

Dynamic versus Cognitive Unconscious

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All psychodynamic theories of personality and psychopathology are based on the notion of conflict involving unconscious forces. In classical Freudian psychoanalytic theory, the conflict is between primitive sexual and aggressive impulses arising from the id, and the demands of external reality, and of conscience, processed respectively by the ego and the superego. The sexual and aggressive impulses, and other mental contents associated with them, are rendered unconscious by means of repression. But these repressed mental contents leak through the repressive barrier to express themselves in experience and action—albeit in symbolically disguised form. Hence Breuer and Freud's classic formulation, in their *Studies on hysteria* (1893–1895) that “hysterics suffer from reminiscences”—meaning that their symptoms were symbolic expressions of repressed traumatic memories.

The purpose of psychoanalysis was to lead the patient to insight concerning these unconscious determinants of experience, thought, and action—to bring these unconscious impulses into consciousness, so that they could be acknowledged and dealt with rationally. Various “neofreudian” theorists, including the object-relations theorists, placed more emphasis on the origins of intrapsychic conflict in the real social world, whereas the psychoanalytic ego psychologists allowed the ego cognitive functions, such as perception and memory, which did not necessarily involve conflict. This entry is concerned primarily with the unconscious as conceived by classical psychoanalysis and represented by Freud's “metapsychological”

essays of 1915 on “Repression” and “The unconscious”.

Freud's Conception of the Unconscious

In fact, there are two such conceptions. The *topographical theory*, implicit in the *Studies on hysteria* and detailed in *The interpretation of dreams* (1900), divided the mind into three systems known as *Ucs.* (unconscious), *Pcs.* (preconscious), and *Cs.* (conscious). In Freud's reflex-based model, *Ucs.* conducted a perceptual analysis of an environmental stimulus and stored a trace of the stimulus in one or more associative memories. *Pcs.* determined whether any of this unconsciously processed material would become accessible to consciousness; material censored by *Pcs.* remained in *Ucs.* Material permitted into *Pcs.* was accessible to the *Cs.*, depending on its level of intensity, and whether it received sufficient attention. Only if an idea entered into *Cs.* could it make contact with the motor apparatus, resulting in some sort of conscious response.

After his “discovery” of infantile sexuality and the death instinct, Freud introduced a new structural theory in *The Ego and the Id* (1923), based on the functions of various parts of the mind, rather than where they were located in the chain leading from stimulus to response. In this theory, the *id* is the seat of the instincts; the *ego* performs cognitive functions and employs repression and other defenses to control instinctual discharge according to the constraints of reality; and the *superego* plays a similar role, taking into account the demands of individual conscience and social norms. These functions do not map precisely onto the three systems of the topographic theory. Repression is an ego function, but it must be performed unconsciously, so that the person is not aware of what is being repressed, or that it is being repressed. While part of the ego is

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directly accessible to consciousness through *Pcs.*, part of the ego is also unconscious, because it contains nonrepressed unconscious contents. The contents of the id are mostly unconscious, but some of its contents, such as emotions, have direct pathways to conscious expression that do not flow through the ego.

In sum, Freud used the term “unconscious” in three quite different ways. Descriptively, it refers to any thought, feeling, or desire that is not in awareness at any particular time. Systematically, such thoughts can be “preconscious” if they are available to consciousness in principle, even if they are not accessible at the present moment. If they are not even available to consciousness, they may be considered to be unconscious in the strict sense of the term. However, Freud held that only repressed mental contents were unconscious in the dynamic sense of the term: they are prevented from being represented in consciousness because of a contravening force arrayed against them.

The Cognitive Unconscious

Just when the psychodynamic conception of unconscious mental life was growing in popularity among clinicians and the public as a whole, the behaviorist revolution in academic psychology ruled any discussion of the unconscious, or indeed of consciousness, out of bounds. Science was based on the objective measurement of observables; mental life was inherently subjective and unobservable; therefore, in order to be a science, psychology had to focus its attention on observable behavior and the observable circumstances in which it took place. *Unconscious* mental life was doubly unobservable, because it was not even subjective—it was not even represented in the individual’s private thoughts, feelings, and desires. It had to go too, as psychology focused on the analysis of relations between observable stimulus and observable response.

The idea of unconscious mental activity began to slip back into scientific psychology only with the cognitive revolution that began in the 1950s and 1960s. Cognition begins with

perception, and many perception theorists adopted Helmholtz’s notion that conscious perceptions resulted from unconscious inferences concerning the stimulus environment. Noam Chomsky argued that language was mediated by grammatical knowledge, which was inaccessible to conscious introspection and could be known only by inference. And the various “multistore” models of memory identified consciousness with short-term memory and made room for preconscious percepts and memories that were not, at the moment, subject to attention. In fact, the multistore model of memory looks very much like the model proposed by Freud in *The interpretation of dreams*—although, it must be emphasized, it is rooted in the computer model of the mind, rather any reading of Freud.

Beginning in the 1970s, and culminating in the 1980s, a number of trends came together to legitimize the idea of unconscious cognition (Kihlstrom, 1987): acceptance of the distinction between automatic and controlled cognitive processes, as exemplified by the Stroop effect; the discovery of dissociations between explicit and implicit memory in amnesic patients; clear evidence of analogous priming effects in “subliminal” perception; and documentation of divisions of consciousness in hypnosis and related states, exemplified by hypnotic analgesia and posthypnotic amnesia.

The most salient of these trends concerned automaticity. Automatic processes are unconscious in the strict sense of the word: they are inevitably evoked by the presentation of an appropriate stimulus, and they are incorrigibly executed; they are effortless, consume little or no attentional capacity, and they are efficient, creating little or no interference with other ongoing cognitive activities. Like Helmholtz’s unconscious inferences and Chomsky’s Universal Grammar, they are inaccessible to phenomenal awareness *in principle*, and can be known only by inference. The distinction between automatic and controlled has been so completely accepted within cognitive, social, and clinical psychology that automatic processes have been called “the new unconscious”

(Hassin, Uleman, & Bargh, 2005). Some social psychologists have embraced automaticity so strongly as to claim that conscious thought plays only a trivial role in behavior, and that free will is an illusion (Kihlstrom, 2008).

Automatic mental processes are generally thought to operate on stimulus input to generate conscious mental contents—percepts, memories, feelings, desires, and the like—raising the question of whether mental contents—percepts, memories, and the like can also be unconscious, yet still influence ongoing experience, thought, and action. Studies of priming in amnesic patients and normal subjects answered this question in the affirmative: items from a study list facilitated performance on a number of tasks, even though the list items themselves could not be consciously remembered. Explicit memory refers to conscious recollection, as exemplified by performance on standard tests of recall and recognition. Implicit memory refers to any effect of a past event, on the subject's experience, thought, and action in the absence of (or, at least, independent of) conscious recollection of that event. Priming and other implicit memory effects may occur automatically, but the important point is that they are mediated by a representation of an event, stored in memory—in other words, by an unconscious memory.

The discovery of priming effects in the absence of conscious recollection of the prime inspired the extension of the distinction between explicit and implicit beyond the domain of memory to other cognitive functions. By analogy with implicit memory, for example, implicit perception may be defined as the influence of an event in the current stimulus environment, in the absence of conscious perception of that event. Implicit perception covers cases of “subliminal” perception, but also priming effects from stimuli that are in no sense subliminal, such as “blindsight” in neurological patients with damage to the striate cortex. In implicit memory, an event that had been consciously perceived is subsequently lost to conscious recollection; in

implicit perception, the event was not consciously perceived in the first place. In implicit learning, subjects acquire new declarative or procedural knowledge, in the absence of conscious awareness of what they have learned. This is not merely a case of forgetting a learning episode, as in source amnesia; rather, subjects act on knowledge that they do not consciously know they possess. An implicit thought may be defined as an idea or image, itself a percept or a memory, which affects the subject's behavior in the absence of conscious awareness of that thought. In this case, it is the thought itself, not just the automatic process that generates it, which is unconscious.

All of these effects have been well documented in the experimental literature. Somewhat more tentatively, the explicit-implicit distinction has been extended to emotion and motivation as well. Of course, feelings and desires can be generated automatically, just like percepts, memories, and thoughts. But there is the further question of whether feelings and emotions can affect our behavior, in the absence of conscious awareness. In principle, the answer must be yes. Implicit emotion refers to the effects of positive or negative feelings on experience, thought, and action, in the absence of conscious awareness of that state. The result is a dyssynchrony between the subjective component of an emotional response, which is missing, and the behavioral and/or physiological components, which are preserved. In much the same way, the discrepancy between “projective” and “objective” measurements of social motives suggest a dissociation between explicit and implicit motivation.

Unconscious feelings and desires belong to the domain of the cognitive unconscious, if “cognition” is defined broadly to refer to any mental activity (Kihlstrom, 2012). A more inclusive term would be the “psychological” unconscious, including emotional and motivational states as well as cognitive ones. In principle, mounting evidence for the cognitive unconscious justifies speculation about the emotional and motivational unconscious as well. However, it must be acknowledged that

the evidence for unconscious emotions and motives is nowhere near as strong as that for unconscious cognitions.

Evidence for the Psychodynamic Unconscious

Automaticity, and documentation of explicit-implicit dissociations in various psychological domains, have sometimes been taken as evidence that Freud was right all along about the unconscious, and that psychoanalytic theory is scientifically viable. However, this argument confuses the three meanings that Freud adduced to the term “unconscious.” Laboratory evidence for the cognitive unconscious is consistent with Freud’s descriptive and systematic senses of “unconscious,” but tells us nothing about the “dynamic” sense that is critical for psychoanalytic theory. Cognitive processes that are executed automatically, or the implicit memories that are inaccessible to conscious recollection, bear no relation to the repressed contents that populate the Freudian unconscious—childhood trauma, primitive sexual and aggressive urges, and the like. Nor does the process by which implicit percepts, memories, and other mental contents become inaccessible to phenomenal awareness bear any resemblance to the process of repression as described by Freud. To steal a phrase from President George H. W. Bush, the cognitive unconscious is “kinder and gentler” than that.

This is not to say that Freudian and post-Freudian descriptions of the dynamic unconscious are invalid; only that they cannot rely on the kind of evidence that supports the “cognitive” unconscious. But it does mean that evidence for the psychodynamic unconscious has to bear on the specific propositions of psychoanalytic theory. To that end, Rapaport (1960) organized classical psychoanalytic theory around a number of “metapsychological” principles, including the “topographic point of view” that “the crucial determinants of behaviors [including thoughts, feelings, and desires] are unconscious” (p. 46). This statement implies two more specific hypotheses:

first, that unconscious mental states exist and, then, that they are the crucial determinants of behavior. The first hypothesis is important. For Freud, the unconscious was not confined to mental processes, whether Helmholtz’s unconscious inferences or the “new unconscious” of automaticity, which generate conscious mental contents such as percepts, memories, and thoughts. Rather, Freud held that thoughts, feelings, and desires, could themselves be unconscious, yet still influence conscious experience, thought, and action. Research on implicit memory, perception, and the like indicate that this is indeed the case. In fact, it is precisely by virtue of priming and related effects that we know that they exist. The cognitive unconscious is not merely a mental wastebasket into which unattended percepts and forgotten memories have been dumped.

But this is hardly proof of Freud’s metapsychology, because the existence and influence of unconscious mental states and processes is not a unique prediction of psychodynamic theory. Recall that Freud’s functional division of the mind proposed that the unconscious mind had two quite different aspects. The first was what we might think of as “ordinary,” conflict-free, unconscious cognition: unconscious processes such as those supporting Helmholtz’s unconscious inferences; and preconscious percepts, memories, and thoughts that were accessible to conscious awareness, but currently unconscious because attention was not being directed to them. The psychodynamic unconscious, on the other hand, has special properties, because it is tied closely to infantile sexual and aggressive impulses arising from the id, and conflict, and repression initiated by the ego.

Following Rapaport and Gill (1959), we can further analyze the topographic point of view into a nested hierarchy of general psychoanalytic propositions, specific psychoanalytic propositions, and empirical propositions—evidence for which would, actually, support the psychodynamic vision of unconscious mental life. At the general

level, for example, we might expect that unconscious mental contents would differ from conscious mental contents in terms of primary-process versus secondary-process thought—that is, that they are more imagistic, even hallucinatory, than verbal; more irrational than logical; and governed more by the pleasure principle than by the reality principle. At the specific level, we might expect that unconscious thoughts, feelings, and desires are related to infantile sexual and aggressive urges. Or that unconscious ideas are kept out of consciousness by means of repression (itself an unconscious process) rather than dissociation (Janet's alternative to Freud), conscious thought-suppression, or mere denial. In terms of empirical propositions, psychodynamic theory would invoke unconscious conflict, and repression, to explain why adults have poor memory of their early childhoods, especially of incidents pertaining to sexual abuse and other traumata.

It is this specifically psychodynamic unconscious that Freud claimed to have discovered. Evidence of the “ordinary” cognitive unconscious will not support the existence of the psychodynamic unconscious. Nor will we find any help in the evidence that Freud himself adduced in support of his theory, consisting of his interpretations of his patients' dreams, symptoms, and free associations. The problems with this evidence are well known, and will not be repeated here. They cannot be solved by the simple expedient of shifting from clinical to laboratory research.

Repression and Traumatic Memory

Consider, for example, the concept of repression. A large body of experimental work has attacked the problem of repression by looking at detection thresholds for “taboo” and benign words, differential recall of pleasant and unpleasant experiences, or of completed and uncompleted tasks, and the like. Sometimes these studies have turned up evidence that perception or memory favors material with a positive affective tone, and this is often

taken as evidence for repression. On the other hand, many of these studies suffer from a number of methodological problems, some of which are quite subtle (More important, as Rapaport (1942) pointed out, it is a mistake to invoke repression to explain the forgetting of the merely unpleasant, disagreeable, or socially unacceptable. Rather, repression operates specifically to deny conscious representation to primal sexual and aggressive instincts and their derivatives. In this light, almost the entire experimental literature on “repression” is simply irrelevant to psychoanalytic theory.

Similarly, a large number of clinical studies have purported to find evidence of repression in victims of child sexual abuse and other forms of trauma (Kihlstrom, 2006). Sometimes dissociation is substituted for repression, although the two mechanisms are quite different. Unfortunately, most of these are retrospective studies that lack independent corroboration of the abuse, so it is unclear that the ostensibly repressed event ever happened. Prospective studies of verified abuse victims find no instances of forgetting that cannot be explained by ordinary mechanisms such as infantile and childhood amnesia or the simple passage of time. It is sometimes suggested that traumatic stress might impair the encoding of traumatic memories, but this has not been demonstrated. In any event, this would not be the same as repression, which renders available memories inaccessible to conscious recollection.

Does that mean that the psychodynamic unconscious is simply not amenable to experimental study, and we are thrown back on clinical evidence after all? Although many psychoanalysts doubt the relevance of modern experimental psychology to both theory and practice, the divorce between clinical psychoanalysis and experimental psychology is not quite complete. Consider, for example, two prominent programs of research that employ subliminal perception paradigms to test hypotheses derived from psychoanalytic theory and practice.

Subliminal Psychodynamic Activation

Beginning in the 1960s, Lloyd Silverman and his colleagues published a remarkable series of studies of subliminal psychodynamic activation (Silverman, 1976; Silverman, Lachmann, & Milich, 1982; Weinberger & Silverman, 1990). The general method in these experiments was to present patients or normal subjects with verbal or nonverbal stimuli specifically constructed according to psychoanalytic theory intended to activate unconscious wishes, and then to observe the effects of these stimuli on task performance. The stimuli are then presented subliminally, in an attempt to skirt the subject's defenses. For example, presentation of oral-aggressive stimuli (CANNIBAL EATS PERSON) aggravated symptoms in both schizophrenic and depressed patients; presentation of incestual stimuli (FUCK MOMMY) increased homoerotic tendencies in male homosexuals; anal stimulation (GO SHIT) increased speech dysfluencies in stuttering. Most famously, symbiotic stimulation (MOMMY AND I ARE ONE) diminished symptomatology in schizophrenics, and reduced anxiety and defensiveness in male homosexuals (Silverman, 1983). Subliminal symbiotic stimulation also had positive effects on a variety of measures of task performance in normal subjects, as did oedipal-sanctioning stimuli (BEATING DAD IS OK).

These experiments have been subject to a variety of methodological criticisms, the most serious of which have to do with potential problems in threshold-setting procedures—that is, in ensuring that the ostensibly subliminal stimuli really are subliminal (Balay & Shevrin, 1988) (for responses, see Weinberger & Hardaway, 1990). They have also been criticized from within the psychoanalytic community on the grounds that they are based on misinterpretations of psychoanalytic theory. Viewed from outside psychoanalysis, the patient studies are problematic, because it is far from clear that the underlying psychoanalytic formulations

are valid. It is far from clear, for example, that schizophrenia has its roots in oral aggression, or homosexuality in incestuous desires.

Perhaps the most important problem with subliminal psychodynamic activation, however, concerns the stimuli themselves. Everything we know about subliminal perception indicates that it is temporally limited, with effects lasting only for seconds. More important, subliminal perception appears to be analytically limited, such that it is difficult or impossible to analyze even modestly complex verbal stimuli for meaning. Although studies of subliminal psychodynamic activation have yielded a number of interesting effects, the discrepancy between the high attentional demands of the subliminal message, and the low attentional resources available to subliminal perception, must be resolved.

Electrophysiology of Unconscious Conflict

Another extensive program of research on the psychodynamic unconscious has been undertaken by Howard Shevrin and his associates, also employing subliminal stimulation (e.g., Shevrin, Bond, Brakel, Hertel, & Williams, 1996; Shevrin & Dickman, 1980; Shevrin et al., 1992). Shevrin's earliest experiments focused on demonstrating the encoding of subliminal stimulation. Although inspired by the notion of a dynamic unconscious, these experiments lacked the explicitly psychodynamic flavor of the Silverman studies. For example, Shevrin demonstrated that a subliminal "rebus" stimulus, consisting of an image representing a word (e.g., a pen and a knee representing the word *penny*) could be recovered in dream imagery and free associations.

The most relevant set of experiments involved patients receiving psychoanalytically oriented treatment. Individual psychodiagnostic assessments were used to identify words that represented the patient's conscious understanding of his or her presenting complaint (e.g., social phobia), and other words that represented his or her hypothesized

unconscious conflict (e.g., exhibitionistic fantasies). These individualized sets of words were then presented to the subjects subliminally and supraliminally while their physiological responses were recorded to extract event-related potentials (ERPs) from the EEG. The investigators then attempted to classify the stimuli based on a complex time-frequency analysis of the ERP signals. The unconscious conflict stimuli were more likely to be classified correctly when they were presented subliminally than supraliminally, while the reverse was true for the conscious complaint stimuli. No such differences were found for control stimuli drawn from the positive and negative poles of the evaluation dimension of semantic space. Interestingly, the differential in classification rates was greater for those patients who were clinically rated as favoring repression as a defense. The implication is that the repressive process that moderates the dynamic unconscious is particularly sensitive to conflict-related material.

Employing a similar methodology with a group of patients diagnosed with anxiety disorder, Shevrin and his colleagues have recently observed different patterns of EEG alpha activity (often associated with the inhibition of cognitive processing) in response to subliminal presentation of words representing their conscious symptoms and unconscious conflicts. Like Silverman's research, Shevrin employs subliminal stimulation in an attempt to circumvent the patient's defenses, and make contact with repressed, conflictual material. In his view, the qualitative differences in EEG correlates observed between representations of conscious symptoms and unconscious conflicts supports the idea that the psychodynamic dynamic unconscious operates on different principles than those that govern conscious or preconscious thought.

Shevrin's research has an advantage over Silverman's in the use of simple stimuli (usually only one word) and very short intervals between stimuli and response—both features compatible with the analytic limitations of subliminal perception. His research has

the additional merit that it employs individualized stimulus materials, rather than a one-size-fits-all symbiotic stimulus. Shevrin has shunned vulgar Freudianisms (he acknowledges that sometimes a cigar really is just a cigar) but it is also true that his ideas of unconscious conflict seem far removed from the primal sexual and aggressive urges, Oedipus complexes, and castration anxieties of classical Freudian theory. Similarly, while Shevrin's research has revealed some qualitative differences between conscious and unconscious perception, it is not clear how these neurophysiological findings map onto the differences between primary-process and secondary-process thought postulated in Freudian theory.

In any event, before we can acknowledge Shevrin's findings as definitive evidence of a psychodynamic unconscious, operating in parallel with the more ordinary psychological unconscious, it is critical to confirm that the ostensibly unconscious conflict really is unconscious—that is, for example, that a patient with social phobia does not know that his personality includes some exhibitionistic tendencies. Moreover, it is critical to show that the same kinds of clinical inferences could be made without the benefit of the whole apparatus of psychoanalytic theory. Perhaps a cognitive-behavioral therapist would also come to the conclusion that a particular patient, complaining of a social phobia, avoids social situations because he fears what he might do in them, such as getting drunk, perhaps, and dancing with a lampshade on his head.

Does the Dynamic Unconscious Have a Future?

Scientific and clinical interest in psychoanalytic theory has declined since its zenith in the 1950s, with the advent of cognitive-behavioral forms of psychotherapy and the rise of empirical approaches to personality. As cognitive psychology revived its interest in consciousness, and then took an interest in the psychological unconscious, it was perhaps

inevitable that Freud's view of unconscious mental life would experience a resurgence of interest as well. But the carefully controlled experiments that have provided evidence for the cognitive unconscious—automatic processes, implicit memories, subliminal perception, and the like—have not yielded much evidence favoring the view of the dynamic unconscious as conceived in psychoanalytic theory, with its unconscious conflicts over primitive sexual and aggressive motives. The Freudian dynamic unconscious may well exist, in parallel with the ordinary unconscious of modern cognitive psychology, but that remains to be seen.

SEE ALSO: Anxiety Disorders; Dissociative Disorders; Freud, Sigmund (1856–1939); Psychoanalytic and Psychodynamic Therapies: Long-Term and Short-Term; Psychophysiology (Peripheral); Recovered Memories; Repressed Memories

References

- Balay, J., & Shevrin, H. (1988). The subliminal psychodynamic activation method: A critical review. *American Psychologist*, 43, 161–174.
- Hassin, R. R., Uleman, J. S., & Bargh, J. A. (Eds.). (2005). *The new unconscious*. New York: Oxford University Press.
- Kihlstrom, J. F. (1987). The cognitive unconscious. *Science*, 237(4821), 1445–1452.
- Kihlstrom, J. F. (2006). Trauma and memory revisited. In B. Utzl, N. Ohta, & A. L. Siegenthaler (Eds.), *Memory and emotions: Interdisciplinary perspectives* (pp. 259–291). New York: Blackwell.
- Kihlstrom, J. F. (2008). The automaticity juggernaut. In J. Baer, J. C. Kaufman, & R. F. Baumeister (Eds.), *Psychology and free will* (pp. 155–180). New York: Oxford University Press.
- Kihlstrom, J. F. (2013). Unconscious processes. In D. Reisberg (Ed.), *Oxford handbook of cognitive psychology* (pp. 176–186). Oxford: Oxford University Press.
- Shevrin, H., Bond, J. A., Brakel, L. A. W., Hertel, R. K., & Williams, W. J. (1996). *Conscious and unconscious processes: Psychodynamic, cognitive, and neurophysiological convergences*. New York: Guilford.
- Shevrin, H., & Dickman, S. (1980). The psychological unconscious: A necessary assumption for all psychological theory? *American Psychologist*, 35, 421–434.
- Silverman, L. H. (1976). Psychoanalytic theory: The reports of my death are greatly exaggerated. *American Psychologist*, 31, 621–637.
- Silverman, L. H. (1983). The subliminal psychodynamic activation method: Overview and comprehensive listing of studies. In J. Masling (Ed.), *Empirical studies of psychoanalytic theory* (Vol. 1, pp. 69–100). Hillsdale, NJ: Erlbaum.
- Silverman, L. H., Lachmann, F. M., & Milich, R. H. (1982). *The search for oneness*. New York: International Universities Press.
- Rapaport, D. (1960). The structure of psychoanalytic theory: A systematizing attempt. *Psychological Issues*, 2(2), 1–159.
- Weinberger, J., & Hardaway, R. (1990). Separating science from myth in subliminal psychodynamic activation. *Clinical Psychology*, 10, 727–756.
- Weinberger, J., & Silverman, L. H. (1990). Testability and empirical verification of psychoanalytic dynamic propositions through subliminal psychodynamic activation. *Psychoanalytic Psychology*, 7, 299–339.

Further Reading

- Bornstein, R. F., & Masling, J. M. (Eds.). (1998). *Empirical perspectives on the psychoanalytic unconscious*. Washington, DC: American Psychological Association.
- Erdelyi, M. H. (1985). *Psychoanalysis: Freud's cognitive psychology*. New York: W. H. Freeman.
- Erdelyi, M. H. (1996). *The recovery of unconscious memories: Hypernesia and reminiscence*. Chicago, IL: The University of Chicago Press.
- Macmillan, M. (1991/1997). *Freud evaluated: The completed arc*. Cambridge, MA: MIT Press.
- Rapaport, D. (1942). *Emotions and Memory*. Baltimore: Williams & Wilkins.
- Rapaport, D., & Gill, M. M. (1959). The points of view and assumptions of metapsychology. *International Journal of Psycho-Analysis*, 40(2), 153–162.
- Singer, J. L. (Ed.). (1990). *Repression and dissociation: Implications for personality theory, psychopathology, and health*. Chicago, IL: University of Chicago Press.
- Westen, D. (1998). The scientific legacy of Sigmund Freud: Toward a psychodynamically informed psychological science. *Psychological Bulletin*, 124, 333–371.