

Research on Unconscious Mental Functioning in Relationship to the Therapeutic Process

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Terry Waite endured 1,763 days as a hostage held in captivity in Beirut, Lebanon. When Waite first was captured, he had a dream that he was utterly unable to recall throughout his long years of imprisonment. The dream was as follows:

I am alone walking by the sea. It's dusk—I walk along the sand. The sea laps at my feet. Suddenly I am conscious of being alone. When I look up, I can no longer see land. The sea rolls in. I feel panic. I am going to be cut off. Unless I get off this beach quickly I will drown. Why can't I find my way? I see in the distance two figures coming towards me across the sand. I recognize two of my children. They take me by the hand as they would a blind man and guide me off the beach to the shelter of a familiar town. (Waite, 1993, p. 28)

During all the years that Waite was held in solitary confinement, his recall of this dream eluded him. It was only after Waite had safely returned to England and was reunited with his wife and two children that he was able to recall this dream of terror and rescue. Why should it be that a man who spends more than 4 years of his life in solitary confinement can remember only a dream such as this one once his ordeal has ended and he is returned safely to the family he loves? Weiss (1993; Weiss & Sampson, 1986) has proposed a theory, *control-mastery theory* (CMT), that helps to explain phenomena such as Waite's repression of his dream and the timing of its subsequent recovery. This theory has inspired the San Francisco Psychotherapy Research Group (formerly called the Mt. Zion Psychotherapy Research Group), under the leadership of Sampson and Weiss, to conduct a series of studies focused on unconscious mental functioning (Weiss, Sampson, & the Mt. Zion Psychotherapy Research Group, 1986).

Introduction to the Higher Mental Functioning Paradigm

The purpose of this chapter is to describe research about mental processes that operate outside of conscious awareness. There is a growing appreciation in both psychoanalysis and cognitive psychology of the unconscious mind's capacity always to be making appraisals. The research we describe is concerned with fundamental laws governing the unconscious mental functioning of the patient who is undergoing either psychoanalysis or psychoanalytically oriented psychotherapy. The unconscious mental functioning hypotheses tested were based on what Weiss et al. (1986) referred to as the "higher mental functioning paradigm" (HMFp).

The CMT of unconscious mental functioning is rooted in Freud's (1926/1964) seminal work, *Inhibitions, Symptoms and Anxiety*. In this account of unconscious mental functioning, people are understood to be capable of exercising unconscious control over their repressions. People typically maintain their repression of a mental content when they anticipate that experiencing the content would create a situation of emotional or interpersonal danger. People may lift their repressions and make the content conscious when they

judge that they may experience it safely. This paradigm assumes that higher mental functions, such as unconscious thoughts, judgments, anticipations, decisions, and beliefs play a central role in the unconscious regulation of defenses and in pathogenesis. The HMFp has profound implications for how patients use treatment in terms of their unconscious appraisals of safety and danger, their beliefs, and their decisions and plans. CMT (Weiss, 1993; Weiss & Sampson, 1986) elaborated and expanded the HMFp, thereby offering a comprehensive theory of the therapeutic process.

The first series of studies we describe compared how well the HMFp accounted for the patient's behavior in psychoanalytic treatment when it was compared with an alternative set of hypotheses that Weiss et al. (1986) referred to as the "automatic functioning paradigm" (AFP), derived from Freud's early theory of how the unconscious mind functions. This is the theory of unconscious mental functioning developed before the ego psychology that Freud presented in *The Interpretation of Dreams* (Freud, 1900/1953a), the *Papers on Technique* (1911–1915/1953b), and the *Papers on Metapsychology* (Freud, 1914–1916/1953c). According to this view, much of people's unconscious behavior can be understood as an interplay of psychic forces that are either seeking or preventing discharge and that are governed by the pleasure principle. The dynamic interaction of these unconscious forces, namely the dynamic–economic interaction of impulses and defenses, determines behavior. According to this view, unconscious psychic forces are the basic causes of behavior, and thoughts and beliefs are merely epiphenomena derived from these unconscious forces.

Many contemporary psychoanalytic clinicians accept to some extent both the HMFp and the AFP and use their intuition to decide when each paradigm helps them to understand their patients better. Psychoanalysts may be placed on a spectrum on the basis of how much they rely on the AFP at one end and the HMFp on the other.

The research that we present involves a series of interrelated studies of a single patient. The data come from an audio-recorded psychoanalytic case and use both the verbatim transcripts of the treatment sessions and the detailed process notes made by the treating analyst, who summarized the content of each session.

The Case of Mrs. C.

We briefly describe Mrs. C., the patient who was studied. Mrs. C., a professional woman in her late 20s, had been married for several years at the time she entered analysis. She was the second of four children, with a sister 2 years older, a sister 3 years younger, and a brother 6 years younger. She came from a highly conservative Protestant New England family. Her mother, a social worker during the patient's childhood, later devoted herself to civic causes. Her father, like her husband, was a successful businessman. Mrs. C. grew up in a comfortable suburb, attended public schools through high school, and then went to a prominent women's college. She earned a master's degree in social work from a prominent Eastern university and had been employed for several years at a child guidance clinic at the time she sought treatment. During the intake interviews, the patient stated that she was seeking help primarily because her husband, who had been in analysis for 2 years, had strongly urged her to do so, and her husband's analyst had supported the idea.

Her major presenting problem was her inability to enjoy and reluctance to have sexual relations with her husband. In addition, Mrs. C. described a fear of simply being a nonentity, of existing as a maid to her husband, and of not occupying an equal position in the relationship. She also complained of feeling chronically tense, self-critical, overly anxious, and unable to relax and interact comfortably with others. At work she felt driven by a strong sense of obligation and duty. She also felt more distant from coworkers than she thought she should be.

In attempting to explain her sexual inhibitions to the intake worker, she mentioned that her family was controlled, unemotional, and unaffectionate. Mrs. C. felt she had deeply internalized her father's disapproval of sensuality. She characterized him as a stern, ascetic tyrant who rarely showed her any physical affection but who often punished her in violent outbursts of emotion.

The patient described herself to be much like her mother—efficient, overly organized, and afraid to show emotion. Like her mother, she felt unable to relax and enjoy herself. The patient expressed long-standing resentment toward her mother for not having protected her from her father's rage.

The patient remembered an incident from her childhood in which her older sister hit her in the stomach. She protested to her then-pregnant mother, who seemed uninterested. Mrs. C. reacted by punching her mother in the stomach even harder than her sister had hit her. Her mother, in a typical fashion, made no effort to defend herself or to discipline Mrs. C. Doubled over in pain, she simply went to her room to lie down. When her father came home, he had one of his characteristic anger outbursts. He beat Mrs. C. severely, making her feel that he might even want to kill her, and threw her into a closet and shut the door.

Mrs. C. believed her fear of sexual intercourse stemmed largely from an incident that occurred when she was 9 years old. She had been playing with her brother and accidentally fell on a long stick, sustaining an injury to her genital area that required stitches in the perineum. Many years later, during her first mother-daughter talk about sexuality, her mother warned her that, in addition to the danger of pregnancy, intercourse might be particularly painful because of the injury. Her mother told her that she might have been stitched up too tightly and therefore that an operation might be required before she could have intercourse. Although a doctor assured her after a premarital examination that this was not the case, the patient thought the effects of the injury were a major factor behind her fear of intercourse.

Mrs. C.'s childhood and adolescence were generally characterized as lonely years. Between the ages of 5 and 8, she knew that she had recurrent nightmares of something happening to her mother. Throughout her childhood she went to a friend's mother to confide her problems and receive affection. An early childhood memory of the patient was of using a wooden object in her play that represented a penis. Throughout childhood she wished she had a penis. During high school, Mrs. C. had one close female friend, but on the whole she considered her dates and friends to be uninteresting and inferior to those of her older sister. Mrs. C. always felt like an outsider to her family and currently lived some distance from them.

Mrs. C. had been diagnosed by the psychiatrist who referred her for analysis as a neurotic woman who was suffering from obsessive-compulsive difficulties. The analyst who treated Mrs. C. was highly experienced, was located in a distant city, and had no

knowledge of our research group's hypotheses at the time that he conducted the analysis. With the consent of the patient, the entire analysis was tape-recorded for research purposes. In addition, the analyst wrote detailed process notes during the sessions. The first 100 hr of the analysis have been transcribed, and the studies we are presenting made use of both the verbatim transcripts and the process notes from this same period.

Two training analysts working independently from our research group read the first 100 hr of the process notes and described their observations. These analysts were not informed of our group's hypotheses. They concluded that there was clinical evidence of true improvement taking place during this period of treatment. They observed that Mrs. C. became considerably more relaxed, acquired an increased ability to enjoy her work and be effective at it, began to enjoy sex more, and was generally happier in her marriage. They also felt that she was bringing out important material on her own.

The HMFP and the AFP: Two Theories of Unconscious Mental Functioning

We now describe a network of research findings that may most easily be explained by the HMFP. This research demonstrates that patients keep mental contents warded off until they decide unconsciously that they may safely be experienced. Because patients may wait until they are no longer endangered by a particular content before bringing it forth, warded-off contents may emerge without anxiety or conflict and then be kept in consciousness without anxiety while being experienced vividly and used progressively. Moreover, patients may, while bringing forth warded-off contents, feel more, rather than less, in control of themselves.

By contrast, the AFP assumes that repressed mental contents are regulated in accordance with the pleasure principle (i.e., by indications of pleasure and pain). These unconscious processes are understood to operate beyond patients' ego control. Because patients have no control over these contents and are therefore unable to lift their defenses against them, the analyst's interpretations are believed to play the central role in making such contents conscious. According to this paradigm, if a repressed mental content is not

interpreted, it ordinarily remains unexpressed or is expressed in disguised ways through symptoms and other compromise formations.

An unconscious content may become conscious during analysis because of a shift in the dynamic balance between the repressing and repressed forces in favor of the repressed. When a repressed content becomes intensified, it evokes intensified defensive efforts as it pushes toward consciousness. The repressed content, if powerful enough, may break through into consciousness in a relatively undisguised form. In this instance, patients are likely to be anxious when the content emerges and to continue to feel conflict about it. Because the content is still dangerous to patients, they are likely to attempt to repress it. More commonly, repressed contents spontaneously become conscious only in well-disguised compromise formations. In this circumstance, because the content is still being defended against, patients do not feel anxious about its emergence and do not come into intense conflict with it. Moreover, because the true import of the emerging content is disguised, patients do not understand its significance and cannot use insight into it to advance their therapy.

Research That Compares the HMFP and the AFP

In the first study we describe, Gassner, Sampson, Weiss, and Brumer (1982, 1986) investigated how well the AFP and the HMFP could each account for observations about how warded-off contents emerged in the course of the first 100 hr of Mrs. C.'s psychoanalysis. The two hypotheses may be compared empirically because they lead to different predictions. As noted above, the AFP assumes that mental contents are regulated automatically and that this regulation takes place in accordance with the criterion of pleasure-unpleasure. The HMFP assumes that repressed mental contents may be regulated by unconscious thoughts and decisions and that this regulation is based on appraisals of danger and safety. The HMFP suggests a combination of expected findings that the AFP cannot explain: that patients are able to bring forth previously warded-off contents without benefit of interpretations from the

therapist; to report these contents without experiencing anxiety, coming into conflict with them, or trying to ward them off; and to maintain conscious control over them.

We describe this study in some detail to convey a sense of the methods that the Mt. Zion Psychotherapy Research Group used to study the two psychoanalytic hypotheses that we have described. To study the conditions under which warded-off contents emerge in analysis, we needed a method for identifying warded-off contents that would not use clues about whether their emergence was accompanied by conflict. To this end, we used a method for identifying previously warded-off contents that also met the psychoanalytic criterion that the contents had been previously unacceptable to the patient and consequently warded off by defenses.

Gassner et al. (1982) used a modified version of a novel method for identifying previously warded-off contents devised by Horowitz, Sampson, Siegelman, Wolfson, and Weiss (1975) in the case of Mrs. C. The major procedural steps were as follows: All new ideas that emerged in Hours 41–100 previously unexpressed in Hours 1–40 were identified by two judges who independently read through the process notes of the first 100 hr. More than 500 such statements were identified and were organized by their thematic content. One hundred of the 500 statements were randomly selected, with the constraint that the thematic contents of these statements had to be in direct proportion to the total number of statements found in each family of thematic contents.

The 100 selected statements, as well as the process notes of the first 10 treatment hours, were presented to 19, all highly experienced clinicians. Their instructions read as follows: "These statements come from hours 41–100; they appeared for the first time during those hours. Please read each statement. We want to know whether you think that the content had been warded-off earlier. Use your clinical intuition to make this judgment, applying whatever criteria would lead you to call a content warded-off. As one possible criterion, you might want to ask whether that content would have been acceptable to the patient during the first 10 hours of treatment. Other criteria may also occur to you. Feel free to apply whatever criteria seem pertinent."

Judges rated the 100 statements on a 5-point scale that indicated the degree of confidence they had that a content had been previ-

ously warded off. A rating of 5 indicated a strong belief that a content had been previously warded off; a rating of 1 indicated a strong belief that the content had not been previously warded off. The treating analyst also rated which of the 100 statements had been previously warded off, using all that he had learned about the patient in the course of the entire analysis, to make these judgments.

The split-half reliability coefficient for the 100 statements studied, calculated by correlating the mean values of one randomly selected group of 9 judges' ratings with those of another group of 10 judges, produced a correlation of .90, indicating that the clinical judges showed considerable agreement about which statements had been previously warded off.

These instructions encouraged judges to use the usual clinical method for making such judgments, but two stringent requirements were added that clinicians ordinarily do not have to meet: First, we established the reliability of our clinical judgments by demonstrating agreement among a group of judges. Second, we avoided basing the judgment about whether a particular content had been warded off by considering how the patient felt while it was emerging.

Many practicing clinicians who are influenced by the AFP make the post hoc assessment that if a content that would have been expected to have been repressed is calmly discussed, the content had never been repressed. We did not assume what the AFP predicts, namely that an uninterpreted content that emerges without anxiety could not have been previously warded off.

Thirteen of the 100 statements received a mean scale value of 4 or higher. These statements made up the items considered to be highly warded-off statements. Examples of statements that received a rating of 4 or higher are as follows: (a) She recalls wanting to kill her older brother. (b) She looked at her bowel movements with the urge to see what she had done. (c) She knew how to work her parents, their guilt, and their need to be absolutely fair. (d) She controls when her husband has an orgasm by whether she moves or not.

The set of contents judged previously warded off conformed to what psychoanalytically informed clinicians mean when they refer to *unconscious contents* or *warded-off contents*. Nonetheless, because

we were aware that our measurement procedures might result in a distortion of the phenomenon under investigation, we sought additional evidence by other means that would enable us to assess further whether the contents that the judges identified as previously ward off were clinically significant. We looked for information from both the patient and the treating analyst as well as our own psychotherapy research group.

Of the 100 statements judged, 7 contained phrases that directly acknowledged the difficulty the patient had in facing the expressed content. Gassner et al. (1982) designated "cued as previously ward off" statements that contained phrases such as "I've never let myself think . . ."; "Suddenly I realize . . ."; "I can't believe I'm saying that . . ." and so on. To avoid giving the judges such cues, we omitted all phrases that expressed the patient's judgment that the idea had been previously ward off. For example, had the patient said, "I've never let myself face it that my brother is really condescending," the opening phrase "I've never let myself face it that" was eliminated from the information that the judges received.

The mean of the 7 cued as previously ward off statements was 3.96, whereas the mean of the noncued statements was 2.86. This difference in the scale values for the two groups of statements was statistically significant at the .05 level. We concluded that the judges were fairly well able to identify as previously ward off the "cues-deleted statements."

The treating analyst rated 11 of the 13 statements as previously ward off. Moreover, the treating analyst considered the statements that our judges gave the highest ratings to be so revealing and powerful that he asked us to disguise their contents for purposes of any publications.

Working independently of the judges, our research group made its own case formulation. This formulation focused on the kinds of ideas, feelings, and memories that the patient would have to allow into consciousness for her analysis to progress well. Our group felt that the statements judged to have been previously ward off involved powerful impulses or significant painful childhood memories and ideas and that these contents were directly connected to our own case formulation. These three converging lines of evidence suggested that the statements judged to be ward off were indeed clinically meaningful.

Examples of statements judged to be highly ward off are as follows: (a) "She recalls wanting to kill her older brother." (b) "She thought how she and her husband had had intercourse and she had wanted it and enjoyed it." (c) "She looked at her bowel movements with the urge to see what she had done."

Two members of our research group, Marla Isaacs and Carol Drucker (Shilkret, Isaacs, Ducker, & Curtis, 1986), independently cataloged all of the analyst's interventions. Drawing on their work, we were able to look at each of the analyst's interventions to determine whether anything he had said before the hour in which this content emerged was related to the ideas expressed in the patient's previously ward off contents. We found one such interpretation made by the analyst that related to one of the previously ward off ideas the patient had subsequently expressed. Twelve of the 13 statements emerged without any previous interpretation by the analyst.

We then studied these 12 statements to assess whether there was an increase in anxiety when they emerged. Brunner (Gassner et al., 1986) applied three techniques for rating the patient's anxiety at any given moment in the treatment. The three techniques are Mahl's (1956) speech disturbance ratio, the Gottschalk-Gleser Content Analysis Scale (Gottschalk & Gleser, 1969), and clinical ratings.

Mahl's (1956) speech disturbance ratio measures momentary anxiety in patients by quantifying aspects of how they speak. Speech disturbances such as slips of the tongue, sentence changes, intruding incoherent sounds, stutters, repetitions, sentence incompletions, and omissions are identified. A speech disturbance ratio can be obtained for any segment of speech by compiling the ratio of speech disturbances to the total number of words spoken. Numerous studies have shown that the Mahl measure is an objective quantification of anxiety and a reliably discriminating measure (Mahl, 1956, 1959, 1961).

The Gottschalk-Gleser Content Analysis Scale assesses immediate anxiety by measuring manifest anxiety-related verbal content. Phrases that focus on any of the following six contents are assessed as evidence of the presence of anxiety in the speaker: death, mutilation, guilt, shame, separation, and nonspecific anxiety. In addition, defensive and adaptive manifestations of anxiety are inferred when the speaker (a) imputes anxiety or anxiety-motivated

behavior to other people, animals, or inanimate objects; (b) repudiates or denies the affect of anxiety; or (c) reports the affect in any attenuated form. Numerous studies have demonstrated the reliability and the predictive validity of this measure and some evidence of its construct validity (Gottschalk, 1974a, 1974b; Gottschalk & Gleser, 1969).

The third method to determine the patient's anxiety involved clinical judgments of anxiety. Interrater reliability was high for all three anxiety measures. A .91 reliability coefficient was obtained by the two judges who applied Mahl's (1956) speech disturbance measure to 103 episodes in which the 12 ward-off statements and 91 randomly selected statements appeared. Four judges applied the Gottschalk-Gleser technique to the same 103 episodes with an interrater reliability coefficient of .80. An intraclass correlation coefficient of .74 was obtained for the average intercorrelation between pairs of six raters who judged the amount of anxiety the patient was expressing in episodes containing the 12 ward-off contents and episodes containing the 20 control statements. None of the three methods showed any evidence that the patient was any more anxious when previously ward-off contents were emerging, or during the 5 min that preceded their emergence, than at randomly selected times during the analysis or at times when non-ward-off contents were emerging. The analysis of data based on Mahl's speech disturbance technique showed that randomly selected patient statements were accompanied by considerably more anxiety than were previously ward-off statements. The difference was statistically significant at the .025 level.¹

To determine whether the patient was defending against the significance of the previously ward-off contents, we applied the Experiencing Scale (Klein, Mathieu, Gendlin, & Kiesler, 1970) to ward-off statements as well as to randomly selected statements. The Experiencing Scale assesses the degree to which patients focus on their ongoing flow of changing feelings as they occur during psychotherapy and how they reflect on these feelings and use such observations for problem solving. The scale is useful for micro-

scopic process studies because it has been found to be sensitive to shifts in patient involvement (Klein et al., 1970). Four trained judges applied the Experiencing Scale to the 12 ward-off statements and to 91 randomly selected statements. Their interrater reliability was .75.

Two kinds of scores can be obtained from the Experiencing Scale. One is the modal score, which characterizes the overall experiencing level of the therapy segment being studied. When the modal measure was used, Mrs. C. showed a significantly higher level of experiencing when ward-off contents were emerging than when randomly selected statements were being made ($p < .05$). The second Experiencing Scale measure is the peak score that describes the highest scale level reached in the segment being studied. When the peak measure was applied, a similar result was obtained, although the difference approached significance only at the .10 level. These data indicate that the patient was actually more involved with reflecting on the feelings associated with the ward-off contents than with the randomly selected contents chosen from her psychoanalysis. Our measures suggested that the patient was particularly involved in the analytic process at just those times when she was doing the progressive therapeutic work of allowing previously ward-off contents into consciousness.

We know of no way that the AFP can explain this combination of observations. These findings support the idea that the patient has the capacity to lift her defenses, consistent with the HMFP.

In a subsequent study, Shilkret et al. (1986) investigated the emergence of a particular set of ward-off ideas, those concerning Mrs. C.'s unconsciously held beliefs about her own omnipotence. On the basis of the process notes of the first 10 hr, our research group had concluded that Mrs. C. not only had considerable difficulty with fighting with others but also that, to make significant gains, she would need to understand the reasons that fighting, criticizing, blaming, and so forth were so troublesome. It was further hypothesized that her conflicts in this area resulted from her omnipotence fantasies about her power to hurt others. For these purposes, omnipotence is defined as the patient's anxiety about hurting others and her unrealistic appraisal of her power to push others around.

¹ All significance levels reported are for two-tailed tests unless otherwise noted.

Shilkret et al. (1986) developed a case-specific omnipotence scale

on the basis of a clinical inductive study of the process notes of the first 100 hr of the patient's analysis. Their approach was to identify all of Mrs. C.'s expressions of omnipotence and then to order them sequentially. On the basis of a thorough reading of these process notes, Shilkret et al. identified five different levels of the patient's insight into these problems.

At the lowest level of the omnipotence scale, the patient displays little or no recognition of either omnipotent fantasies or feelings or awareness that she is troubled by these issues. For instance, at Stage 1 the patient expresses the general idea that she is in some way bad, harmful, or unable to be good, without qualification. The patient also feels weak, helpless, and impotent and is unable to exert control in interpersonal situations, so that she cannot do things she wants to do or feels compelled to do things that she does not want to do. She does not consciously experience guilt because she does not feel responsible for, or in control of, her thoughts or actions.

At Stage 2, the patient still feels unable to exert control, but she recognizes a vague sense of guilt or responsibility for others (or both) that she cannot account for or knows is unreasonable. Her insight at this stage is that she feels guilty for "something," but she is unaware of the omnipotent thoughts that are causing the guilt.

At Stage 3, the patient makes her concerns explicit—that she feels responsible, guilty, or blameworthy because of her thoughts or actions. The patient now feels that she can control others and is bothered that she can harm others by this control. She now understands the cause of her feelings of excessive responsibility (i.e., her idea that she can control and thus harm people).

At Stage 4, the patient feels she can control others without being bothered by such feelings. She feels powerful without feeling guilty. She may even enjoy feeling powerful, strong, or controlling.

At Stage 5, the patient is engaged in an attempt to realistically assess the extent of her ability to control others. As part of this assessment, she may distinguish between her thoughts and her actions, or she may attempt to anticipate the realistic consequences of her actions, even if this assessment is difficult to make.

Once the scale was developed, six judges read through the 100 hr and selected items that unambiguously pertained to the scale.

Because the intent of the scale was to measure Mrs. C.'s insight into her omnipotence, the judges were instructed to identify any explicit, conscious thoughts she had about her irrational feelings of guilt, responsibility, and power to hurt others. After this selection of 144 items, two experienced clinicians read through the statements and determined that the 144 selected items represented all of the stages of the scale. Three judges then rated these items according to the stage level, producing an average interrater reliability of .72. Each item was given the rating that two or more judges agreed on. The mean ratings for the 10-hr blocks showed a statistically significant change in the predicted direction across the 100 hr, providing evidence for the patient's increasing insight into her problems of omnipotence. The results of this study suggest that increases in Mrs. C.'s capacity to blame, criticize, and fight with others was accompanied by her acquisition of genuine insights into her problems with omnipotence. Thus, Shilkret et al. (1986) were able to trace how Mrs. C. began to develop insight into a central unconscious conflict, namely her unconscious fears of hurting people and her conflicts about having power or strength of any kind.

Isaacs and Drucker (Shilkret et al., 1986), building on the Shilkret study, investigated whether Mrs. C. gained these insights into her conflicts because they were interpreted to her or whether they were acquired without interpretation. They adopted the five-stage omnipotence scale of Shilkret et al. to investigate the analyst's interpretations into this same area of conflict. Without describing the entire scale again, as applied to the analyst's interpretations, we define a few points to provide some indication about how the analyst's interpretations were catalogued.

At Stage 1, the analyst interpreted that the patient was feeling weak, helpless, or unable to exert control in interpersonal situations. He may have interpreted that she could not do things that she wanted to do or felt compelled to do things that she did not want to do relative to other people. At Stage 3, the analyst pointed to the patient's feeling that she could control others and that she felt bothered by that feeling. At Stage 5, the analyst pointed out the realistic extent of the patient's ability to control others.

In the first 100 hr of the analysis of Mrs. C., 153 of the analyst's interventions were found to be interpretations. The other interventions not included in this study included direct questions, one-

word responses, business matters, and so on. Two judges familiar with the case read the 153 interventions with instructions to select any statements that in any way alluded to the patient's conflicts over omnipotence. A final sample of 21 analyst interventions was identified that were given ratings of 1-4. The overall interrater reliability was .82.

It was found that the patient reached each of the five levels of insight before the analyst's making an interpretation at that same level. There also was evidence that the analyst's interpretations at the same level as those of the patient facilitated and accelerated her progress, even though the interventions came after she had first reached that level of insight on her own (Shilkret et al., 1986).

The unconscious AFP and the unconscious HMFP would be likely to account for these findings in different ways. Because the patient's ideas about omnipotence emerged regularly without interpretation, the unconscious AFP would explain the patient's expressions of omnipotence as the result of the analyst's frustrating her wish to be all powerful and to push others around. The HMFP hypothesizes that the patient's ideas about omnipotence represented a pathogenic belief from which she wanted to free herself. As the patient learned that she was not hurting the analyst with her thoughts and actions, she became relieved and felt safe enough to lift her defenses against the expression of these ideas for purposes of mastery. Although we know her omnipotent ideas came forth regularly and without interpretation, to confirm that they represented a controlled emergence we needed to study how anxious she was while expressing these ideas.

Later we describe a study that examined Mrs. C.'s level of tension during these 100 hr. First, however, we describe the research of Horowitz (1979), who demonstrated Mrs. C.'s increasing capacity to fight and to be close during the first 100 treatment hours. These changes, too, like the increase in insight about omnipotence, could in and of themselves be accounted for by each of the two psychoanalytic paradigms we have described.

The AFP would explain these findings as a mobilization of conflict, stimulated by the analyst's interpretative work and the frustration of the patient's unconscious libidinal wishes. By contrast, the HMFP hypothesizes that these changes could be understood to follow from the patient's unconscious sense of increased safety

with the analyst. In keeping with this explanation, because of the patient's increased sense of safety, she was able unconsciously to exercise greater control in how directly she could express fighting and closeness. Only after we consider this study in combination with our other studies can we distinguish how well the two paradigms accounted for the combination of observations.

Horowitz (1979) had three clinicians read the process notes of the first 100 hr and identify all instances of fighting behaviors (i.e., all instances in which the patient blamed, criticized, disagreed with, or opposed another person). One hundred ninety such instances were identified.

These 190 passages were presented in random order to a panel of four clinicians who had no other information about the case. The judges applied a 4-point rating scale to assess how directly the patient was able to blame, criticize, disagree, or oppose. If the blame or criticism was implied, the scale value was at 1; if the blame or criticism was expressed and then undone, the rating was 2; if the blame or criticism of one person was expressed directly to someone else, the rating was 3; and a direct confrontation of someone was rated 4. An additional 0.5 was added to the scale value if the event occurred in the present tense, and thus the range of possible ratings expanded from 1 to 4.5.

A comparable procedure was used to identify all passages describing behavior that expressed closeness or intimacy. There were 106 instances in which confiding, cooperating, and loving were expressed. A corresponding 4-point rating scale was devised for these closeness items.

Both sets of passages were reliably rated. The mean ratings for each 10-hr block were computed; for both the fighting and closeness measures, the change across hours revealed the type of growth usually associated with a learning curve. Note that there were 18 statements that directly referred to the patient's sexual behavior. These were studied separately because they referred to her presenting complaint of sexual frigidity. For this subcategory of closeness behaviors, there also was a statistically significant change in the patient's capacity to directly describe her experiences with sexual intercourse. For example, in Hour 33 the patient said that sometimes when she is trying to make herself have intercourse with Bill, she feels as though she wants to hurt him. She just

does not understand it. She will go from feeling very warm to feeling nothing toward him suddenly. By contrast, in Hour 67 she said that this weekend she and Bill had intercourse, and she was thinking how different it can be when she is thinking about him and feeling close to him and not all wrapped up in herself.

To distinguish the AFP from the HMEP, Mayer (Curtis, Ransohoff, Sampson, Bruner, & Bronstein, 1986) investigated Mrs. C.'s level of tension during the course of the first 100 hr, while she was progressing in the ways that we have described so far. The Mayer et al. measure, the Freedom-Belaguerment Scale, assessed the patient's level of relaxation over time. Curtis et al. (1986) found that the patient seemed to maintain a constant level of tension during the first 100 hr (Curtis et al., 1986).

Horowitz et al. (1975) studied changes in the patient's level of drive. They identified all instances in the process notes where Mrs. C. expressed compulsions or inhibitions regarding closeness and fighting. These complaints were typically expressed in terms such as "I have to" or "I can't." Two hundred forty-eight such complaints were identified, among which were 60 statements referring to fighting and 56 statements referring to closeness. The patient's difficulties with closeness were typically expressed in the form "I can't." Mrs. C.'s difficulties asserting herself or expressing her aggression sometimes took the form of her having difficulty restraining herself ("I have to") and other times took the form of her feeling unable to express what she wished to convey ("I can't"). In both these ways, she was describing the driven quality of her behavior and her corresponding difficulty with feeling in control of herself.

Horowitz et al. (1975) found a statistically significant decrease in the patient's expressions of driven behavior over the course of the first 100 hr. Francis Sampson verified this finding working from the transcripts (Curtis et al., 1986).

Based on the research that we have described heretofore, we arrived at the following conclusions. Our research demonstrated that (a) The patient became conscious of previously unconscious ideas often without increased anxiety or conflict and kept these ideas in consciousness, experiencing them emotionally and integrating them within her personality. (b) The patient developed insights, especially into previously omnipotent ideas, ideas that she could

magically harm others by her thoughts and actions. (3) The patient became more direct in her expression of aggression and love and developed an increased ability to experience sexual pleasure. (d) All of these changes took place largely without interpretation. (e) While these changes were taking place, the patient was becoming less driven and was feeling more in control of her behavior.

The HMEP can readily account for this combination of findings. During the first 100 hr, the patient made some symptomatic improvements. She became able to express her ideas and feelings concerning fighting, planning, criticizing, and opposing others more directly. Likewise, she became less obsessive about her wishes, feelings, and ideas about closeness in general, including sexual intercourse in particular. Warded-off contents were emerging during the course of these hours, and the patient was gaining some insight into her problems with omnipotent ideas. These changes occurred largely without the analyst's interpretations preceding either the emergence of warded-off contents or her insights into her omnipotent ideas. Finally, while these gains were being made, the patient was becoming less driven and more in control of herself. Whereas this combination of findings cannot be parsimoniously explained as the result of an interplay of instinctual and defensive forces that have been mobilized by the analytical process, these findings can be readily accounted for by the HMEP.

Research findings such as these should be viewed cautiously. Replication by other investigators is needed to demonstrate that our findings were not influenced by research bias, a fortuitously chosen case, or other errors.

Research That Demonstrates the Predictive and Explanatory Power of CMT

CMT places a major emphasis on the unconscious pathogenic beliefs that children develop in their efforts to adapt to traumatic situations (Weiss, 1997). The most consequential of these beliefs are those that lead to unconscious guilt, impaired self-esteem, distrust of others, despair about the future, and a renunciation of normal developmental strivings toward independence, intimacy, success, and self-fulfillment. Pathogenic beliefs typically arise in the context

of the child's relationships with parents and siblings. Children are highly vulnerable to developing false theories about themselves and others because they have a limited understanding of accurate causal relationships and tend to blame themselves for anything traumatic that happens to them or other family members. A major tenet of CMT is that in a well-conducted treatment, patients overcome their convictions in their pathogenic beliefs through a process called *testing*.

Introduction of the Concept of Testing

Testing in therapy is an extension of normal reality testing in everyday life (Weiss, 1989; Weiss & Sampson, 1986). It is a patient-initiated activity that uses trial actions to test one's expectations of danger and to elicit needed corrective emotional experiences in the therapeutic relationship. The patient's testing is usually unconscious because it is connected to traumas, pathogenic beliefs, affects, and wishes that the patient cannot yet face.

Testing is a crucial part of the patient's efforts at adaptation (Weiss, 1990a). Patients test in accordance with a reasonable unconscious plan for mastery (Weiss, in press) that takes into account their therapeutic goals, their pathogenic beliefs, their view of their own and the therapist's strengths and weaknesses, and their assessment of the therapist's capacity to help them. The notion that patients develop a reasonable unconscious plan for mastery logically follows from Weiss's (1990b) view of the unconscious mind as containing adaptive goals and engaging in high-level problem-solving activities.

The idea that people plan their behavior is considered common sense for most human activities. However, this common sense view is not extended to the behavior of the patient in therapy. The patient's behavior is thought to be governed to some extent by unplanned unconscious forces. The present paper challenges this view. It assumes that the primary motive of patients in psychotherapy, including psychoanalysis, is to solve their problems by disproving the pathogenic beliefs that underlie them, and it assumes, too, that patients make and carry out plans for solving their problems. The patients' plans are for testing their pathogenic beliefs with the therapist, in the hope that the therapist

will not react to their tests as their beliefs predict. In research studies carried out by the San Francisco Psychotherapy Research Group we demonstrated that we can reliably infer patients' plans from their behavior at the beginning of therapy, and that patients work consistently in accordance with these plans throughout the therapy. (Weiss, in press, p. 2)

The patient's testing is guided by considerations of safety and danger (Sampson, 1989; Weiss et al., 1986) and by the priority assigned to different problems the patient wishes to master. Within Weiss's (1989, 1993) theory, testing is considered to be the primary unconscious work patients engage in throughout therapy. Through their testing behavior, patients attempt to disprove their pathogenic beliefs, assess conditions of safety and danger in the therapeutic relationship, discern their therapists' conscious and unconscious intentions toward them, and create opportunities to identify with strengths in the therapist that they want to acquire.

Patients typically begin by testing cautiously and progress to testing more boldly. Because testing entails some degree of emotional risk, it tends to produce strain in the patient that is relieved if the therapist passes the test. Passed tests decrease, at least momentarily, the patient's unconscious sense of danger and therefore tend to be followed by decreased anxiety, lessened defensiveness, increased confidence in the therapist, and indications of therapeutic progress. Failed tests increase the patient's unconscious sense of danger and therefore tend to be followed by increased anxiety and defensiveness. Patients generally "coach" the therapist after failed tests and give the therapist other opportunities to pass their tests before giving up on an important goal. Repeatedly failed tests result in therapeutic retreats and negative therapeutic outcomes. Consistently passed tests result in positive therapeutic outcomes.

Any behavior can be used for testing purposes, including apparent instances of transference, resistance, and acting out, although certain behaviors stand out as particularly clear examples of testing. Actions that contrast sharply with a patient's usual behavior or that call for some response from the therapist are likely to have an important testing function. Tests vary considerably in their complexity, intensity, duration, and centrality to the patient's core pathogenic beliefs.

Patients unconsciously adjust their testing to accommodate to

their perception of the therapist's strengths and weaknesses as well as to the length of time they expect to be in therapy. Just as patients may pose tests in numerous ways, therapists can pass or fail tests in a variety of ways. Whether the therapist is passing or failing a patient's tests can be gauged by the patient's reaction to the therapist's response. Therapists typically pass and fail tests without awareness that they are being tested.

Weiss (1993; Weiss et al., 1986) has described two basic forms of testing. In the form called *transferring*, patients repeat some past behavior that resulted in their being traumatized as a child. In the form called *passive into active*, patients take the role of the traumatizing parent and place the therapist in the position of the traumatized child. Transference tests are intended to prove that some feared consequence will not occur if the patient behaves a certain way. For example, a patient might pose a transference test to prove that the therapist will not withdraw if the patient expresses loving feelings. Passive-into-active tests are undertaken to give patients a chance to identify with the therapist's capacity to handle parental behaviors that patients found traumatizing as children. For example, patients who were traumatized by a parent's rejecting attitude may act rejecting toward the therapist in the hope of being able to learn how to deal with rejection. Many tests contain elements of both testing strategies. Patients typically use a variety of testing strategies to disconfirm a single prominent pathogenic belief.

Testing can best be studied on a case-specific basis. To understand a patient's tests accurately, one must have a comprehensive grasp of the patient's childhood traumas, pathogenic beliefs, and therapeutic goals. The patient's testing provides an unconscious lens through which a patient will attempt to decode the "true" meaning of the therapist's interventions. The San Francisco Psychotherapy Research Group has been able to successfully demonstrate the predictive power of the testing concept by studying conspicuous and pertinent examples of tests in the therapeutic process.

Research on Testing

The first empirical study of testing (Horowitz et al., 1975) was part of a wider investigation into the emergence of formerly ward-

off contents in the first 100 hr of a recorded analysis (the case of Mr. B.). Using an innovative methodology, the investigators compared the six sessions containing the most highly warded-off contents (W hours) with the six sessions containing the least highly warded-off contents (N hours). Each session was divided into the "matrically distinct" "episodes" of patient speech that were rated for anxiety using a modified version of Mahl's measure of speech disruptions (Kasl & Mahl, 1965). The anxiety measure (referred to as a "discomfort quotient"), which had an interjudge reliability of .97, gauged the effect of the analyst's passing and failing tests in the 12 W and N hours.

For purposes of this study, which took place at an early stage in Weiss's (1971) development of CMT, tests and the analyst's response to them were not defined in a case-specific way. Mr. B. was considered to be testing when he openly disagreed with the analyst, expressed anger at the analyst, or demanded something from the analyst. Passing a test was defined as the analyst's remaining "neutral." The analyst's remaining silent was always considered a passed test. Although some tests will be failed if the analyst remains neutral or silent, this study produced statistically significant findings because the generic way in which tests and the analyst's response to them were defined happened to fit Mr. B.'s psychology. In other cases, a test might be badly failed if the patient announced an intention to do something self-destructive and the therapist remained neutral or said nothing.

In the Horowitz et al. (1975) method, two psychologists independently read the transcripts of the 12 W and N hours and identified 23 tests with perfect agreement. Three other judges ranked the analyst's responses (for the degree of neutrality) with a high level of agreement. The episodes in which passed and failed tests occurred were compared with the episodes that immediately followed. Several statistically significant findings emerged. The first was that passed tests were followed by a ρ drop in anxiety, whereas failed tests gave rise to increased anxiety. Passed tests also were significantly more likely to be followed by the emergence of previously warded-off contents. The opposite was true for failed tests. The W hours contained more passed tests and the N hours more failed tests. There also was evidence for the proposition that patients become more anxious while testing and less anxious if

their test is passed. The patient's discomfort quotient during testing episodes was higher than the mean discomfort quotient for the hour. The patient's discomfort quotient was also significantly more likely to drop following passed tests and to rise following failed tests.

Silberschatz (1978; Silberschatz, Fretter, & Curtis, 1986) carried out the first empirical study of testing that used a case-specific method for identifying significant tests and judging whether the therapist had passed or failed them.² He examined the consequences of passed and failed "key tests" using the verbatim transcript of the first 100 hr of the case of Mrs. C. The treating analyst was unfamiliar with CMT and had terminated Mrs. C.'s treatment before the study was undertaken. Silberschatz tested the hypothesis that a patient will feel less anxious and become more productive following significant passed tests. Conversely, significant failed tests should be followed by increased distress and signs of retreat.

Judges were given a control-mastery case formulation³ that described Mrs. C.'s therapeutic goals, pathogenic beliefs, and likely testing strategies. One group of three judges reviewed a sample of 87 potential tests and identified those examples of testing that reflected Mrs. C.'s working to disconfirm a central pathogenic belief. A set of 46 patient-therapist interactions was selected by all three judges as instances of a key test. A second group of judges used the control-mastery case formulation to reliably determine the degree to which the analyst passed or failed each test. Other groups of judges applied several different rating scales to measure changes in patient behavior immediately after each key test. Those scales were the Experiencing Scale (Klein, Mathieu, Gendlin, & Kiesler, 1970), the Boldness Scale (Caston, Goldman, & McClure, 1986), the Relaxation Scale (Curtis et al., 1986), and an affect classification system that measured the patient's level of fear, anxiety, love, and satisfaction (Dahl, 1978). Silberschatz found that the patient became significantly more involved, productive, and relaxed when the therapist passed a key test. Passed tests correlated positively

with increased experiencing ($r = .33, p < .05$), boldness ($r = .32, p < .05$), relaxation ($r = .35, p < .05$), and feelings of love ($r = .37, p < .05$) and satisfaction ($r = .15, p < .05$), and negatively with fear ($r = -.34, p < .05$) and anxiety ($r = -.29, p < .05$). The opposite was true for failed tests.

The following examples of passed and failed tests are taken from Silberschatz's (1978) study. In the passed test, the patient was attempting to disconfirm her pathogenic belief that she had to diminish herself to make the analyst (and others) feel superior to her. The analyst's response implied that he did not need her to belittle her ideas for him to maintain his sense of authority. In the failed test, the patient was attempting to find out whether the analyst could tolerate her being in control in the sessions. The analyst's response conveyed a demand that she submit to his authority.

Example of a passed test

Patient: (Silence) It's funny, I just, when I finished saying what I said about urn, the way I'm emphasizing what, what the trouble is or what's important, last night when I was thinking about it, it just seemed such an important thing to have realized. And now today when I think about it, it, I just sort of feel, well, of course, there's no point in even saying it. Or perhaps I'm feeling that's what you're thinking.

Analyst: Ah (patient laughs) I was going to just say that here you are again sort of taking away from yourself, degrading it immediately. It can't be worth much if you thought it, that kind of feeling.

Example of a failed test

Patient: (Silence) Is it better to force yourself to say something that you feel sort of not ready to say?

Analyst: Well, what was the rule I told you? Or what did I say was your job?

Silberschatz and Curtis (1993) subsequently applied the foregoing repeated measures, single-case research design to the study of testing behavior in short-term therapy. Their participants, drawn from the Mt. Zion Brief Therapy Research Project, were self-referred and screened to ensure their suitability for brief treatment. Patients were seen by an independent evaluator for an initial in-

²Parts of Silberschatz's study are described in a chapter by Weiss and Sampson (1986) that appears in Volume 2 of this series.

³Caston (1986) developed a new methodology for obtaining good rater reliability in the preparation of control-mastery case formulations.

take interview and for follow-up interviews on completion of treatment, 6 months after termination, and 1 year after termination. The therapists, experienced clinical psychologists and psychiatrists who represented different schools of brief dynamic therapy, were unaware of the hypotheses being investigated. The research was conducted after the completion of treatment.

The two cases studied (Gary and Diane) were judged to be therapeutically successful by the patients themselves and by the therapists and the independent evaluators. Diane was seen for 16 sessions and Gary for 12. The following procedures were followed in both cases: (a) A control-mastery case formulation was prepared using a revised version of Caston's (1986) method for achieving interrater reliability (Curtis, Silberschatz, Sampson, & Weiss, 1994; Curtis, Silberschatz, Sampson, Weiss, & Rosenberg, 1988). The formulations included a description of the patient's problems and history, the patient's goals for therapy, the central pathogenic beliefs impeding the attainment of those goals, ways in which the patient was likely to test the therapist, and insights most likely to be helpful to the patient. (b) A two-step process was used to identify key tests. Five experienced clinicians read verbatim transcripts of each therapy session and identified all possible instances of testing. Each potential test was then excerpted from the transcript, randomized, and presented to a new group of four judges who used the case formulation to select the key tests (i.e., instances of the patient's testing a central pathogenic belief). Forty-five key tests were identified in the case of Gary and 69 in the case of Diane. (c) The same judges used a 7-point Likert scale to rate the degree to which the therapist passed or failed the patient's tests. (d) Three-minute segments of patient speech immediately before and after each test were excerpted from the transcript and presented in randomized order to three new groups of judges who rated the segments on the Experiencing Scale (Klein et al., 1970), the Boldness Scale (Caston et al., 1986), and the Relaxation Scale (Curtis et al., 1986). For both patients, test passing was significantly correlated with increased experiencing immediately following each test. The semi-partial correlations between the mean test-passing scores and the mean residualized gain scores for experiencing were .35 ($p < .01$) for Diane and .40 ($p < .01$) for Gary. Only Diane, however, displayed significant positive correlations between test passing and

increased boldness ($r = .45$, $p < .01$) and relaxation ($r = .37$, $p < .01$). In addition to assessing the immediate impact of passed and failed tests, the investigators measured the cumulative impact of the therapist's passing or failing tests by averaging, for each hour, the therapist scores and the residualized shift scores for experiencing, boldness, and relaxation. The mean therapist scores for each hour were correlated with each of the mean patient shift scores for that hour. The same pattern of significant correlations emerged, indicating that sessions in which the therapist received higher test-passing scores were characterized by more indications of therapeutic progress. Thus, the therapist's reaction to tests has not only an immediate effect on the patient's functioning but a cumulative effect as well.

Three other testing studies were carried out on a 16-session short-term therapy that had an unsuccessful outcome (the case of Fran). Fifty-eight key tests were identified using the procedures described above. Bugas (1986) had three judges apply a measure of adaptive regression to the 5-min segments of patient speech that immediately preceded and followed each key test. Bugas adapted Holt's (1977) Adaptive Regression Scale (which was designed for measuring primary process manifestations and their control on the Rorschach test) for use with transcript material. Bugas found a significant positive correlation ($r = .54$, $p < .01$) between passed tests and adaptive regression, indicating that the patient had more controlled primary process material after passed tests. Kelly (1986) applied an electronic measure of anxiety, the long-term voice spectrum (LTVS), to the pre- and posttest audio segments of patient speech. The LTVS systematically analyzes acoustic components of speech that correlate highly with stress, emotion, and psychopathology. Kelly obtained a significant negative correlation ($r = -.62$, $p < .01$) between passed tests and the LTVS measure of anxiety, indicating that the patient's anxiety level immediately dropped after passed tests. Linsner (1987) developed a case-specific insight rating scale (the Plan Compatibility of Insight Rating Scale [PCIRS]) to measure the level of pro- and antiplan insight displayed in each of the pre- and posttest segments of patient speech. He obtained a significant positive correlation ($r = .52$, $p < .01$) between test passing and the PCIRS, indicating that the patient developed more useful insight immediately after a key test was

passed. Linsner also found that proplan insights were associated with a higher level of ego control (over primary process material) and a lower level of anxiety. The PCIRS correlated positively with adaptive regression ($r = .58, p < .001$) and negatively with the LTVS ($r = -.28, p < .05$). These three studies demonstrate that even in an unsuccessful treatment (in which the therapist is failing the majority of the patient's tests), there is still a lawful relationship between passed and failed tests and immediate signs of patient progress or the lack thereof.

Linsner (1987) discussed the following example of a passed test:

Test segment. (The patient, who recently separated from her husband shortly after having his child, has just visited his parents.)

Patient: Yeah, yeah. I know they didn't know what to say (about their son's marital difficulties), but you still gotta try and talk about it since we were all thinking about it. So I was kind of depressed when I first went there, you know, because I had been there five other times before with Stan, but actually I had the best time that I ever had this time, you know. You know I decided I was going to have a good time too. I just feel like I'm really in touch now with the power to make things turn out good for myself you know. I mean at first it was sort of an effort to think positively but now it's really kind of easy. I almost feel guilt because I feel so good. And —you know things that go on around me, I mean I can sympathize with them but I don't—they don't bring me down, so—I just—

Analyst: Why do you suppose you should feel guilty about feeling so good?

Patient: Why should I feel guilty?

Analyst: What's the crime?

Post-test segment

Patient: (Pause) I don't feel like there's a crime but it's just that I don't know... I mean, I don't really feel guilty, but I feel like I should, you know what I mean? I just... I don't know. But everybody I talk to about how good I feel, they are real happy about it. They are real happy for me, and they are real supportive of it. Some people

might get down on it and think that I was just being egotistical or whatever, but the people that care about me are really glad to see it. And I feel real good because it's not something I'm faking, you know what I mean? I really feel that I have that strength inside, and I don't feel like... well, I tend to be a sort of moody person, so I was always afraid... well, I feel good now, but the next mood I'm going to crash you know, but I don't feel that way anyway. I just feel like I can do anything, you know, and I don't feel that other people can necessarily drag me down.

Commentary. The patient is posing a transference test that draws on past experiences with her mother. She is reporting an important accomplishment—that of overcoming her guilt at being better off than her husband—and is feeling proud of herself. She is testing to see if the therapist will support her attempts to master her guilt, or whether the therapist, like her mother, will be dour and pessimistic about her ability to succeed. Had the therapist remained silent, his intent would have appeared ambiguous and his support for her in question. Had he questioned the lifting of her depression and guilt, for example by interpreting along the lines that her feeling good was a defense against sadness at losing the relationship, he would have recapitulated her mother's lack of confidence in the patient's ability to advance, and confirmed associated beliefs that she must fail (i.e., remain depressed and helpless) in order to maintain the relationship with important parental figures (i.e., the therapist).⁴

Pro- and Antiplan Intervention Studies

Therapists not only help patients by passing their tests but they also facilitate the therapeutic process through their interventions. Interventions that help patients disconfirm their pathogenic beliefs and move toward their therapeutic goals are considered to be "proplan"; interventions that reinforce a patient's pathogenic beliefs and thereby impede therapeutic progress are considered to be "antiplan." Proplan interventions generally increase patients' feelings of safety in the therapeutic relationship and help them feel more entitled to pursue their goals. Antiplan interventions do the op-

⁴From Linsner (1987, pp. 168–169). Reprinted with permission of the author.

posite. For a full exposition of the various ways interventions can help or impede patients in their efforts to carry out their plans, see Weiss (1993).

The first empirical study that we know of of the immediate effect of pro- and antipplan interventions (Caston et al., 1986) was based on the first 100 hr of Mrs. C.'s analysis. Caston (1986) developed a procedure for diagnosing Mrs. C.'s unconscious plan with good rater agreement. The resulting plan formulation was used by four clinical judges to reliably assess the plan compatibility (how pro- or antipplan each intervention was) of 81 randomly selected analytical interventions. Another group of four judges reliably assessed the patient's level of insight and degree of boldness immediately before and after each intervention. Caston et al. tested the hypothesis that proplan interpretations would be followed by immediate increases in insight and boldness, whereas antipplan interventions would be followed by the opposite. Their results only partially supported their hypothesis. There were significant positive correlations between plan compatibility and boldness ($r = .37$, $p < .005$) as well as insight ($r = .47$, $p < .005$) across the range of proplan interventions, but there was no relationship between plan compatibility and insight or boldness across the range of antipplan interventions. These findings suggest that Mrs. C. was helped by proplan interventions but not measurably set back by antipplan interventions.

An intervention study by Bush and Gassner (1986), using the last 114 hr of Mrs. C.'s analysis, examined how the patient's resistance to termination was affected by the analyst's termination interventions. Their research used the analyst's detailed process notes because the latter part of the analysis had not yet been transcribed. They expected to find a lawful relationship between the plan compatibility of the analyst's termination interventions and the patient's feelings about termination because the interventions selected for study were all highly relevant to the patient's plan for termination and spanned a wide range of pro- and antipplan interventions. They also were interested in comparing the treating analyst's understanding and a control-mastery understanding of Mrs. C.'s resistance to termination. For the treating analyst, Mrs. C.'s resistance to termination was primarily a defense against loss and renunciation. The plan formulation prepared by the investigators

considered Mrs. C.'s resistance to termination to be primarily a defensive reaction to her fear of hurting the analyst by wishing to leave him and establish her independence.

The following procedure was used to test the investigators' hypothesis. All interventions that bore on termination were included in the study. Four experienced therapists familiar with CMT were given a plan formulation for the last 14 sessions and asked to rate 112 termination interventions on a 7-point plan compatibility scale. Plan compatible interventions conveyed the idea that the analyst would not be hurt by the patient's leaving and no longer needing him. Two other judges applied a 5-point Attitude Toward Termination Scale to segments of patient speech before and after each termination intervention. This scale assessed the patient's feelings of readiness for, or opposition to, termination. Both sets of judges achieved good rater reliabilities (.80 and .83). The immediate effect of the analyst's termination interventions was measured by correlating the mean plan compatibility scores with the mean residualized Attitude Toward Termination scores. The obtained correlation ($r = .44$, $p < .0001$) strongly supported the hypothesis that Mrs. C. would feel more ready to terminate after proplan interventions and more resistant to termination following antipplan interventions.

To assess how the patient's attitude toward termination fluctuated with the plan compatibility of the analyst's termination interventions over longer time periods, we averaged patient and analyst scores over 19 blocks of six sessions each. The correlation between the pooled scores for the therapist's interventions and the pooled ratings of the patient's attitude toward termination for the 19 blocks of sessions was .66 ($p < .01$), indicating that the patient's resistance to termination fluctuated in tandem with the plan compatibility of the analyst's interventions. Over time, the analyst's interventions became progressively more proplan and the patient felt increasingly ready to terminate.

Bush and Gassner (1986) described two testing sequences from the last 100 hr that illustrate the patient's way of working on overcoming her resistance to termination:

We will describe here two interrelated tests that Mrs. C. simultaneously and successfully carried out with the analyst over a block of 10 sessions (the first 10 of the last 100 hours of her

analysis). The first test involved an attempt to disconfirm her belief that the analyst desperately needed her to remain dependent upon him and involved with him. She carried out the test by claiming that she did not feel ready to terminate and by repeatedly asking if she could rescind the termination date or continue seeing the analyst after termination on a once-a-week basis. The second test involved a form of turning passive into active in an attempt to disconfirm her unconscious belief that she was cruelly rejecting and abandoning the therapist by terminating her analysis. She carried out this test by accusing the analyst of heartlessly rejecting and abandoning her. The ostensible rationale for this accusation was that if the analyst really cared about her, he would actively oppose her termination instead of agreeing to it.

The analyst passed both tests by acting perfectly comfortable with the patient's demands and accusations. In other words, he acted as though it was reasonable and appropriate for her termination to proceed as scheduled even though she was expressing painful feelings of rejection and requesting a postponement. He never responded to her questions about the possibility of changing the termination date or continuing to see him on a different basis after termination. Moreover, he told her that she was trying to manipulate him into letting her stay on by attempting to make him feel guilty and sorry for her.

Following this testing sequence the patient started to feel better, to express feelings of readiness for termination, and to become aware of thoughts about the analyst dying as a consequence of her leaving.⁵

Another series of studies demonstrated the ability of the plan concept to predict patients' immediate reactions to an important subclass of interventions, namely interpretations. Three brief audio-recorded therapy cases were randomly selected from the Mt. Zion Brief Therapy Research Project. The three patients were similar with respect to the severity and nature of their problems. They were each diagnosed as suffering from chronic neurotic depression and inhibitions. The therapists had specialized training in short-term dynamic therapy and held different psychoanalytic orientations. The patients selected for study represented a range of outcomes: excellent, good, and poor.

⁵From Bush and Gassner (1986, p. 404 [Appendix 26]). Reprinted with permission.

The initial study (Freutter, 1984; Silberschatz et al., 1986) examined whether the dimension of plan compatibility could predict a patient's immediate reaction to the therapist's interpretations (interpretations were considered to be interventions that attempt to convey insight). It also attempted to compare the predictive power of the plan compatibility concept with the predictive power of category of interpretation (transference vs. nontransference) using a typology devised by Malan (1963, 1976). For each case, four clinical judges read the entire verbatim transcript and categorized every therapist intervention (i.e., all therapist comments) as an interpretation or a noninterpretation, depending on whether it added an emotional content beyond what the patient had already said. Following Malan, all interpretations were then further categorized as transference or nontransference depending on whether they were directed at the patient's feelings about the therapist or the therapy.

To assess the plan compatibility of the therapists' interventions, it was necessary first to prepare reliable control-mastery case formulations (also referred to as "plan formulations") following the method described by Curtis et al. (1988, 1994). This type of case formulation specifies the patient's therapeutic goals, the pathogenic beliefs that inhibit the patient from pursuing those goals, tests that the patient is likely to pose, and insights that the patient may find useful. A team of five experienced clinicians prepared each case formulation on the basis of the intake interview and the first two therapy sessions. The average interjudge reliabilities for the components of the patients' plan formulations were .89 for goals, .90 for pathogenic beliefs, .82 for tests, and .86 for insights.

The procedure for assessing the plan compatibility of the therapists' interpretations entailed excerpting all interpretations from the verbatim transcripts and presenting them in random order to different groups of control-mastery judges (so that they would not be influenced by order effects or by the patient's subsequent reactions). For each case, four to six judges used the patient's plan formulation to assess the therapist's interpretations on the 7-point Plan Compatibility of Interventions Scale. Each judge worked independently. The reliability coefficients (coefficient alphas) of the mean plan compatibility ratings for the three cases ranged from .85 to .89.

The Experiencing Scale (Klein et al., 1970) was used to assess the

patient's immediate response to the therapist's interpretations. Three- to 5-min speech segments immediately before and after each interpretation were excerpted from the transcripts and presented in randomized order to six raters trained in the use of the Experiencing Scale. The raters worked independently and did not know the therapist's interventions or the outcome of the treatments. The reliability coefficients of the mean experience ratings for the three cases ranged from .80 to .86. Residualized gain scores were used to measure shifts in experiencing following each interpretation.

The data analysis was conducted as follows: To assess the immediate effects of pro- and antipplan interpretations, we correlated plan compatibility ratings with residualized experiencing scores on a case-by-case basis. The resulting correlations were significant for all three cases (Case 1, $r = .54$, $p < .001$; Case 2, $r = .28$, $p < .01$; and Case 3, $r = .25$, $p < .05$). To gauge the cumulative impact of pro- and antipplan interpretations across sessions, we averaged the plan compatibility scores and residualized experiencing scores for each session (the number of sessions varied between 12 and 14). The correlations between those hourly mean scores also were significant (Case 1, $r = .78$, $p < .01$; Case 2, $r = .54$, $p < .05$; and Case 3, $r = .57$, $p < .05$).

These results clearly demonstrate that the plan compatibility of interpretations had both an immediate and a cumulative impact on patient progress in the manner prescribed by CMT. Proplan interpretations tended to be followed by increases in experiencing. Decreases in experiencing tended to follow antipplan interpretations. There also was suggestive evidence that therapeutic outcome was related to the overall level of plan compatibility of the therapist's interpretations. Among the three cases studied, the patient with the best outcome received the highest percentage (89%) of proplan interpretations, the patient with the second best outcome received the second highest percentage of proplan interpretations (80%), and the patient with the poorest outcome received the lowest percentage of proplan interpretations (50%).

The data concerning the differential therapeutic effectiveness of transference versus nontransference interpretations were analyzed in three ways. In the first analysis, t tests were used to compare shifts in experiencing after transference and nontransference interpretations. For two patients, there were no significant differences

between the two types of interpretations on the residualized experiencing scores. For the third patient, there was significantly more experiencing after nontransference interpretations. In the second analysis, the proportion of transference interpretations per session was correlated with the mean-per-hour residualized experiencing scores. For two of the cases, there were no significant correlations between the proportion of transference interpretations and mean residualized experiencing. For the third case there was a high negative correlation ($r = -.81$, $p < .005$) between transference interpretations and residualized experiencing, indicating that for this patient transference interpretations were far more antipplan than nontransference interpretations. (If nontransference material is incorrectly interpreted to be a manifestation of unconscious transference feelings, the patient may feel that the therapist cannot tolerate being left out of the patient's emotional life.) In the third analysis, another series of t tests was performed using only proplan transference interpretations and proplan nontransference interpretations. Again, there were no significant differences in residualized experiencing after proplan transference and proplan nontransference interpretations. The investigators concluded that plan compatibility of interpretations has a predictable therapeutic effect but that the categorical distinction between transference and nontransference interpretations does not.

The preceding findings were reinforced by subsequent research (Freter, Bucci, Broitman, Silberschatz, & Curtis, 1994) that added two additional measures of therapeutic progress to the study described earlier. Broitman (1985) had nine experienced clinicians apply the seven Morgan (1977) Patient Insight Scales and a Global Insight Scale (Broitman, 1985) to the same pre- and postintervention segments that had been previously rated for experiencing. The coefficient alpha rater reliabilities for the insight scales ranged from .81 to .95. Bucci (1987) had three judges apply the Referential Activity Scale to the same pre- and postintervention segments. The reliabilities of the judges' ratings ranged from .65 to .75. The Referential Activity Scale measures how well intellectual awareness is integrated with sensory and emotional experiences.

The previously described data analyses were repeated using the two new measures of patient progress (insight and referential activity). The results were essentially identical to those previously

reported. The plan compatibility ratings of the therapists' interventions correlated significantly with residualized insight (Case 1, $r = .45$, $p < .01$; Case 2, $r = .32$, $p < .05$; and Case 3, $r = .35$, $p < .05$) and referential activity (Case 1, $r = .25$, $p < .05$; Case 2, $r = .32$, $p < .05$; and Case 3, $r = .34$, $p < .05$) for all three patients. The only significant differences in patient progress after transference versus nontransference interpretations were in the direction of patients' showing more signs of progress after nontransference interpretations. When plan-compatible transference interpretations were compared with plan-compatible nontransference interpretations (using t tests), there were no significant residualized differences in insight or referential activity. These findings lend further support to the explanatory and predictive power of the plan concept and challenge the special therapeutic importance that has often been assigned to transference interpretations in psychoanalytic therapy.

Evidence that the plan compatibility of the therapist's interventions affects outcome in short-term therapy was obtained by Norville, Sampson, and Weiss (1996). They used seven patients from the Mt. Zion Brief Psychotherapy Research Project for whom plan formulations had been prepared. Two judges independently identified all therapist statements that could be considered interpretations in Hours 1, 5, 8, 11, and 14. Interpretations were defined as interventions that were explanatory in nature, that suggested an emotional meaning beyond what the patient had said, or that were hypothetical constructions.

All interventions identified as interpretations by both judges (who had 90% agreement) were extracted from the verbatim transcripts and rated for plan compatibility by different sets of judges, each of whom worked independently. The reliability coefficients for the mean plan compatibility ratings for each case ranged from .83 to .92. Each patient also was evaluated on a patient-specific outcome measure called "Plan Attainment." The plan attainment measure was developed by Nathans (1988; Silberschatz, Curtis, & Nathans, 1989) to assess the degree to which patients achieve their goals for therapy. Groups of four experienced clinicians rated each patient for plan attainment at the conclusion of therapy and at the 6-month follow-up interview. Each judge read the patient's pretherapy interview, the patient's plan formulation, and the posttherapy interview. The interrater reliabilities averaged .73 for the

plan attainment ratings at the end of therapy and at the 6-month follow-up.

The data were analyzed by correlating the mean plan compatibility ratings with the global plan attainment scores at termination and at the 6-month follow-up. For the sample of seven cases, both correlations were significant at the .05 probability level (one-tailed). Plan compatibility of the therapist's interpretations correlated .69 with plan attainment at termination and .70 with plan attainment 6 months after termination. These results strongly suggest that plan compatibility of therapeutic interpretations influences long-term as well as immediate therapeutic outcome in brief psychotherapy.

Conclusion

The studies we have described demonstrate the feasibility of conducting rigorous, quantitative research on the therapeutic process and scientifically testing fundamental assumptions about the nature of unconscious motivation and thinking. Our findings do not support Freud's early conception of an unconscious mind that is governed by the pleasure principle, operates in accordance with primary process modes of thinking, and is dominated by primitive instinctual impulses that continually seek discharge without regard to external reality. Our findings instead support a model of the unconscious that contains powerful adaptive motives and is governed by considerations of safety and danger (the reality principle).

Our research also supports the assumptions that psychopathology stems from trauma-born pathogenic beliefs and that patients unconsciously make plans for mastering their problems by testing the therapist to disconfirm their pathogenic beliefs. Patients' unconscious plans for mastery can be inferred from the initial sessions of a treatment and used as a guide for understanding their testing and formulating helpful interventions. Patients make progress in therapy to the extent that the therapist passes their tests and intervenes in planned ways. Conversely, they are set back by antiplan interpretations and interventions that fail their tests. Unlike classical psychoanalysis, which leads one to focus on patients' resistances to treatment, our theory leads to a collaborative model of the therapeutic process in which the therapist works with patients

to pass their tests and support their goals. Giving consideration to what patients are trying to accomplish leads to a different experience of the therapeutic relationship than focusing on what patients are trying to avoid. Our findings provide clear support for the hypotheses that patients are unconsciously motivated to lift their repressions, overcome their inhibitions, and acquire insight into their pathogenic beliefs. Moreover, they will strive to accomplish these things on their own (i.e., unaided by the therapist's interpretations, as long as the therapist passes their tests).

Control-mastery therapists follow their cases in a manner similar to the research designs we use to study the effects of passed and failed tests and pro- and antiplan interventions. We form hypotheses about our patients' therapeutic goals and the pathogenic beliefs that prevent their attainment. We then develop a therapeutic stance that will help disconfirm patients' pathogenic beliefs, and we use their responses to our interventions to gauge whether we are being pro- or antiplan and are passing or failing the patient's tests. In this manner, the theory helps us stay closely attuned to our patients, correct for our mistakes, and be maximally helpful. To date, CMT has been successfully applied to a wide range of patients and a variety of therapeutic modalities (long- and short-term therapy, individual and group therapy, and child and adult therapy).

CMT provides an integrated model of mind, personality development, psychopathology, and therapy (Weiss, 1971, 1990b, 1993; Weiss et al., 1986). The theory leads to testable predictions about the therapeutic process and has a growing empirical body of evidence to support it. We hope that the research that we have presented will be replicated by other investigations. Such replications would provide an additional basis for viewing our reported findings with confidence.

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