis has been unsuccessful in achieving its aim (as it undoubtedly is in some instances).

To make the blanket charge that psychoanalysis is unscientific because the method requires that the analyst himself be analyzed is unwarranted, although this charge is commonly made. There is a danger that analysts become too doctrinaire. If you ask an analyst about his theoretical position, he may reply by telling you under whom he had his analysis. There are parallels in other sciences as well. A biologist's or a physicist's work often reflects the master under whom the scientist studied. There is need for caution in both instances.

Because there is danger of indoctrination does not mean that there are not ways of avoiding that danger. For example, psychoanalysts profit greatly from doing control analyses under more than one training analyst, representing somewhat divergent viewpoints. Postdoctoral fellows in the natural sciences often prefer to work in laboratories at a different place from the one in which they received their training, in order to break their provincialism. It may be that a personal analysis is as essential to conducting a psychoanalysis as learning calculus is to becoming an engineer. The problem then becomes how to achieve the gains and avoid the pitfalls.

Disturbance in analysis

Very often there is within the midst of psychoanalysis a state in which the patient is more disturbed than he was before entering treatment. Those unfriendly to psychoanalysis occasionally use this as an indication of its therapeutic ineffectiveness.

Two comments can be made here. First, what appears to others to be disturbance may not be "neurotic" at all. Some individuals are excessively kind to other people, at great cost to themselves. If they suddenly express

their feelings more openly, they may become less pleasant to live with or to work with, because they can no longer be exploited. The troublesome child may be a healthier child than the child who is too "good." If a person changes, new social adjustments are required, and some that were in equilibrium now get out of focus. This is the first observation regarding apparent disturbance in the midst of analysis.

The second comment is that the disturbance in the midst of analysis may be a genuinely neurotic one, an aggravation of the typical transference. That is, the substitution of the analyst for other figures emotionally important to the patient may produce an emotional crisis, in which the patient actually acts more irrationally than before treatment. If this crisis is well handled, the patient emerges the better for it. Although some analysts believe that such crises are inevitable in an analysis, others attempt to ward them off by such devices as less frequent therapeutic sessions when transference problems become too hard to handle. In any case, the fact that an aggravated transference neurosis may occur does not invalidate the therapeutic usefulness of psychoanalytic technique.

Three words often crop up in discussion of what is taking place as the patient improves. These are "abreaction," "insight," and "working through."

"Abreaction" refers to a living again of an earlier emotion, in a kind of emotional catharsis—literally getting some of the dammed-up emotion out of the system.

"Insight" refers to seeing clearly what motives are at work, what the nature of the problem is, so that instinctual conflicts, as psychoanalysts call them, are recognized for what they are. Insight is not limited to the recovery of dramatic incidents in early childhood that were later repressed. Sometimes such insights do occur and sometimes they are associated with relief of symptoms.

The process of working through

But neither a single flood of emotion in abreaction nor a single occasion of surprised insight relieves the patient of his symptoms. He requires, instead, the process of "working through," that is, facing again and again the same old conflicts and finding himself reacting in the same old ways to them, until eventually the slow processes of re-education manifest themselves and he reacts more nearly in accordance with the objective demands of the situation and less in accordance with distortions that his private needs create.

It is chiefly because the process of working through takes so long that psychoanalysis takes so long. The psychoanalyst often has the basic insights into the patient's problems quite early in treatment, but the patient is unready for them and could not understand the analyst if he were to insist upon confronting him with these interpretations.

I have sometimes likened an analysis to the process of learning to play the piano. It is not enough to know what a good performance is and to wish to give one.

The process has to be learned. The learner may know all about musical notation and may have manual skill and musical appreciation. But there is no short cut. Even with a good teacher the lessons must continue week after week before the player can achieve the kind of spontaneous performance he wishes to achieve. We do not begrudge this time, because we believe that the end is worth it.

What the analyst is attempting to do is far more complex than what the piano teacher is attempting to do. The skilled management of a life is more difficult than the skilled management of a keyboard.

It must be clear by this time that laboratory experimentation that preserves anything like the richness of a psychoanalysis will be very difficult indeed, if not, perhaps, impossible.

Animal and human experiments

With this background, we may well wonder whether there is any profit in attempting to study psychotherapy using animal subjects. Surely they will not free-associate, develop resistance, and improve through the careful handling of the transference. What meaning can abreaction, insight, and working through have for them?

As a matter of fact, the outlook is not so bleak as might be supposed, and a number of studies have been concerned with the induction of neuroses in animals and with the therapy of these artificially induced neuroses.

But our primary interest in therapy is in the treatment of human illness, so that experiments that study therapeutic principles directly with human subjects have a cogency that experiments with animals can never have.

One kind of venture is that which seeks to evaluate the relative success of different kinds of therapy without any experimental control of the therapy itself. Such investigations are important, but the scientific generalizations from them are bound to be meager. They may tell what kind of patient ought to go to what kind of physician, but then we would still have to ask why one is more successful than the other. We might find, for example, that Alcoholics Anonymous did more than psychoanalysts for alcoholics. But this would be only a start in further inquiry. Today we are concerned with what goes on within psychotherapy, not with what kind of therapeutic arrangements are to be recommended in the community.

I wish to give one illustration of the kind of data that can be obtained from therapeutic sessions that deal with the course of treatments of real people who come to a psychotherapist for help. Sometimes scientists use data that they create for experimental purposes; sometimes they turn available data to scientific use. This first illustration is the kind of situation in which available data are turned to scientific account. I refer to some studies of short psychotherapy made by Carl Rogers² and his students in the counseling center at the University of Chicago.

To those of us oriented in the field of contemporary

clinical psychology, it may seem somewhat surprising that I bring Rogers into a discussion of psychoanalysis, for he is, in some sense, an enemy, or at least a competitor. But a person in trouble, who is being counseled, is not concerned about the theory that is being used on him. He is burdened by his troubles, and if he finds relief and we discover how, the principles are important ones, no matter who his therapist is.

In some sense, Rogers' antagonism to psychoanalysis produces interviews that reveal better than psychoanalysis itself some of the principles about which analysts speak.

Nondirective therapy

Rogers' method, known as nondirective therapy, consists in a supportive therapy based primarily upon the permissiveness of the therapist. An effort is made to avoid getting embroiled in transference, and interpretations are at a minimum. The therapist listens attentively and reflects the feeling in the assertions of the patient, avoiding evaluations or judgments of his own. What then happens during successive sessions?

Rogers and his students have systematically recorded what is said in their interviews, using the modern electromagnetic records. Secretaries are taught to transcribe the "mm's" and "ah's" and to note the length of rest pauses. Hence it is possible to make detailed content analyses of the interviews to give quantitative answers to some questions about what goes on.

It is said, for example, that in the early interviews the patient commonly restates his problem, returning over and over again to the same point of difficulty, but after he has been in the situation awhile he gradually achieves insight, and these occasions of insight are signs of therapeutic progress.

By carefully coding what is happening in the interviews we may ascertain whether or not this march of events does in fact go forward. On the chart below are plotted the average results of ten cases for whom there

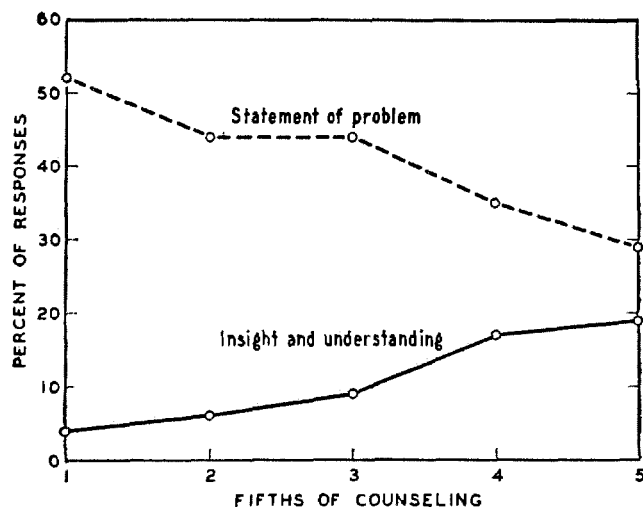


Chart shows changes taking place in patients during brief psychotherapy. Restatements of the problem decrease relative to increase of insight and understanding.

were from three to nine interviews each. When the records are divided into fifths, we see that the statement and restatement of the problem decreases relative to the increase in statements revealing insight and understanding.

One can imagine a real experimental design superimposed upon a process of this sort. For example, at some stage the therapist might deliberately introduce interpretations of the kind carefully avoided in the nondirective method. If the height of the line showing statements of insight and understanding increased, by this criterion, the interpretation would be shown to be helpful; if the line were to taper off, it would show that the interpretations slowed up the progress.

One of the chief advantages of Rogers' method for purposes of research on psychotherapy is that it provides a highly disciplined interview technique, with minimum active participation by the therapist. Hence other methods might well use it as a control method, noting how the other methods accelerate or slow up progress. Fortunately, the consequences of Rogers' nondirective method are generally benign, so that no harm would be done in using it as a reference method.

A start has been made in the direction of comparing two methods in a very ingenious experiment by C. D. Keet³. I wish to describe his experiment in some detail because it serves as a useful model of experimental design in this difficult field. If its results are substantiated by others, I believe that the experiment will prove to be something of a landmark.

Comparing counseling techniques

Thirty normal subjects participated in this experiment, designed to compare the effectiveness of two counseling techniques in overcoming a conflict symptomatized by the inability to recall a word just memorized. Through a cleverly devised method, the subject learned a list of six words, including a critical word to which he had shown emotional responses in a word association test.

The word association test was the one made familiar by Jung. A list of one hundred words is read off to the subject, one word at a time. The subject is instructed to reply as promptly as possible with the first word that he thinks of. The experimenter notes the word, and records the time of response with a stop watch. The list is gone through a second time. Emotional conflict is shown in a number of ways, according to what have come to be known as "complex indicators." These include far-fetched responses, failure to respond, repeating back the stimulus word, repeating an earlier response, and so on.

In this experiment two complex-indicators were chosen. First, those words were selected for which responses were changed from the first to the second reading. Second, among these words, that one was chosen for the purpose of the experiment that had the longest reaction time.

By this strictly objective method, a critical family of three words was selected, one stimulus word and the two words given as responses to it on the two trials. In the example to which we are about to turn, the set of key

words was "nasty—messy—mean." That is, to the word "nasty" the subject had replied "messy" after a delay on the first trial, and then on the second trial had replied "mean," but also after a delay.

The critical stimulus word was then imbedded in a list including five neutral words. Subjects experienced no difficulty in learning and remembering this list of six words. But now a new list of six words was memorized, producing some interference with recall of the first list.

We experimental psychologists have a fancy expression for this interference. We call it retroactive inhibition. When the effort was made to recall the first list, twenty-five of the thirty subjects forgot the critical word but remembered the remaining five neutral words. We here see the activity of a moderate repression. The emotionally loaded word is forgotten when conditions for recall are made slightly more difficult, even though the word was freely recalled in the process of memorizing the list of six words. Subjects felt very annoyed that they could not recall this word that was "right on the tip of the tongue."

This "microneurosis" provided an opportunity for short therapy, the success of the therapy to be judged, first of all, by the recovery of the forgotten word. Two therapeutic techniques were compared. One of these, called the "expressive technique," was permissive, and allowed expression of feeling. It was very close to Rogers' nondirective technique. As used in this experiment it was unsuccessful. It failed in all thirteen of the cases with whom it was used. That is, none of the thirteen recovered the forgotten word during the therapeutic session.

The second technique, called the "interpretive technique," had all the features of the first, but added the more active interpretive comments of the therapist at appropriate times. Thus to the insights of the client were added those of the therapist, at, of course, a "shallow" level from the point of view of psychoanalysis. But the method deviates from the Rogers method in the direction of the psychoanalytic method. The method was highly successful. Eleven of twelve subjects met the first criterion of therapeutic success; that is, they recalled the forgotten word within the therapeutic session.

Interpretation and recall

The question we wish to ask is this: Just how did interpretation help to bring about the recall of the forgotten word? The author, Keet, suggests that through interpretation his subjects were freer to use normal associative processes. Then the affective experience that determined the failure to recall came into awareness. Once the affective experience was in awareness, the conflict over recall could be resolved, because the subject was able to recall the circumstances under which the critical word was forgotten.

I wish to present a verbatim account of one of Keet's interpretive therapeutic sessions, to illustrate the nature of his interpretations and provide evidence that will per-

mit us to judge whether or not the consequences are as he describes them.

Therapeutic interview

The subject, a young married woman, replied to the word "nasty" first with the word "messy," then with the word "mean." Because both of the replies were long delayed, the word "nasty" was chosen as the critical word in the memory experiment. She first memorized the following list of six words: green, make, ask, nasty, paper, sad. This she did without difficulty. Then she learned another list of six words. The memory method used was somewhat unusual, but I am not going to take the time to give the details. After the memorization of the second list she was asked to recall the first. It is at this point that the therapeutic interview took place.

EXPERIMENTER: Now please repeat the first set of key words.

SUBJECT (*confidently*): Green, make, ask, paper, sad. (*A pause followed with the experimenter looking inquiringly at the subject.*) Wait a minute, there were six and I have only five. That's silly. Of course there were six. I should be able to remember the sixth one. Let me see. Green, make, ask, sad, paper. No, that's wrong. Paper comes before sad. That's right, isn't it?

E: You want me to help you. [*This is a characteristic Rogers nondirective response.*]

S: If you would only tell me that, then I would perhaps remember the missing word. (*Pause.*) It's annoying. . . . It's funny. . . . I know it was in the fourth place, wasn't it?

E: Try to work it out by yourself, by . . .

S: I see you want me to recall the word by myself.

E: That would be more satisfying, wouldn't it?

S: Sure. I mean it is always nice to solve a little problem. It's quite an easy job remembering six words after you've said them several times. (*She moves in the chair and gives vent to little sounds of annoyance . . . a considerable pause.*)

E: You are quite annoyed with yourself.

S: Yes, I am, why should I be so stupid. . . . Green, make, ask, blank, paper, sad . . . sad, paper, blank ask. Oh, that will be no use. (*she tries again, counting on fingers and apparently saying the words silently. Makes exclamations of annoyance.*) Is it bread? No, it isn't. That's in the second lot. . . . Is it bread?

E: We agreed that it would perhaps be better if you tried to remember it yourself.

S: I am too annoyed to think clearly. All sorts of words pop into my mind. Is it all right if I say them?

E: You are free to go about it any way you please.

S: Well, the last set was water, long, try, bread . . . er . . . er . . . bird, wasn't it?

E: You do want help, don't you?

S (*laughs heartily*): Yes, I'm all mixed up. If I could get certainty on the last list it might help me to remember.

E: You feel confused.

S (*laughs*): Yes, all mixed up and disturbed. It's funny that I can remember the last list and not the first one. One word in the first one: blank, blank, blank. That's no good. I shall have to give up.

E: You are quite free to do that, you know.

Up to this point the interview has followed the general pattern of the expressive technique. The experimenter has been permissive, has recognized the subject's feeling, but has not interpreted. The permissiveness of the experimenter's last response ("You are quite free . . .") releases a good deal of expressed emotion in the next response. This is the kind of therapeutic consequence claimed for the nondirective method. The first response

classified as an interpretation follows this release of feeling by the subject.

S: That's a relief. You think me very stupid, don't you? (*Laughs.*) I suppose I am, really. I should be able to recall the word. It is most exasperating. I feel quite angry with you, sitting there smug and self-satisfied. Could you do it? I mean have you tried it on yourself? (*She laughs when she sees the experimenter smiling.*) Oh, is the word "green"? That doesn't seem to ring quite true. I am sure it is not "green." I went overseas once and got quite seasick . . . turned green . . . (*pause*).

[Now note that the experimenter departs from the non-directive method to offer a simple interpretation.]

E: Perhaps there is something about the word itself. . . . You may have had some experience, or something like that.

S: I often used to feel sick when I got angry. I did a moment ago. Just the faintest feeling in my stomach when I felt a bit angry with you. I was very seasick when I went to Europe. Turned pasty and green. . . . I was all alone . . . the youngest in a swimming team. Pasty. (*Pause.*)

[You will notice the similarity between the word "pasty" and the word she is trying to recall, which is "nasty." The experimenter stays with the problem of her feelings, however.]

E: You say you feel a little nauseated when you are angry.

S: Yes, whenever my sister and I quarreled and I got very angry I was nauseated. Once I even got sick and vomited. I didn't like the mess. This is not so bad nowadays. Only when I try to hold my irritation back, then I get it. I always thought my sister was stronger than I am. We used to have real fights sometimes. (*Laughs.*) I don't feel so confused any more. Do you think the blank, blank word . . . (*laughs*) I can't remember it yet. (Can it have something to do with my quarreling with my sister? My father liked her very much more than he did me. (*Pause.*))

E: Maybe. And perhaps it is connected with some more recent experience.

[These interpretations by the experimenter may seem to be very trivial, but their importance lies in their timing. He had noted in the subject's hesitation at this point something that might be interpreted as a thought near to expression. Her response proves the correctness of his hunch.]

S: You mean with my husband. . . . Oh, that just slipped out. (*Laughs.*) Now I have said it. I might as well tell you we had a quarrel the other day—a rather bitter one. (*Pause.*) I still think he was very mean. (*With some vindictiveness.*) When people get nasty like that I get very angry. I mean nasty. Of course, that is the word. "Nasty." Well, I never. How do you like that! Do you really think this has something to do with my quarrel with my husband? It is very funny.

The success of the cases in which there were these rather simple interpretative intrusions as contrasted with those in which interpretations were avoided gives clarity to the manner in which such interpretations help penetrate a thin veil of resistance. The element of surprise at what she discovers is, by the way, characteristic of the insights that come in psychotherapy.

But I am not yet through talking about this experiment. So far we have seen one therapeutic result: the recall of a word that had undergone repression within the experiment.

The second cycle

The experimenter was not satisfied with this, for that would be mere symptom alleviation. Therapy must go deeper than that. Now, he asked, did the therapy here go any deeper, or, to put it another way, can any generalization or spread of its results be detected?

The second cycle of the experiment was almost a repeat of the first, by again introducing the learning of a list, the learning of a second list, and then the attempted recall of the first. But this time one of the response words in the critical set was used. The subject

who said to "nasty" first "messy" and then "mean" is now asked to learn a list in which the first response word ("messy") is included.

The conjecture is as follows. If the therapy really released some of the emotion or produced some insight connected with the disturbing set of key words, then the repressive tendencies should have been weakened. Hence, those whose therapy was unsuccessful should repress the new word, while those whose therapy was successful should be able to recall the word without trouble.

The conjecture was completely substantiated. Those who forgot and never recovered the original stimulus word in the first part of the experiment *also* forgot the response word in the second part of the experiment: those who forgot, but later recovered the stimulus word, had no trouble in recalling the response word in the second cycle of the experiment.

A useful pattern for future work

If we take the experiment at its face value it is a beautiful epitome of much that is said to go on within psychoanalysis. I have no reason to doubt the experimental findings, except that psychologists are brought up to be skeptics, and I shall not rest happy until someone repeats and confirms the experiment. Whether or not the results in a repetition turn out as decisive as Keet's results, I believe he has set a very useful pattern for further work.

There are several very good features to Keet's experimental design.

(1) In the first place, the subjects are selected from the general population for the purposes of the experiment. They are not people who come to a physician because they believe themselves to be sick.

(2) In the second place, a symptom is produced under laboratory conditions, so that an element of control is introduced.

(3) In the third place, the methods of therapy used are clearly delineated, and criteria of therapeutic success operationally defined.

(4) Fourth, all of this is superimposed upon a recognition that a laboratory neurosis is necessarily connected with the biography of the individual. The word association test in this experiment provides a bridge to the real person, so that the experiment does not take place in a psychological vacuum. The importance of this is readily recognized when you recall the highly personal and individual material that comes out even in this very brief psychotherapeutic session.

The main points that I have been emphasizing in these lectures are that it is possible to experiment in this field and that we already have a considerable body of experimental results.

1. For one thing, it has been possible to parallel many psychoanalytic phenomena in the laboratory. When this is done, the correspondence between predictions according to psychoanalytic theory and what is found is on the whole very satisfactory.

2. A second point needs to be made. If experiments supporting psychoanalytic interpretations are any good, they ought to *advance* our understanding, not merely *confirm* or *deny* the theories that someone has stated.

Many experiments give merely trivial illustrations of what psychoanalysts have demonstrated to their own satisfaction in clinical work. Such illustrations may be useful as propaganda, or in giving psychoanalysis a fair hearing, but they do not really do much for science unless there is some fertility in them.

Only a few of the experiments that I have reported serve this constructive role, but these few set useful patterns for the future. The content analysis of Rogers and his students might be used to produce new knowledge about the course of improvement under psychotherapy. Keet's experiment suggests that we may be able to produce and cure mild neuroses in the laboratory, thus making possible precise comparisons of different methods.

3. A third point is that experimental work thus far bears most directly only on the most superficial aspects of psychoanalytic theory, while many of its deeper problems are scarcely touched. I do not worry much about this, however, for if we are able to design experiments appropriate to the more superficial aspects, we can move on to deeper stages.

We must be careful not to be trapped by the word "deeper," when we think of psychoanalysis as a "depth" psychology. Two meanings are possible. An impulse or emotionally loaded experience may be deeply repressed, possibly because it is connected with something from very early childhood. This is the usual meaning of deeper. But there is another meaning. Something is deeply important for the individual if it is in some sense central or nuclear, heavily freighted with emotion.

Depth: the metaphor and the reality

Classical theory says that these two senses correspond—the nuclear conflicts are those from early childhood, and deeply repressed. But we may find that what is deeply important for therapeutic purposes is that which arouses depth of feeling in the present, regardless of its relative importance at some remote time. Depth is a metaphor, and we need to know the realities to which it refers.

There is no doubt but that psychological science will be advanced further, as it has already been advanced, by taking cognizance of the teachings of psychoanalysis. This would be true even though psychoanalysis were to disappear in the process.

But how about psychoanalysis itself? What are its prospects as a science?

In a trenchantly critical, albeit friendly, review of the possibilities for a scientific psychoanalysis, A. Ellis⁴ notes a number of "dangers," that is, features tending to delay the development of a truly scientific psychoanalysis. His main points are that psychoanalysts seem to prefer defending an accepted theory to an impartial examination of evidence, and they move too quickly to

a complete and final explanation of events, when, in the present state of psychological knowledge, more modest claims would be both more fitting and more becoming.

Anyone who tries to give an honest appraisal of psychoanalysis as a science must be ready to admit that as it is stated it is mostly very bad science, that the bulk of the articles in its journals cannot be defended as research publications at all. Having said this, I am prepared to reassert that there is much to be learned from these writings. The task of making a science of the observations and relationships may, however, fall to others than the psychoanalysts themselves.

Following the rules

If psychoanalysts are themselves to make a science of their knowledge, they must be prepared to follow some of the standard rules of science. Ellis lists thirty-eight suggestions, although many of them overlap. Half of his statements warn against accepting speculative theories uncritically; making a god of some one psychoanalytic authority; letting one's own prejudices stand in the way of accepting contradictory evidence; falling into mysticism and obscurantism; seeking "complete" explanations.

The other half restate the ordinary principles of science: hypotheses tentatively proposed and subject to empirical test; control experiments; objectively recorded data; experiments on subjects other than patients under treatment; a search for contradictory as well as for confirmatory evidence; repetition of observations by independent investigators, and so on. It must not be implied that psychoanalysts themselves have not been concerned about these matters. Some suggested research problems and procedures will be discussed in the lectures by Dr. Kubie that follow.

Whatever the psychoanalysts do about research, the obligation is clearly upon experimental, physiological, and clinical psychologists to take seriously the field of psychodynamics, and to conduct investigations either independently or in collaboration with psychoanalysts. It is a tribute to Freud and his psychoanalytic followers that the problems faced by psychologists in their laboratories have been enormously enriched by the questions the analysts have taught us to ask.

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