

Writing 20.40
Mary Grace Immediata

The Place of Psychoanalysis in Cognitive Science
Unit 3, Draft 2

Jadrian Miles
1/21/03

Modern psychoanalytic devotees can be found in many areas of research, especially in cognitive science. In part five of their book, Whose Freud?, Peter Brooks and Alex Woloch feature several psychoanalytic researchers in this field who describe the connections between their work and Freud's conception of the mind, generally encouraging a dialogue between psychoanalysis and neuroscience, the traditional major contributor to cognitive science. These researchers' argument for integrating psychoanalysis into cognitive science is that it provides unique, meaningful, emotion-oriented insights to counterbalance the somewhat limited perspective of neuroscience. The researchers do indeed provide this important perspective and make useful contributions to their field, but only in their capacities as cognitive scientists. Psychoanalysis falls short of being useful in this context for the following reasons: it can provide no guidance for further development of theories, it is based on a highly contested theoretical groundwork, it is often motivated by a desire for justification and relevance, rather than scientific discovery and exploration, and, most importantly, it refuses to communicate its ideas in the common language of the intellectual world at large, science. A viewpoint to balance out neuroscience is undeniably necessary in cognitive science, but modern psychology fulfills the role more appropriately than psychoanalysis. Psychology matches psychoanalysis in dealing with meaning, emotion, and relationships, but is scientifically developed and explained, and therefore is more suited to communicate with the cognitive science community. It also holds no "mixed allegiances" as psychoanalysis does; psychology, already acceptable in the rest of the scientific world, is motivated only by a desire to further knowledge and understanding. The unique characteristic belonging to the psychoanalytic perspective, on the other hand, is its devotion to Freud: often after describing a perfectly valid theoretical insight, these researchers will attempt to retroactively credit and relate their achievements to psychoanalysis. This last step is unnecessary, casts the work into doubt by its

association to a generally disregarded practice, confuses the purpose of the research, and often, since the researchers may feel a drive to include psychoanalytic, rather than scientific, support for their ideas, illegitimizes the argument in the eyes of most other researchers. This pattern will be revealed in the following case study examples taken from the aforementioned book. In each case, we find that the improvements these scientists have brought to cognitive science can be and have been formulated and understood through psychology, without reference to psychoanalysis. In the end, since psychoanalysis' techniques of experiment, argument, and support do not conform to the wider standards of science, psychology proves a better candidate than psychoanalysis to contribute to cognitive science.

In his essay, Morton Reiser encourages a dialogue between psychoanalysis and neuroscience. “[These practices involve] two very different generic models of mind, different in that they derive from different kinds of empirical data,” he explains. “Yet none of the models thus far derived from either domain alone is entirely satisfactory or complete. ... Should we keep one and throw out the other, as some think? ... There is another way.”¹ By comparing data and theories from both fields, Reiser claims, each of them would expand its knowledge of the function of the mind and brain. Certainly the insights neuroscience provides on the mind are incomplete, as they examine the incredible complexity of the mind and brain from only one perspective. The mind can be understood at several levels of meaning and complexity: at the bottom is its physical embodiment, the brain, and all the individual neuronal and anatomical interactions within it; at the top is the realm of emotions, meaning, and representations. The area between these two, connecting them, is fraught with mystery, and is, approximately, what cognitive science studies.

The idea that the psychoanalytic conception of mind is based on empirical data is misleading, however. Freud's view of the psyche was largely unscientific, supported only by

¹ Reiser, Morton F. “Psychoanalysis and Cognitive-Emotional Neuroscience”. *Whose Freud?* (New Haven: Yale University Press, 2000), 249.

clinical evidence that Freud claimed to exist but which cannot be produced; even most of the notes Freud took during analysis were destroyed long ago.² Scientific experimentation, including the principles of peer review, empirical evidence and documentation thereof, repeatability, and statistical, mathematical, and logical analysis, is the universal language of the western intellectual tradition. While the validity of the psychoanalytic viewpoint or any of its competitors can be debated, in order to make any meaningful contribution to cognitive science, which is a subset of the scientific tradition, a new theory must “play by the rules” as it were, and support itself by scientific means, as described above. Furthermore, psychoanalytic techniques have been shown to introduce bias into the analyst’s narrative, to be logically fallacious, and to be so indefinitely flexible that no reliable conclusions can be drawn from them.³ The insight that Reiser claims for psychoanalysis “deals primarily with meanings and motives that are immaterial in nature.”⁴ Yet there is another field that combines this insight with the reliability inherent in scientific methods of investigation and significantly less contested premises. This field is psychology, and it has contributed successfully to a balanced outlook on the mind and brain, as Daniel Siegel’s book, The Developing Mind, illustrates. Siegel explains that the synthesized findings of modern neuroscience, developmental psychology, and psychiatry “shed light on how the mind emerges from the substance of the brain as it is shaped by interpersonal relationships.”⁵ Psychoanalysis’s input, then, is not needed; scientifically sound practices already provide insight from the top end, that of meaning and relationships, into the workings of the mind to balance out the biologically-based neuroscience perspective.

² Gay, Peter. *The Freud Reader*. (New York: Norton, 1989), 309.

³ See: Grünbaum, Adolf. “Made-to-Order Evidence”. *Unauthorized Freud*. (New York: Penguin Books, 1998), 80.; Sand, Rosemarie. “Manifestly Fallacious”. *Unauthorized Freud*. (New York: Penguin Books, 1998), 88.; and Timpanaro, Sebastiano. “Error’s Reign”. *Unauthorized Freud*. (New York: Penguin Books, 1998), 99.

⁴ Reiser, Morton F. “Psychoanalysis and Cognitive-Emotional Neuroscience”. *Whose Freud?* (New Haven: Yale University Press, 2000), 249.

⁵ Siegel, Daniel J. *The Developing Mind*. (New York: The Guilford Press, 1999), 1.

Reiser's assertion that "each of us carries within our mind-brain an enduring network of stored memories... that are associationally linked by a shared potential to evoke identical or highly similar complexes of emotion"⁶ is a belief borne out by the scientifically derived concept of "value-laden memory."⁷ However, Reiser goes on to state that "such networks are organized around a core of memories of early events that, as children, we experienced as highly stressful, even cataclysmic."⁸ Basing the individual's psyche and life narrative on trauma is a classic Freudian concept, one that is widely contested and finds no clinical or logical support in Freud's writings.⁹ It is based entirely upon conjecture and conflicts with modern findings in developmental psychology, which indicate that early secure attachment relationships "confer a form of emotional resilience" and "are crucial in organizing... the neuronal growth of the developing brain."¹⁰ In this case, an open-minded application of psychology can match the useful contribution psychoanalysis makes to cognitive science, with the more reliable and communicable support of scientific techniques, and without the ponderous intellectual baggage of Freud's unsupportable, antiquated ideas.

Continuing to discuss dreams in psychoanalytic terms, Reiser states that from psychoanalytic studies, he "had concluded that emotions connected to current life conflicts and conscious worries about them during the day would activate historically relevant memory traces that are linked to the same conflictual affects," making them more likely to occur in dreams.¹¹ The term "connected" is meaningless in this case, however, since it refers to a connection established through free association; it has been shown that this technique can draw a psychoanalytically

⁶ Reiser, Morton F. "Can Psychoanalysis and Cognitive-Emotional Neuroscience". *Whose Freud?* (New Haven: Yale University Press, 2000), 251.

⁷ Siegel, Daniel J. *The Developing Mind*. (New York: The Guilford Press, 1999), 48.

⁸ Reiser, Morton F. "Psychoanalysis and Cognitive-Emotional Neuroscience". *Whose Freud?* (New Haven: Yale University Press, 2000), 251.

⁹ Freud, Sigmund. "The Dissolution of the Oedipus Complex". *Freud Reader*. (New York: Norton, 1989), 661-666.

¹⁰ Siegel, Daniel J. *The Developing Mind*. (New York: The Guilford Press, 1999), 68.

¹¹ Reiser, Morton F. "Psychoanalysis and Cognitive-Emotional Neuroscience". *Whose Freud?* (New Haven: Yale University Press, 2000), 252.

“valid” connection between any two concepts the analyst desires.¹² Since free association can connect any two randomly selected topics, even two that are not actually connected, its strength as evidence for the existence of a connection is absolutely nonexistent. Reiser’s finding, furthermore, describes an unrealistic conceptual construction of the psyche around trauma, while research shows that traumatic events have a significant inhibitory effect on memory.¹³ The influence of recent, emotionally significant events on dream content has been investigated and scientifically explained by psychologists and neuroscientists; REM sleep, the stage during which sleepers dream, is involved in a process of memory consolidation that transfers recent, significant memories from volatile short-term memory into the more stable long-term memory. These memories include sensory data of all kinds, which are re-experienced along with associated data from long-term memory, in the form of a dream, as they are processed.¹⁴ Once again, psychology provides a scientific, impartial explanation of dream phenomena without involving the extraneous input and limited vision of psychoanalysis.

Reiser claims that by reconciling psychoanalytic and neurobiological concepts, he arrived at a new, expanded definition of dreaming that “couldn’t have been constructed from either side alone.”¹⁵ This new definition is unnecessary, though, because the only scientific and reliable contribution was made by neurobiology; a different model, as described in the previous paragraph, exists that derives from neurological and psychological experimental evidence and conforms to physiological and psychological observations. There is no need to expand the definition of dreaming to include psychoanalytic input; every human knows what dreaming is by virtue of his or her own experience with it. The task at hand is to expand cognitive science’s model of dreaming to better match the real-world definition. The neurobiological conception of the dreaming mind

¹² Timpanaro, Sebastiano. “Error’s Reign”. *Unauthorized Freud*. (New York: Penguin Books, 1998), 99.

¹³ Siegel, Daniel J. *The Developing Mind*. (New York: The Guilford Press, 1999), 55.

¹⁴ *Ibid.*, 37.

¹⁵ Reiser, Morton F. “Psychoanalysis and Cognitive-Emotional Neuroscience”. *Whose Freud?* (New Haven: Yale University Press, 2000), 253.

cannot explain some commonly known aspects of dreaming, such as dreams influenced by the distant past and those that are experienced repeatedly, as Reiser observes.¹⁶ The existence of these properties is commonsense knowledge, but asserting their existence is the only valid contribution psychoanalysis can claim to a scientific model of dreaming. Psychology, however, recognized these facts independently and introduced them into cognitive science's model.¹⁷ Now informed by a realistic application of psychological insight, the neuropsychological model includes those observations on purely scientific grounds, without the involvement of disputed psychoanalytic ideas.

Other psychoanalytic apologists in cognitive science also claim Freudian insights have contributed to developments in their field. David Forrest's examples include Frégoli delusions, neural networks, holographic memory, and socially oriented computational neurological models.¹⁸ None of these, however, represent psychoanalysis contributing to research; instead Forrest attempts to use these examples as instances of actual science that relates in some way to Freudian theories, but the connections are not sound. Forrest attempts to back up his psychoanalytic understanding of Frégoli and other substitution delusions—psychiatric disorders in which the perception of other individuals or the self is confused—as transference disorders by mentioning that close relations to the delusional patients are the ones most often mistaken, and giving an example of a patient with whom he established a connection, through free association, between the patient's wife and the old friend as whom he had mistaken her. Again, as mentioned above, free association is unacceptable as support for the belief that a psychological connection exists between two ideas; the wife and the old friend are established as players in the delusion, so as long as a psychoanalytically determined connection between them is desired, it can be created.¹⁹ Even if these two individuals were not

¹⁶ Ibid., 252.

¹⁷ Siegel, Daniel J. *The Developing Mind*. (New York: The Guilford Press, 1999), 38.

¹⁸ Forrest, David V. "Freud's Neuromental Model". *Whose Freud?* (New Haven: Yale University Press, 2000), 257.

¹⁹ Timpanaro, Sebastiano. "Error's Reign". *Unauthorized Freud*. (New York: Penguin Books, 1998), 99.

truly connected, or if we replaced them with such absurdly unrelated objects as a potted plant familiar to the patient and the RMS Titanic, it would be possible for free association to draw a connection. Since the practice can as readily connect unrelated concepts as truly related ones, declaring a free association-derived connection provides no support for the existence of an actual connection. As for the selection of close relations for pathological misidentification, probability favors this case, and, more fundamentally, there is nothing inherently psychoanalytic about this fact. Interpersonal relationships are not the sole investigative domain of psychoanalysis; non-Freudian psychology and sociology also cover this ground.

Neural networks, to address another of Forrest's examples, were developed with a neurological perspective of the mind, independent of Freudian theory.²⁰ The original computer scientists and mathematicians who developed this field were influenced by biology and telecommunications, not Edwardian-era theories of mind; in fact, the principles of parallel distributed processing, the technique that neural networks embody, are in direct conflict with the modular, theory-processing model of the mind that Freud employed.²¹ Freud believed the brain engaged in direct manipulation of concepts and representations, but one of the basic tenets of parallel distributed processing is that these idea-handling behaviors, if they exist at all, are emergent properties of a very large network of interacting nodes engaging in blind, stimulus-response actions. The holographic memory example, again, is an idea that evolved independently of psychoanalytic input, from the intellectual heritage of artificial intelligence, operating system coding, and neurological and physiological observation.²² Forrest seems to use socially oriented computational neurological models for support of an extrasensory perception theory—"our continued and *shared* experience of the outside world"—but fails to provide any clear description

²⁰ Copeland, Jack. *Artificial Intelligence*. (Cambridge: Blackwell Publishers, 1993), 182-188.

²¹ *Ibid.*, 219.

²² *Ibid.*, 188-192.

of the example.²³ The power even of today's most advanced computers, however, is insufficient to model a brain or mind, even in abstract. These computational models of which Forrest speaks may not even exist, but since he never refers to any real-world examples, it is impossible to say.

Shulman and Rothman point out a number of problems with the current interpretation of PET and fMRI data, reinforcing the need in cognitive science to balance out the prevalent views of neuroscience.²⁴ While their observations of the logical difficulties of current interpretations are very well founded and explained, their evidence and conclusions are not inherently psychoanalytic. Any open-minded neuropsychological researcher could easily come to the same conclusions based solely on empirical studies countering current interpretation methods and observation of the experimental difficulties inherent in those methods. Psychoanalysis makes no contribution to this insight, and the authors barely attempt to claim that it does.

There is a drive in these essays to reform psychoanalysis, arguing that it can and has contributed to modern cognitive science, in conjunction with neurobiology. However, all necessary reformation took place when psychoanalysis was thrown out almost wholesale by mainstream research as the developing field of psychology corrected Freud's mistakes. Current attempts at reform within psychoanalysis are mere fanaticism, hoping to keep an antiquated and deeply flawed system of thought relevant. All these researchers in cognitive science show their near-religious commitment to Freud in such mystical, reverent utterances as Forrest's expectation that "[Freud] will, once again, have shown us the way and provided the guiding principle."²⁵ This is not scientific discussion taking place in this sentence; it is cultish idol-worship. Psychoanalysis did not contribute to the creation of any of the ideas mentioned over the previous pages, and provides no predictive power for their further development. These researchers' focus seems to be

²³ Forrest, David V. "Freud's Neuromental Model". *Whose Freud?* (New Haven: Yale University Press, 2000), 264.

²⁴ Shulman, Robert G. and Douglas L. Rothman. "Modern Functional Imaging Experiments". *Whose Freud?* (New Haven: Yale University Press, 2000), 271.

²⁵ Forrest, David V. "Freud's Neuromental Model". *Whose Freud?* (New Haven: Yale University Press, 2000), 259.

less on furthering knowledge than searching through new developments in cognitive science for ways to glorify the name of their hero.

Psychoanalytic researchers claim that their studies provide a useful insight for modern research in cognitive science, one that balances out the prevalent neurological perspective of the mind. Psychology, however, deals in matters of meaning, representation, and emotion, just as psychoanalysis does, but is founded, supported, and explained by scientific methods of investigation. Because of this, it is more suited to communicate its ideas to the intellectual world at large than psychoanalysis, which refuses to deal in scientific explanations. Involvement in cognitive science “would constitute an important role for psychoanalysis in contemporary culture,” but psychology, motivated by a desire for progress rather than relevance, is more aptly suited to continue fulfilling this role.²⁶

²⁶ Ibid., 249.

Bibliography

- Copeland, B. Jack. *Artificial Intelligence: A Philosophical Introduction*. Cambridge: Blackwell Publishers, 1993. 180-225.
- Forrest, David V., and Peter Brooks and Alex Woloch, eds. "Freud's Neuromental Model: Analytic Structures and Local Habitations". *Whose Freud?* New Haven: Yale University Press, 2000. 255-265.
- Freud, Sigmund S., and Peter Gay, ed. "The Dissolution of the Oedipus Complex". *The Freud Reader*. New York: W. W. Norton & Company, 1989. 661-666.
- Gay, Peter. *The Freud Reader*. New York: W. W. Norton & Company, 1989. 309.
- Grünbaum, Adolf, and Frederick Crews, ed. "Made-to-Order Evidence". *Unauthorized Freud*. New York: Penguin Books, 1998. 76-84.
- Reiser, Morton F., and Peter Brooks and Alex Woloch, eds. "Can Psychoanalysis and Cognitive-Emotional Neuroscience Collaborate in Remodeling Our Concept of Mind-Brain?" *Whose Freud?* New Haven: Yale University Press, 2000. 248-253.
- Sand, Rosemarie, and Frederick Crews, ed. "Manifestly Fallacious". *Unauthorized Freud*. New York: Penguin Books, 1998. 85-93.
- Shulman, Robert G., Douglas L. Rothman, and Peter Brooks and Alex Woloch, eds. "Freud's Theory of Mind and Modern Functional Imaging Experiments". *Whose Freud?* New Haven: Yale University Press, 2000. 267-273.
- Siegel, Daniel J. *The Developing Mind*. New York: The Guilford Press, 1999. 1-72.
- Timpanaro, Sebastiano, and Frederick Crews, ed. "Error's Reign". *Unauthorized Freud*. New York: Penguin Books, 1998. 94-105.