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A NEW PSYCHOANALYTIC THEORY AND ITS TESTING IN RESEARCH

HAROLD SAMPSON

I present an overview of the research program of the Mt. Zion Psychotherapy Research Group[1] and of the new psychoanalytic theory, developed by Weiss, on which that research is based (Weiss, Sampson, & the Mt. Zion Psychotherapy Research Group, 1986). This work is relevant to the unifying theme of this book—the relation between psychoanalysis and the rest of psychology—in two ways.

First, my colleagues and I have demonstrated that rigorous empirical research using ordinary scientific methods may be carried out systematically on broad, fundamental psychoanalytic hypotheses about unconscious mental functioning, psychopathology, and the treatment process. It can be carried out using the data of the psychoanalytic situation as well as of other psychotherapies. It can yield findings that disclose lawful relationships, challenge some long-established beliefs, and have implications for both theory and practice. In these ways, the work I report helps to make psychoanalysis less of a separate discipline based exclusively on a unique methodology.

Second, my and my colleagues' work suggests that unconscious mental life is much more similar to conscious mental life than has been generally recognized. Unconscious mental life is guided by adaptive considerations, including continuous appraisals of danger and safety, and it is regulated by higher mental functions such as thoughts, anticipations, beliefs, judgments, decisions, and plans. These characteristics of unconscious mental life apply not only to a conflict-free sphere (Hartmann, 1939/1958) but to central domains of psychoanalytic interest: repressed strivings, unconscious conflicts, psychopathology, and the treatment process. In these ways, also, this work provides a bridge linking psychoanalysis to the rest of psychology.

[1]Now known as the San Francisco Psychotherapy Research Group.

BACKGROUND

In 1958, Weiss began to study the process notes of psychoanalyses. His approach to this material was empirical. He focused his attention on indications of significant therapeutic changes in patients' behavior. He noticed, for example, when a patient brought important new material into the analytic work, such as reporting a childhood memory that had been long forgotten, experiencing a feeling that had previously been inaccessible, or exhibiting some new capacity in his or her behavior. Weiss (1971) referred to such changes as "the emergence of new themes" (p. 459).

Weiss (1971) made an important observation about these changes: Patients often made significant progress on their own, that is, without the help of interpretations by the analyst. New themes frequently emerged spontaneously. In addition, when patients became conscious of previously inaccessible (and presumably repressed) ideas, memories, fantasies, and feelings, they often did not seem to experience conflict in relation to the new material. They were calm as they presented it and did not struggle against it but instead worked with it to increase their understanding of their mental lives.

Weiss (1971) attempted to explain these observations by the familiar psychoanalytic hypotheses he had been taught. These hypotheses could not explain the timing of the spontaneous emergence of new themes or the patients' lack of conflict regarding emerging material that seemed to have been previously repressed. Weiss began to develop new hypotheses to account for his observations. He proposed that patients have some unconscious control over their repressions and that this control is regulated by unconscious appraisals of danger and safety. Patients maintain their repressions against a mental content when they believe, unconsciously, that it would endanger them to experience it. They are able to lift their repressions and experience the content when they believe unconsciously that they can experience it safely. This hypothesis is compatible with Freud's (1926/1959) revised theory of anxiety and defense and is similar to ideas proposed by Rangell (1969) and Sandler (1960).

Over a period of years, Weiss developed a comprehensive new theory of mental functioning, psychopathology, and treatment (see the next section) in which patients are seen to have more motivation to solve their problems, unconsciously as well as consciously, than had been generally assumed. Patients also are seen to have more capability of doing so than generally recognized. They work throughout therapy, unconsciously as well as consciously, to solve their problems with the help of the therapist. Weiss's new theory did not diminish the role of the therapist but, by elaborating on the patient's unconscious therapeutic work, provided a different understanding of how the therapist helps the patient.

Weiss and I began to discuss these hypotheses on a daily basis in the mid-1960s. We assumed that these hypotheses could be tested by rigorous research methods because they specified the conditions under which certain observable changes should take place. Moreover, the use of these hypotheses in our clinical work had convinced us of their considerable explanatory and predictive power. These convictions led us to undertake the arduous path of subjecting Weiss's hypotheses, along with competing hypotheses, to systematic empirical investigation.

AN OUTLINE OF WEISS'S THEORY

According to Weiss, people are powerfully motivated from infancy on to understand their world and to adapt to it (Stern, 1985; Weiss, 1990; Weiss et al., 1986). In attempting to adapt, they seek reliable knowledge about themselves, their relationship to others, and their interper-

sonal world. They organize this knowledge intrapsychically as a system of beliefs, unconscious as well as conscious, about their reality. These beliefs are an indispensable guide to adaptation and self-preservation. They organize perceptions of self and others, and "it is in accordance with his beliefs about reality that a person shapes his inborn strivings and by so doing evolves his personality" (Weiss, 1990, p. 660). People's emotions are also shaped by their beliefs about themselves and their situations; for example, people who believe that they are endangered are likely to feel anxious, or people who believe that they are unworthy of love may feel depressed (Silberschatz & Sampson, 1991).

Infants and children form some beliefs that may be called "pathogenic" because they impair functioning. People believe that the pursuit of certain goals will disrupt their all-important ties to their parents and will cause them to suffer from fear, anxiety, guilt, or shame. For example, a young man in analysis had formed the belief in childhood that if he made friends he would cause his mother, whom he perceived to be possessive, to become depressed. Therefore, if he were to form friendships, he would threaten his tie to his mother and also cause himself to suffer from intolerable guilt. In obedience to this belief and the dangers it predicted, he relinquished his desire to have friends and remained instead in a close, infantile relationship to his mother. This patient's early relationship to the analyst was guided by the unconscious belief that the analyst, like his mother, would be hurt if he were to have important relationships with anyone else.

People construct beliefs by inference from experience. Pathogenic beliefs are usually acquired in childhood from traumatic experiences with family members. They may, however, be acquired at any time of life and in relation to nonfamily members from powerful experiences. People's beliefs are subjective: Their construction is influenced by their age, life situation, and motivation. In the case of children, their construction is also greatly influenced by their inexperience and by overgeneralization from a small sample of people or instances. Although beliefs are subjective, their construction is also powerfully influenced by actual experiences. For example, a young girl whose parents complain or act hurt when she behaves independently is more likely to develop a strong conviction (belief) that her independence is harmful to her parents than a young girl whose parents seem cheerful about her independence. Or, a young boy who is ignored by his parents is more likely to develop the unconscious conviction that he is uninteresting and unimportant than a young boy whose parents display more interest in his activities. The child's inferences may be inaccurate from the viewpoint of an outside observer, but they are usually reasonable inferences in terms of the child's life situation and limited experience.

Any motive, goal, or psychic state (e.g., to feel happy or confident) may become linked, by inference from experience, to a dangerous consequence. For this reason, pathogenic beliefs are specific to the individual and are quite varied. For example, a young boy may form the belief that if he misbehaves he will burden his tired and overwhelmed parents, or that if he misbehaves he will be punished by rejection, or that if he misbehaves he can restore a parent's sense of confidence and authority by giving the parent an opportunity to scold or punish him. Or, a young girl may come to believe that if she is sexual toward her father he will be disgusted with her, or that if she is sexual he will lose control, or that if she is sexual toward him he will perk up and become less depressed. Or, a young boy may acquire the belief that if he is happy he will reassure his worried parents, or that if he is happy he will be acting cruelly to his miserably unhappy parents, or that if he is happy he will provoke rivalry from his easily threatened parents.

Psychopathology, according to Weiss (1990; Weiss et al., 1986) stems ultimately from pathogenic beliefs. It is in obedience to pathogenic beliefs that individuals institute repressions and develop symptoms, inhibitions, and character problems. People's affect and impulses, as well

as their control or lack of control over them, are also shaped by their pathogenic beliefs (Weiss, 1990).

Because patients' problems stem from pathogenic beliefs, the central task of therapy is to disconfirm these beliefs. A therapeutic process is a process that disconfirms pathogenic beliefs.

How does this take place? Patients are highly motivated unconsciously to disconfirm their pathogenic beliefs because these beliefs are grim, impede the pursuit of highly desired goals, and cause great suffering. Patients work throughout therapy, unconsciously as well as consciously, to disconfirm these beliefs with the help of the therapist. Their work is guided by general plans about what they will attempt to accomplish first and what they will attempt to defer until later. These plans, which are always at least partly unconscious, indicate what pathogenic beliefs they will initially attempt to disconfirm, and how they will work to do so. In devising their plans, patients are guided by considerations of safety and danger.

Patients work in therapy in two general ways: by testing pathogenic beliefs in their relation to the therapist in the hope of disconfirming them and by thinking about their problems and acquiring greater insight into their pathogenic beliefs. In testing a belief, patients carry out a trial action in the hope that the therapist will not react as the beliefs predict. For example, Mr. D., the young man who isolated himself because he unconsciously believed that he would harm his possessive mother (and, by transference, other significant persons) if he formed friendships, tested this belief in relation to the analyst. He mentioned a college classmate with whom he had begun to have casual conversations about a shared course, and he implied that the classmate had a bad character and probably would not be good for him. The analyst mildly questioned this idea. The patient, encouraged by the analyst's comment, then noted various good traits about his potential friend. In the next session he recalled an incident from childhood in which his mother had criticized a playmate with whom he had just begun to form a friendship. He remembered that he had assumed that his mother did not want him to have friends and that he therefore gave up the new friendship.

This sequence illustrates one way in which a patient may unconsciously carry out a test of a pathogenic belief in relationship to the analyst. It also illustrates how, if the analyst's response tends to disconfirm the belief, the patient may feel safe enough to make immediate progress. The patient may begin to lift a defense, and new themes may become conscious.

Patients also work in therapy by thinking about their problems and their origins. They may be helped by the analyst's interpretations to understand their pathogenic beliefs and how they are related to their problems. Interpretations that help patients to understand and disconfirm their pathogenic beliefs lead to therapeutic progress (see the section on how patients respond to interpretations). Interpretations that tend to confirm patients' pathogenic beliefs may set patients back.

In order to help patients, the therapist "should infer the patient's conscious and unconscious beliefs about himself and his interpersonal world. The therapist may then perceive the patient's situation (with its dangers and opportunities) as the patient himself perceives it" (Weiss, 1990, p. 660). The therapist should also infer patients' unconscious plans to overcome their problems in therapy; that is, what beliefs patients are attempting to disconfirm and how they are working to disconfirm them. This understanding will enable the therapist to respond appropriately to patients' unconscious tests, thereby providing patients with experiences that serve to disconfirm powerfully the pathogenic belief that is being tested. It also enables the therapist to make interpretations that facilitate patients' plans.

Weiss's (1986) theory is about unconscious mental functioning as well as about psychopathology and treatment. It proposes that people have considerable unconscious control over their repressions and behavior. People may do unconsciously many of the things they do con-

sciously: they may think, anticipate, assess potential consequences of a course of action, including whether to maintain a repression, or to defend against or make manifest a transference. People may compare the present to the past, form judgments, make decisions, and devise and carry out plans.[2] They may carry out these activities not only preconsciously, in relation to conflict-free issues, but unconsciously in relation to the central conflictual issues in their mental lives.

THE FIRST RESEARCH PARADIGM: SAFETY AND THE EMERGENCE OF NEW THEMES

Weiss's (1971) crucial observation in his first process note studies was that patients may—and frequently do—become aware spontaneously of previously inaccessible mental contents, contents that the analyst would have assumed to have been repressed. They may become aware of these contents calmly and without conflict; they may use awareness of these contents to gain further understanding of their mental lives. This observation may have been known, more or less implicitly, by other psychoanalytic clinicians, but the theoretical issues posed by it had not been recognized. Therefore, the observation was never considered to require explanation, nor was it discussed in psychoanalytic theories of therapy and of technique. Weiss, however, recognized that the observation posed a problem, for traditional psychoanalytic hypotheses could not explain the *timing* of the emergence of the repressed material, its emergence without conflict, or its almost effortless utilization by the patient for therapeutic purposes.

The initial clinical paradigm for this phenomenon was referred to by Weiss (1952, 1971; Weiss et al., 1986) as "crying at the happy ending." It may be illustrated by a brief clinical example:

> Dr. H., in his first session back following the analyst's two month summer vacation, began to describe his own busy, active, and productive summer. He noted that he had not missed the analyst during the break from treatment. He was aware, however, that he enjoyed being back. A little later in the session, without interpretation, Dr. H. became aware of intense feelings of sadness about the separation. He proceeded, without anxiety, to discuss his feelings, and to connect them to childhood memories of separations from his mother. (Weiss, 1971)

It is essential that we closely examine the problem such an observation poses for certain familiar psychoanalytic explanations. In Freud's (1905/1953a) early theory, patients cannot lift their defenses on their own because their defenses are regulated automatically by the pleasure principle: "The process of bringing . . . unconscious material to light is associated with unpleasure, and because of this the patient rejects it again and again" (p. 266). Therefore, according to traditional theory, a repressed content such as a wish cannot ordinarily become conscious without interpretative help from the analyst unless it is intensified, or the defenses against it are weakened. In either of those situations, the repressed content may press toward consciousness. This, in turn, evokes intensified defensive efforts. If the repressed content is powerful enough, it may nonetheless push its way to consciousness without disguise. In this unusual circumstance, patients will continue to be in conflict with the content, will feel anxious about it, and will attempt to re-repress it. More commonly, the content becomes conscious in a compromise

[2] A person's judgments, decisions, and plans—whether conscious or unconscious, and whether based on pathogenic or normal beliefs about self and others—may of course lead to unanticipated, undesired, and maladaptive consequences. Error, failure, and even maladaptation do not result from only psychopathology. However, in the case of psychopathology, problems and maladaptations may arise because a person's pathogenic beliefs provide a grossly inadequate guide to the contemporary situation, or because the person's pathogenic beliefs compel the person to fail in certain ways, to lose control in certain ways, to punish self in certain ways, and so forth.

formation that, if successful, may enable the content to emerge without producing anxiety or conflict. In this situation, patients will not experience conflict with the emerging content because its importance is hidden. Patients will not understand the true significance of the emerging content and will be unable to use it progressively in their treatment until its significance has been interpreted to them.

This theory does not explain the timing of the emergence of sadness. Dr. H.'s sadness could not have become conscious because it had been intensified, for his sadness would in that case have been the most intense during the summer separation. It became conscious, however, only after he regained, during the first session following the separation, a sense of being reunited with the analyst. At that point, the cause for sadness was eliminated. Thus, the patient experienced his sadness precisely when there was no longer a reason to feel sad.

Moreover, if the sadness had become conscious because of its intensity, in spite of Dr. H.'s efforts to defend against it, he would have become anxious at its emergence and would have remained in conflict with it. Instead, the sadness emerged without manifest anxiety or conflict and the patient, instead of struggling against it, retained it in consciousness, worked on its meanings, and linked it to childhood memories.

If the sadness emerged in a well-disguised compromise formation, the patient would have been calm when it emerged, but he could not have understood its importance without interpretative help and would have been unable to work with it. The hypothesis that the sadness emerged as a compromise formation (or because of some subtle shift in the dynamic equilibrium of defense and impulse) cannot explain either the timing of the emergence or the fact that the patient used the emerging content almost effortlessly to deepen his understanding of his mental life.

In addition, the sadness could not have emerged as a gratification because sadness is not intrinsically gratifying. The patient's becoming aware of his sadness is instead an example of the kind of process that, according to Freud, contradicts his earlier assumption that unconscious mental life is regulated exclusively by the search for pleasure (1920/1955, p. 32). He was referring to processes in which people repeat experiences that cannot at any time have been pleasurable (Weiss et al., 1986, p. 10).

The emergence of the sadness cannot be explained as primarily a defense against some other content (e.g., as a defense against anger at the analyst/mother for abandoning him). This explanation is not based on any direct clinical evidence. In fact, the patient had in earlier work been conscious of anger toward his mother for leaving him but had not previously been able to face his sadness. The defense hypothesis also cannot explain the *timing* of the emergence or the observation that the patient did useful therapeutic work with the now-conscious sadness.

Weiss's (1971) explanation of the phenomenon was that the patient had repressed his sadness about the separation while the analyst was away because it would have endangered him to experience it then. The patient lifted his repression and began to face his sadness only after reestablishing his feeling of having a relationship with the analyst. This made it safe for him to experience his sadness. He brought it to consciousness not for gratification or for defense, but in order to master it. This explanation accounts for the timing of the emergence of the sadness, for the patient's lack of anxiety about it as he became aware of it, and for his lack of conflict with it afterward. It accounts for his continuing to work with his sadness therapeutically and his motivation and capability in linking it to childhood memories and thus expanding his self-knowledge.

Weiss's (1971) hypothesis about safety and the emergence of new themes has another virtue that will only become apparent in lines of research to be discussed in later sections: It has predictive power. It enables therapists, by specifying conditions that are likely to increase the patient's sense of safety, to predict that the presence of these conditions is likely to be followed by immediate therapeutic progress.

Weiss, and later others of us, confirmed this hypothesis repeatedly in our clinical work. We recognized, however, the need to go beyond exclusively clinical methods of testing hypotheses. We knew that only carefully designed studies, with controls for various sources of bias and error, could lend strong support—or alternatively, disconfirm—the hypothesis. We also recognized that formal research had contributed greatly to scientific advances in other fields, and we assumed it might have equally significant long term effects in psychoanalysis.

Sampson, Weiss, Mlodnosky, and Hause (1972) conducted a preliminary pilot study of the safety hypothesis. They studied an analytic patient, Mr. A., who was almost devoid of affect at the beginning of treatment. They were able to demonstrate by reliable measures and statistical tests of significance that as Mr. A. began to feel able to control his emotions and therefore to regulate their intensity safely, he then became able to experience more intense feelings. This study did not, however, compare Weiss's (1971) hypothesis directly with competing psychoanalytic hypotheses; therefore, a new method was developed and pilot-tested (Horowitz, Sampson, Siegelman, Wolfson, & Weiss, 1975). An improved version of the new methodology was then developed by Gassner, Sampson, Weiss, and Brumer (1982), and applied to a new case. I summarize their study in broad outline.

The purpose of the Gassner et al. (1982) study was to determine whether, as the hypothesis would lead one to anticipate, a patient may become conscious during analysis of previously unconscious contents that have not been interpreted, do so without anxiety or coming into conflict with the new content, and use the content to advance his or her therapeutic work. This combination of findings, as discussed earlier, cannot be explained adequately by alternative psychoanalytic hypotheses.

The study was carried out on the first 100 sessions of an audio-recorded psychoanalysis that had been conducted by an analyst in another city. The analyst was unfamiliar, at the time he treated the patient, with the Gassner et al. (1982) hypotheses.

The first step in their study (Gassner et al., 1982) was to identify a series of *new* contents or themes in the later hours within the 100 sessions (i.e., contents that had not been described by the patient earlier). In carrying out this step, Gassner et al. first identified new themes appearing in hours 41–100. The second step required psychoanalytic clinicians to judge, on the basis of their own individual case formulations derived from reading the process notes of the first 10 sessions, which of this pool of new themes would have been repressed at the beginning of the analysis. Nineteen psychoanalytic clinicians made this judgment independently. Gassner et al. accepted as previously unconscious content *only* those new themes that psychoanalytic clinicians *agreed highly* had been warded off earlier by defenses.

In order to avoid problems of circularity, the statements of new themes that were presented to the judges (for judgment as to whether these themes had been warded off earlier) omitted any cues as to whether the patient was anxious or conflicted when the themes first emerged. The judges rated each new theme on a 5-point scale. A rating of 5 reflected the judges' strong belief that the new theme had previously been unconscious.

The 19 judges made ratings on 100 randomly selected new themes. They did so, as I noted, on the basis of their own case formulation derived from reading the process notes of the first 10 sessions. Thirteen of the 100 statements received a mean scale score of 4 or greater. These statements, on which there was substantial agreement between judges that they had been previously unconscious, were designated as "judged previously warded off" themes.

Did the Gassner et al. (1982) methods *actually* yield *clinically meaningful* unconscious contents? They believe so. The patient herself, the treating analyst, and finally, a research group working independently from the judges, all provided evidence that the statements judges rated as warded off had been previously warded off and were of central significance to the patient.

There were seven new themes that the patient had *prefaced* with phrases acknowledging the patient's own awareness of facing a previously unconscious content. An example is "I've never let myself before think or feel such and such." These prefatory comments were deleted so as not to provide the judges with these clues. Nonetheless, the judges gave these seven statements—which the patient's comments identified as previously warded off—a mean rating of 4.

The treating analyst independently completed the same judgment task as the 19 judges. He rated as 4 or greater 11 of the 13 statements that they had identified as warded off. Moreover, he considered the statements to which the judges gave the highest ratings as so revealing that he asked that their contents in publications be disguised.

Finally, the research group, working independently of the judges, made their own case formulation and then evaluated the statements identified by the 19 judges as previously unconscious. The research group agreed that these new themes expressed significant, previously unconscious contents.

These three converging lines of evidence gave Gassner et al. (1982) confidence that their method—which is, after all, a formal research variant of the usual clinical method of identifying unconscious contents—*did identify clinically meaningful and significant previously unconscious contents.*

The next finding was that the analyst had not made any prior interpretations that related to the ideas expressed in 12 of the 13 themes judged as highly warded off.

Thus, a number of clinically meaningful unconscious contents became conscious in the latter part of the first 100 hours of Mrs. C.'s analysis, and they did so without prior interpretation.

Did the patient experience much anxiety or conflict as these contents emerged? Gassner et al. (1982) used three different measures of anxiety or conflict: Mahl's speech disturbance ratio; the Gottschalk-Gleser anxiety scale; and clinical ratings of anxiety by experienced clinicians. They compared the anxiety level on each of these measures when highly warded off contents emerged with the anxiety level accompanying the appearance of randomly selected patient statements. The patient was *significantly less anxious* on the Mahl scale when warded-off contents emerged than when random statements emerged. The other two measures showed no differences in anxiety level in the two circumstances.

Gassner et al. (1982) concluded that the patient became conscious of clinically meaningful unconscious contents regularly, without interpretation, and without evidence of intensified anxiety or conflict.

Finally, they used the Experiencing Scale to determine whether the patient worked progressively with the material as she became conscious of unconscious contents. This scale measures the patient's involvement with progressive therapeutic work, vividness of experiencing, and nondefensiveness. The patient's speech segments when previously unconscious contents emerged were rated significantly higher on the Experiencing Scale than randomly selected speech segments. This means that the patient was actually more involved with reflecting on her feelings when she expressed previously unconscious contents, and more involved in therapeutic work when these contents emerged, than she was at other randomly selected times.

This combination of findings supports Weiss's (1971) hypothesis that patients exercise some unconscious control over their defenses and that they may bring unconscious contents to awareness on their own, unaided by interpretation. They may do so on the basis of an unconscious appraisal that they may now experience the content safely.

The Gassner et al. (1982) study does not, however, explain just how patients may develop, through therapy, an increased sense of safety so that they may bring warded-off contents to consciousness. To answer this question empirically, I must turn to the next two lines of investigation.

THE PATIENT'S WORK: TESTING PATHOGENIC BELIEFS

Patients work to disconfirm pathogenic beliefs by testing these beliefs in their relation to the therapist. They do so throughout treatment. In testing, patients unconsciously carry out trial actions that invite the therapist to respond in ways that tend to confirm or disconfirm the belief. The patient unconsciously hopes that the analyst's response will tend to disconfirm the belief. For example, a young man who unconsciously believed that he would be in danger of castration if he expressed sexual interest in women tested the analyst by mentioning tentatively that a woman at work had given some hints of possible interest in him. He perceived the analyst's response of friendly interest as mildly encouraging. The patient became slightly more relaxed because the danger predicted by his belief had begun to be disconfirmed by the analyst's response. He mentioned that he found this woman somewhat attractive. After a long series of such tests, the patient became aware, without interpretation, that he had anticipated the analyst's disapproval of his interest in women. He recalled, somewhat vaguely, that as a 4-year-old child, he had felt close to his mother. When his father came home from work, he recalled that he felt anxious around him. In brief, the patient began to make progress, by testing the pathogenic belief, in understanding his unconscious sexual conflicts.

Patients' testing of pathogenic beliefs is a part of their reality-testing. In reality-testing, people distinguish a percept originating from within from a percept originating in the external world. According to Freud (1917/1957a), people may make this distinction on the basis of an action (e.g., they may move their heads to see whether the percept then disappears). In testing a pathogenic belief, people attempt to distinguish between a danger situation originating from within and based on an infantile trauma from a danger situation present in the external world. This attempt is made by carrying out a trial action and observing the consequences. Testing takes place in all relationships, but it is particularly prominent in therapy because patients' unconscious purpose in therapy is to disconfirm their pathogenic beliefs.

The hypothesis that patients test the therapist to disconfirm pathogenic beliefs leads to specific and testable predictions. If the therapist, in response to a test, responds in one way, the patient's belief may tend to be disconfirmed and he or she is likely to become less anxious and more productive in the therapy. If the therapist responds in another way, the patient's belief may not be disconfirmed and he or she will not show these improvements. The therapist's response to the patient's test is, from a research standpoint, the independent variable. One can determine the relationship between variations in therapist behavior, in response to a test, to certain specific and predictable consequences (e.g., reduced anxiety, increased therapeutic productivity). Several studies were conducted to test this hypothesis.

Study 1

Silberschatz (1986) carried out a study on the first 100 sessions of the analysis of Mrs. C. (This is the audio-recorded and transcribed case mentioned in the Gassner et al., 1982, study). The study involved the following three steps and subsequent statistical analysis of findings:

Step 1: Key tests (i.e., tests central to the patient's pathogenic beliefs) were reliably selected from transcripts of the 100 sessions by three analytic judges working independently of each other. The reliability of ratings of key tests by the judges was $r_{11} = .63$, $r_{kk} = .82$. Forty-six key tests were identified.

Step 2: Four psychoanalysts familiar with the clinical application of the testing concept rated on a 7-point scale the degree to which the treating analyst "passed" each test (i.e., responded in a way likely to disconfirm the pathogenic belief being tested). The reliability of their ratings was $r_{11} = .58$, $r_{kk} = .89$.

Step 3: Mrs. C.'s behavior immediately before and after each test was assessed on several patient measures. Each measure was scored by a different group of judges. Patient speech segments were approximately 6 minutes long and were presented to the raters in random order and without any context. The raters were unaware whether the segment occurred before or after the testing segment. They were also unaware of the aims of the research. The measures of patient behavior included the Experiencing Scale; a boldness scale (developed by Caston, 1986, to assess the degree to which the patient is able to confront or elaborate nontrivial material); an anxiety scale (categorized according to an affect scale developed by Dahl, 1979); and a relaxation scale (developed by Mayer, Bronstein, & F. Sampson to assess the patient's apparent relaxation during a speech segment [in Weiss et. al, 1986, pp. 200–202, p. 263]). Reliabilities (r_{kk}) ranged from .64 to .94 on these measures.

Silberschatz (1986) then correlated the degree to which the analyst passed the patient's key tests with changes in the patient's behavior, as measured by each of the aforementioned four scales. Each correlation was in the predicted direction and was statistically significant. The findings indicate that the patient, immediately following a passed test, tended to become less anxious, more relaxed, more involved in therapeutic work and more productive, and showed more boldness in tackling problems. These findings support the testing hypothesis and provide evidence of its predictive power.

Study 2

Silberschatz (1986) undertook a second study on the case of Mrs. C. to test the relative predictive power of two alternative psychoanalytic hypotheses about the same event. This study was possible because some of the patient's key tests (from my and my colleagues' viewpoint) were, from an alternative psychoanalytic perspective, instances of the patient making a transference demand on the analyst (e.g., for love, special treatment, guidance, praise). In some of these instances, the therapist response that was designated as "passing the patient's test" might be understood by other analysts as frustrating the patient's unconscious wishes as expressed in the transference demand.

The two psychoanalytic hypotheses make different predictions about how the patient will respond to the identical behavior by the analyst. According to the testing hypothesis, the patient is not seeking to gratify an unconscious wish but to test an unconscious pathogenic belief in relation to the analyst. Therefore, if the analyst "passes the test," the patient should feel reassured, less anxious, and bolder and freer in tackling problems. By contrast, if the patient is seeking to gratify an unconscious wish in the transference and the analyst does not gratify the wish, the patient will feel frustrated. The predicted behavior of the patient in this situation was specified by the investigators in the Menninger Psychotherapy Research Project: "Patients whose neurotic needs are not gratified within the transference respond to this frustration with regressive and/or resistive reactions, and/or painful affects" (Sargent, Horwitz, Wallerstein, & Appelbaum, 1968, p. 85).

Because the two hypotheses predict different behavior by the patient in the identical situation, one may determine empirically which hypothesis provides a better fit to the data. This was the study that Silberschatz (1986) carried out.

Step 1: Judges who believed in the traditional psychoanalytic hypothesis identified instances in the first 100 sessions of the case of Mrs. C. in which the patient was attempting to gratify an unconscious wish in relation to the analyst. Judges who believed in the testing hypothesis had previously selected instances of key tests. Silberschatz then identified only those instances that both groups of judges selected as examples fitting their theory. There were 34 such overlapping instances.

Step 2: Analytic judges who believed in the traditional hypothesis rated the therapist's response to each of the 34 overlapping instances for how well the analyst, by remaining appropriately neutral, had not gratified the patient's unconscious transference wish. These ratings were reliable (r_{kk} = .74). Analytic judges who believed in the testing hypothesis rated each of the 34 instances for how well the analyst had "passed the test." These ratings were also reliable (r_{kk} = .78).

Step 3: Silberschatz correlated ratings of the analyst's behavior by the two groups of judges. This correlation was .81 ($p < .001$). This means that the same behavior that one group of judges saw as testing, the other group saw as frustrating an unconscious wish by appropriate neutrality.

Step 4: Ratings of the patient's behavior on several variables before and after the analyst's response to the test had been obtained in the first study, described earlier.

Silberschatz then analyzed the data in the 34 overlapping instances to determine the relations between predictions and observations for each hypothesis. The major predictions of each theory are shown in the following display:

	Analyst passes test	*Analyst frustrates wish*
Patient anxiety	Decreases	Increases
Patient boldness	Increases	Decreases
Patient experiencing	Increases	Decreases
Patient relaxation	Increases	Decreases

The predictions of the testing hypothesis were consistent with observation. Specifically, statistically significant changes in the direction predicted by the testing hypothesis were found for anxiety (decreased), boldness (increased), and relaxation (increased) ratings. The Experiencing Scale scores changed nonsignificantly in the predicted direction (increased). Correspondingly, all predictions based on the wish-frustration hypothesis were unsupported by observation.

Data from this study, as well as from Study 1, lend support to the idea of testing. It thereby supports a set of related ideas: (a) that analytic patients work unconsciously to disconfirm pathogenic beliefs; (b) that this work involves higher mental functions (e.g., unconscious planning, unconscious carrying out of trial actions, unconscious assessment of the therapist's behavior in terms of whether it confirms anticipations of danger); (c) that the behavior of the patient is motivated by unconscious attempts to solve his or her problems rather than by the dynamic interaction of impulses and defenses; and (d) that the patient's behavior is guided by unconscious thoughts and assessments rather than by automatic dynamic interactions of forces.

Further Studies of Testing

Further studies of testing have been carried out by other investigators under the direction of Silberschatz and Curtis. These studies have been conducted on brief psychotherapies and have included some additional dependent variables. Significant correlations have been found between passing a patient's test and immediate increases in the patient's level of experiencing (Silberschatz & Curtis, 1991), immediate decreases in the patient's anxiety as measured by a new physiological measure of voice stress (Kelly, 1989), and immediate increases in the patient's level of adaptive regression (Bugas, 1986).

These successful replications using different patients, different psychotherapies (brief psychotherapy rather than psychoanalysis), and some different measures of patient change lend further support to the hypothesis that testing pathogenic beliefs is an important patient activity and that "passing" the patient's tests is an important factor determining therapeutic progress.

THE PATIENT'S WORK: HOW THE PATIENT RESPONDS TO INTERPRETATIONS

Interpretations also play a crucial role in psychoanalysis and psychoanalytic psychotherapies. Weiss et al. (1986) proposed that patients respond to interpretations differentially as a function of how useful the interpretation is to them in understanding and disconfirming their pathogenic beliefs and in pursuing their conscious and unconscious goals and plans. This hypothesis leads to testable predictions. The therapist's interpretations may be classified in accord with the extent to which the interpretations should enable a particular patient to carry out his or her plans for disconfirming pathogenic beliefs. It is then possible to analyze the relation between the plan compatibility (pro-planfulness) of the interpretation and immediate patient progress.

Caston (1986) pioneered an ingenious method for obtaining a reliable formulation of an individual patient's plan. His method has been further developed by other research group members (Curtis, Silberschatz, Sampson, Weiss, & Rosenberg, 1988; Rosenberg, Silberschatz, Curtis, Sampson, & Weiss, 1986). A useful way to analyze a patient's plan is in terms of (a) his or her inferred goals; (b) the inferred inner obstacles to attainment of his or her goals (i.e., pathogenic beliefs); (c) the inferred ways in which the patient is likely to test the therapist; and (d) the inferred insights that would help the patient carry out his or her plan and move toward his or her goals. For each of these four categories, plausible but not necessarily correct statements are generated independently by three or four judges who read transcripts of a patient's intake interview and of the opening sessions of the treatment. (If one is studying an analysis, the judge reads transcripts of the first 10 treatment sessions; if one is studying a brief psychotherapy, he or she reads transcripts of only the intake and first 2 treatment sessions.) The pooled items of all of the judges are then re-presented to them. The judges are then asked to rate each item for its pertinence to and priority in the patient's plan. Items that command high interjudge agreement are then included in what is called the *plan formulation* for that patient.

Caston (1986) also pioneered the first pilot studies of Weiss's (1986) hypothesis about the plan compatibility of interpretations and immediate patient progress. His findings were generally supportive of the hypothesis but inconclusive. Bush and Gassner (1986), using an improved methodology, carried out a pilot study on interpretations during the termination phase of the analysis of Mrs. C. They found that the plan compatibility of the analyst's interpretations was correlated significantly with the patient's acceptance of termination. On the basis of these preliminary studies, Fretter (1984) undertook a carefully designed study of the immediate effects of interpretations in three brief psychotherapies. I describe a portion of this study and its findings (Fretter, 1984; Silberschatz, Fretter, & Curtis, 1986).

Fretter (1984) used a single case-repeat design; that is, she carried out her procedures and analyzed her data on one case and then replicated the process on additional cases studied one at a time. The data were analyzed separately for each case because goals, pathogenic beliefs, and so forth, differed for each case. Therefore, the standards for assessing whether an interpretation was "pro-plan" differed for each case.

Fretter's (1984) sample consisted of three cases randomly selected from a larger sample of recorded and transcribed 16-session brief psychotherapies. The three cases were each diagnosed as suffering from chronic, neurotic depression. Six months after therapy, Case 1 showed an excellent outcome, Case 2 a good outcome, and Case 3 a poor outcome.

The therapists for the larger sample of cases were psychologists or psychiatrists with at least 3 years of private practice experience after completion of training. Some therapists were psychoanalysts; all had received specialized training in brief psychoanalytically oriented psychotherapy. The therapists held differing psychodynamic orientations. Patients were assigned to therapists in random order.

Fretter (1984) had all verbal comments made by the therapist over the course of the treatment classified independently by several judges as "interpretations" or "noninterpretations." This was done with near-perfect agreement between independent judges and yielded a list of all interpretations for each case.

Fretter (1984) then used new judges (four to six judges for each case) to rate each interpretation for its plan compatibility. She presented each judge with a very brief summary case history (from the intake and first 2 sessions). She also provided them with the plan formulation of that case. (The reliability of the plan formulation was obtained by the method described earlier.) This enabled the judge to evaluate in a case-specific way whether an interpretation would, for this patient, be "pro-plan." Ratings were made on a 7-point Likert scale ranging from −3 (*strongly anti-plan*) to +3 (*strongly pro-plan*).

Interpretations were removed from the transcript and presented to judges in random order. The judges were kept blind to the patient's response to the interpretation, to when the interpretations were given, and to the outcome of the case.

Reliabilities of ratings were good in each of the three cases (r_{kk} of .89, .88, and .85, respectively). Fretter (1984) used the mean of the judges' ratings for statistical analyses.

In order to measure the patient's immediate response to interpretations, Fretter used the Experiencing Scale (described earlier). The patient's experiencing was measured on approximately 3-minute patient speech segments immediately before and immediately after each interpretation. These segments were removed from the transcripts, typed on individual cards, and presented to judges in random order. Therefore, judges of these segments did not see the interpretation, did not know when the segment occurred in the therapy, and did not know whether the segment occurred before or after the interpretation. They were also blind to the outcome of treatment. Fretter used a residualized gain score to analyze the direction and degree of change in experiencing from before to after interpretation.

Findings

Fretter (1984) found a statistically significant positive correlation (ranging from .25 to .58) in each of the three cases between the plan compatibility of interpretations and changes in experiencing. Statistically significant correlations were also obtained in later work on these same cases for two other dependent variables: Pro-planfulness of interpretation was also associated significantly with *increased insight* (Broitman, 1985), and with *increased referential activity* (Bucci, 1988; Fretter, Bucci, Broitman, Silberschatz, & Curtis, 1988). The Referential Activity Scale rates speech for richness of sensory detail, imagery, specificity, and clarity. Language that is high on this scale has a quality of immediacy and liveness for the listener. Language that is low on this scale will sound abstract, general and vague, and lacking in specific and concrete detail.

In order to capture the cumulative impact of the plan compatibility of interpretations over the course of a session, Fretter (1984) took the mean score for plan compatibility for each hour and correlated it with the mean shift in the experiencing score for that hour. She found large and statistically significant correlations between plan compatibility and shifts in experiencing: The correlations were .54 in one case, .57 in a second, and .78 in a third. Figure 1 (in Silberschatz, Sampson, & Weiss, 1986) illustrates this relationship and shows visually the striking correspondence in each case between the plan compatibility of interpretations and the patient's immediate progress.

Fretter (1984) also decided to check on whether there was a relation between the plan compatibility of interpretations over the course of the therapy and how well the therapy turned out. In the case with the highest proportion of plan-compatible interpretations, there was an

excellent outcome; in the case with the lowest proportion of plan-compatible interpretations, there was the poorest outcome; and the other case was in between on both plan compatibility and outcome. This finding means little in itself but encouraged me and my colleagues to undertake further research. In a subsequent study carried out by Norville (1989) on seven cases, strong positive correlations (approaching .70) were found between the overall plan compatibility of interpretations and the overall favorableness of outcome. The correlations were not statistically significant for this sample of seven cases, but they were sufficiently promising to encourage replication of Norville's study on a large sample.

Implications

Fretter's (1984) findings, combined with those of Broitman (1985) and Bucci (1988), have several implications: First, they indicate that what the therapist tells the patient—the content of interpretations—determined whether the interpretations were helpful. This finding indicates that the interpretations did not work primarily by providing patients with any one of a number of possible coherent frameworks or narratives for understanding their problems, for it demonstrates that different interpretive frameworks lead to significantly different results.

Second, the interpretations do not work simply by suggestion. The cure appears to be based in part on the specific medicine dispensed rather than on only the doctor.

Third, these findings also challenge any simple relational theory, that is, any theory that therapy works by providing the patient a benign and supportive relationship independent of what the therapist communicates to the patient.

Fourth, consistent with the findings of Silberschatz (1986) on testing, these results show that the therapist's interventions have an *immediate effect* on patient progress. This supports the idea that patients always unconsciously monitor the treatment environment for indications as to whether the infantile danger situations they unconsciously fear are real and present in the therapeutic situation. This means that the behavior of patients is regulated continuously by appraisals of their immediate reality.

These findings also lend further support to Weiss's (1986) plan concept by demonstrating once again the explanatory and predictive power of hypotheses derived from it. The plan concept predicts a certain order in nature, and my colleagues and I have found that order in several research studies.

PSYCHOANALYSIS AND PSYCHOLOGY

I would like to comment further on the relevance of this work to the relationship between psychoanalysis and the rest of psychology. Psychoanalysis developed independently from the rest of psychology, and it has for the most part remained a separate discipline. It arose in clinical practice, in the institutional setting of the private consulting room rather than the university. It developed a distinctive subject matter (unconscious conflict and unconscious mental life), a distinctive set of explanatory concepts, its own method of investigation, and its own research traditions.

The new science of psychoanalysis addressed important and fascinating problems in human life. Its concepts were revolutionary, and they concerned, and offered compelling explanations of, phenomena that had scarcely been touched by serious scientific inquiry. Not surprisingly, psychoanalysis influenced many areas of human thought, including other areas of psychology.

This influence was for the most part one way. Psychoanalysis itself remained relatively insulated from the research methods and findings in other areas of psychology. Until very recently, this has continued to be the case.

There have been, in addition to institutional and historic factors, significant scientific and theoretical reasons why psychoanalysis has remained mostly a separate science. One reason has been its research tradition, which has relied almost exclusively on a relatively informal case study method in which the treating analyst, in the course of his or her work, makes observations and inferences, develops familiar or new explanatory hypotheses, and tests these hypotheses against other observations in the same case or in other cases. The informal case study method is well suited to investigation of the subtle, complex, and often puzzling phenomena of mental life. It was essential to Freud's development of the field. It has enabled generations of analysts and analytically influenced clinicians—approaching the study of mental life with differing experiences, gifts, and theoretical perspectives—to create an extraordinarily rich and diverse body of clinical observations and lore, and to formulate hypotheses that have supplemented, extended, clarified, challenged, and even contradicted Freud's early theory.

Nonetheless, the traditional research method of psychoanalysis is subject to many serious and intrinsic problems and limitations (see, e.g., Bellak, 1961; Benjamin, 1950; Edelson, 1977, 1984; Escalona, 1952; Glover, 1952; Grunbaum, 1979; Lustman, 1963; Shakow, 1960; Silverman & Wolitzky, 1982; Wallerstein & Sampson, 1971). In brief, the method does not provide an investigator other than the treating analyst access to unselected, unbiased, relatively complete data from which he or she can form conclusions. Moreover, the very data produced in the analytic situation are shaped to some extent by the patient's compliances with the analyst, thereby making it suspect as proof of the analyst's theories. In addition, the methods of analyzing the data and drawing conclusions are more or less private and implicit, and they do not lead to univocal conclusions, even by trained, well-qualified observers. Because of these and other problems, the traditional method does not provide for rigorous testing of hypotheses or for a definitive way of choosing between competing hypotheses.

Exclusive reliance on this method, without *also* developing a substantial base of systematic, formal research, reflects a gross underestimation of the intensive, sustained, and specialized effort required to validate or disconfirm hypotheses, or to choose between competing hypotheses (Wallerstein & Sampson, 1971). The task of testing hypotheses cannot be carried out adequately as an aspect of ordinary clinical work, for it requires its own logic, procedures, controls, and standards. It also places special demands on the investigator's time and commitment.

The research tradition of psychoanalysis, with its uniqueness and its limitations, has contributed to the relative insulation of psychoanalysis from other sciences, including psychology. It has limited the interest of psychoanalysts in findings obtained by other methods; such findings are often considered irrelevant almost by definition because they do not provide data from the psychoanalytic situation. This research tradition has also limited the informed interest in psychoanalysis of many psychologists other than clinicians. The uniqueness and inaccessibility of the psychoanalytic research method has made it difficult for many psychological scientists to evaluate the credibility of psychoanalytic findings or to apply psychoanalytic findings readily to their own research problems.

The research discussed in this chapter has shown that alternative fundamental psychoanalytic hypotheses about the unconscious, psychopathology, and therapy may be tested systematically by ordinary research methods. Verbatim transcripts from the psychoanalytic situation as well as from other psychotherapies are used. Hypotheses are tested by research designs planned in advance to control for potential sources of bias and error; quantitative measures of pertinent variables and of relationships between variables are used; and statistical tests to determine the significance of the findings applied. The findings, if replicated independently, have important

implications for theory and practice. Therefore, this work challenges the idea that psychoanalysis must remain a separate science based exclusively on a unique methodology. It helps, along with other work described in this book, to bring psychoanalysis into the mainstream of contemporary science, making it a part of a larger scientific enterprise.

A number of Freud's early concepts also contributed to the insulation of psychoanalysis from the rest of psychology. Freud (1905/1953b, 1915/1957b) assumed that unconscious mental life—the central domain of psychoanalytic interest—operated by entirely different rules than conscious or preconscious mental life. It was regulated exclusively by the pleasure principle. Its processes were not concerned with adaptation or with reality. Its processes automatically strove for immediate gratification without thought, anticipation, planning, judgments, or assessments of risk and evaluation of consequences. Similarly, unconscious thought automatically turned away from unpleasure, even as the infant automatically turns away physically from a noxious external stimulus. These hypotheses made traditional psychology—based for the most part on the study of higher mental functions or of behavior guided by adaptive considerations—applicable only to what Hartmann (1939/1958) referred to as the conflict-free sphere of the ego. Research concerned with higher mental functions or with adaptation appeared to be irrelevant to the main domains of psychoanalytic interest: unconscious mental life, unconscious conflict, psychopathology, and therapy.

Freud's early theory of unconscious mental functioning and of adaptation was modified in Freud's own ego psychology, in the work of Hartmann (1939/1958) and other ego psychologists, in the interpersonal theory of Harry Stack Sullivan (1953), in the work of some of the British object-relations theorists, in the contributions of the new students of infant development (see, e.g., Lichtenberg, 1983, 1989; Silverman, 1986; Stern, 1985), as well as in the work of many contemporary analytic writers (e.g., Rangell, 1968, 1969; Sandler, 1960). These modifications have gone in the direction of recognizing that adaptation to reality is a primary and central psychic concern from the beginnings of life; that the pleasure principle does not have exclusive sway over unconscious mental life; that the pleasure principle subserves adaptation; and that psychopathology may arise not because of the dominance of the pleasure principle over unconscious mental life but out of efforts at adaptation to reality. I have described these trends in some detail elsewhere (Sampson, 1990).

Weiss's (1986) theory and my and my colleagues' research has taken us still further in modifying Freud's early theory that unconscious (repressed) mental life is regulated exclusively by the pleasure principle and functions without regard to reality and adaptation. Weiss has proposed that a person may unconsciously do many of the same things he or she does consciously. The person can unconsciously think, anticipate, make discriminations, judgments, and decisions, form beliefs about the self and the world in which he or she lives, plan, compare past experiences to current situations, and assess risks and evaluate the realistic internal and external consequences of a course of action. These higher mental functions are used not only in preconscious thought but in thought about repressed strivings, unconscious conflicts, and unconscious beliefs about danger. Moreover, the patient's behavior in treatment is guided by adaptive considerations such as danger and safety, and is regulated by unconscious plans, anticipations, beliefs, and decisions. This research has supported these ideas and has suggested that a patient's behavior is more accurately predicted from his or her inferred unconscious goals, plans, and beliefs about reality than from his or her inferred drives and defenses.

In this way, too, this work makes psychoanalysis a less separate science. It makes psychoanalytic concerns and hypotheses more relevant to the core biological concept of adaptation, as well as to familiar topics within psychology bearing on thinking, planning, decision making, and belief systems. It also makes these fields of academic study and research more relevant to psychoanalysis.

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