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Remembering the Evolutionary Freud

Allan Young

McGill University, Montreal (Quebec), Canada

Argument

Throughout his career as a writer, Sigmund Freud maintained an interest in the evolutionary origins of the human mind and its neurotic and psychotic disorders. In common with many writers then and now, he believed that the evolutionary past is conserved in the mind and the brain. Today the "evolutionary Freud" is nearly forgotten. Even among Freudians, he is regarded to be a red herring, relevant only to the extent that he diverts attention from the enduring achievements of the authentic Freud. There are three ways to explain these attitudes. First, the evolutionary Freud's key work is the "Overview of the Transference Neurosis" (1915). But it was published at an inopportune moment, forty years after the author's death, during the so-called "Freud wars." Second, Freud eventually lost interest in the "Overview" and the prospect of a comprehensive evolutionary theory of psychopathology. The publication of *The Ego and the Id* (1923), introducing Freud's structural theory of the psyche, marked the point of no return. Finally, Freud's evolutionary theory is simply not credible. It is based on just-so stories and a thoroughly discredited evolutionary mechanism, Lamarckian use-inheritance. Explanations one and two are probably correct but also uninteresting. Explanation number three assumes that there is a fundamental difference between Freud's evolutionary narratives (not credible) and the evolutionary accounts of psychopathology that currently circulate in psychiatry and mainstream journals (credible). The assumption is mistaken but worth investigating.

I. The evolutionary Freud

> It seems to me quite possible that all things that are told to us today in analysis as phantasy – the seduction of children, the inflaming of sexual excitement by observing parental intercourse, the threat of castration . . . were once the real occurrences in the primaeval time and that children are simply filling in the gaps in individual truth with prehistoric truth. [T]he psychology of the neuroses has stored up in it more of the antiquities of human development than any other source. (Freud 1915–1917, *SE* 15 and 16:371)

Evolutionary themes pervade Freud's work. His views on evolutionary origins of psychopathology are detailed in *Totem and Taboo* (1913), "Overview of the Transference Neurosis" (1915), *Group Psychology and the Analysis of the Ego* (1921), and *Moses and Monotheism* (1939). The "Overview" is the least well known of the accounts but it is also the work that is most systematically concerned with the evolutionary basis of psychoneurosis and psychosis. It was intended to be the concluding essay in a book of

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twelve chapters on metapsychology and was the product of that brief period, at the start of the Great War, when Freud and Sandor Ferenczi were exploring Lamarck's ideas about use-inheritance. In 1915, Freud sent a draft copy of the "Overview" to Ferenczi with the suggestion that he either "throw it away or keep it." Freud's copy of the manuscript subsequently disappeared, along with six additional metapsychology chapters. The survival of Ferenzci's copy was unknown until 1983, when it was discovered by Ilse Grubrich-Simitis. An English edition was published four years later as *A Phylogenetic Fantasy* and included illuminating essays by the editors and Grubrich-Simitis (Freud [1915] 1987).

Freud's "Overview" narrative is organized around two evolutionary sequences. The first sequence produces the id and coincides with the evolution of the vertebrates. The second sequence produces the ego and coincides with the evolution of the human race during the Paleolithic, a time of foraging and hunting. Freud describes the earliest stage of human evolution as being a "primeval paradise." There was no language but there was abundant food and unlimited copulation, once the human oestrus cycle had faded into extinction. Paradise ended with the "Ice Age," an ecological event that Freud believed affected all humankind. Life conditions changed for the worse. Food was now insufficient to support the expanding population. Consequently libido, heretofore absorbed in genital sex, was transformed into realistic anxiety, funneled into fear of (hungry) strangers. Ancient man adapted to the demographic crisis by substituting perverse kinds of sexual satisfaction for unremitting copulation. (An alternative solution, copulation plus infanticide, is strategically ignored.) In time, social organization was further transformed: the amorphous populations that were characteristic of the earlier period divided into small local groups or "hordes," each controlled by a patriarch described as being both brutal and wise, as previously described in *Totem and Taboo*. Freud's authority is J. J. Atkinson's *Primal Law* (1903). The primal father monopolized sexual access to the horde's females and castrated his sons, transforming them into "harmless laborers." The sole exception to this practice was the youngest son, who was destined to replace his senescent father. (Freud's demographic solution is defective of course. One phallus can fertilize multiple wombs. It is the womb not the phallus that needs managing.)

Gradually the situation changed as boys learned to avoid castration by moving to the margins, where they formed bands of brothers tied to one another by homosexual sex and homoerotic affect. According to Freud, homologous arrangements occur among gorillas (as described in Darwin's *Descent of Man*) and herds of feral horses and bovines (mentioned in Atkinson's *Primal Law*). Parallels with non-humans end with the advent of language. Early humans did not merely use words, but were aware of words as things in themselves. With words, they were also inclined to objectify their thoughts. The consequence was man's belief in the omnipotence of thought and the efficacy of word magic. At this point in the narrative, the Ice Age drew to an end. Each band of brothers conspired to murder the primal father to get access to the objects of their heterosexual desire, their sisters and mothers. The brothers were wise to foresee the future: they will

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now expose themselves to the fate of their father, to be killed and devoured by their own frustrated sons. The solution was the incest taboo: a man can produce women (daughters) only for exchange and not for his own consumption.

Freud divides the evolution of the ego into phases and defining events. Each event was imprinted on the participants' minds, brains, and bodies through a Lamarckian mechanism. "Fixation comes through [a phylogenetic or ontogenetic] phase of development that was too strongly pronounced or perhaps persisted too long to pass into the next without residue" (Freud [1915] 1987, 9). Fixated events are equivalent to the biological memories that Spencer and Hughlings Jackson believed are inscribed in the nervous system during evolution. Each memory comprises content and an action plan that originates as an *adaptation* to a problem engendered by the social or natural environment. Thus the band of homosexual brothers was an adaptation to a collective fear of a castrating primal father who was himself an adaptation to the physical changes caused by the Ice Age. The evolution of the ego was divided into six phases, each keyed to an adaptation and its corresponding psychopathology. Freud divided the pathologies into two classes: the *transference neuroses* that recapitulate the early part of the Paleolithic sequence, and the *narcissistic neuroses* that recapitulate the stages that commence with the arrival of the primal father and the primal hordes.

Ontogeny mirrors phylogeny: early age of onset mirrors an event inscribed in an early evolutionary epoch. Onset of anxiety disorder occurs in early childhood (according to Freud) and correlates with the origins of realistic anxiety during the first period of the Ice Age. Onset of obsessional neurosis is pre-pubescent and correlates with a later period of the Ice Age, the time when language emerges, man discovers the omnipotence of words and thoughts, and the primal father takes command. Thus the symptoms of obsessional neurosis: the patient's compulsion to conform to senseless but immutable laws, and his fearfulness of the power of intrusive words and thoughts, in mind but beyond control, to produce terrible effects. *Dementia praecox* begins at puberty and recapitulates the loss of object libido during the regime of the castrating primal father. The onset of melancholia-mania occurs during the mature years and recalls the concluding evolutionary event, the murder of the primal father. This bipolar syndrome mirrors the brothers' alternating triumph (celebrating the death of a brutal father) and despair (reacting to the loss of the wise father). The remaining neuroses, conversion hysteria and paranoia, are given similar narratives.

Freud's second sequence is keyed to events in the evolution of the vertebrates and the libido. The period precedes the sequence responsible for evolution of humankind and the id. Freud's principle is that the earlier the evolutionary stage, the more refractory the disorder. *Dementia praecox* (schizophrenia) is a "late onset neurosis" and is characterized by regression to auto-eroticism, a condition that typifies an early stage in the history of the libido. In contrast, childhood onset conversion hysteria, a less serious disorder, is directed against the primacy of the genitals, the condition that defines the final stage in the evolution of the libido. Freud does not discuss the neurological counterpart of these essentially psychological developments.

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Freud was aware of certain inconsistencies in his scheme. The most obvious among these is his claim that the narcissistic neuroses (psychoses) mirror the experiences of the brothers during the time of the primal father. Freud describes them as being castrated laborers (stage four) or restricted to homosexual sex (stage five). He also says that their experiences and attitudes are transmitted to later generations as biological memory. How does this occur? Freud solves the puzzle with the help of the youngest son. He is said to vicariously experience the fate of his older brothers and to transmit his knowledge biologically to future generations after he gets access to the wombs of his sisters, mother, and aunts.

Freud returned to evolutionary themes six years later in *Group Psychology and the Analysis of the Ego* (1921). The primal horde remains a focal interest and modern man is once again subject to involuntary time-travel. But in this book, Freud is concerned with the evolutionary foundations of social groups and not psychopathology: "[T]he psychology of groups is the oldest human psychology.... [T]he primal father had prevented his sons from satisfying their directly sexual impulsions; he forced them into abstinence and consequently into the emotional ties with him and one another.... He forced them, so to speak, into group psychology." But "just as it is possible for bees in case of necessity to turn a larva into a queen instead of into a worker," so too the youngest son would be elected from among the "harmless laborers" mentioned in the "Overview." The parallel with the bees is positively inspired: just as the queen-elect is fed on the royal jelly that transforms her biologically into something different, so too the youngest son was "given the possibility of sexual satisfaction, and was by that means offered a way out of the conditions of group psychology. The fixation of the libido to women, and the possibility of sexual satisfaction without any need for delay . . . allowed his narcissism . . . to arise to its full height." And now he would be the primal father, not merely top dog, but uniquely free:

> His intellectual acts were strong and independent . . . and his will needed no reinforcement from others.... [H]is ego had few libidinal ties; he loved no one but himself, or other people only in so far as they satisfied his needs.... He, at the very beginning of the history of mankind, was the "superman" whom Nietzsche only expected from the future. (Freud [1921] 1959, 70–72; for an account of Freud's engagement with the evolutionary Nietzsche, see Holmes 1983)

Freud returned to this territory in his final monograph, *Moses and Monotheism* (1939). In his telling, there were two Moses. The first Moses was an Egyptian prince. He led the Hebrews out of Egypt and imposed on them an exacting form of ethical monotheism. The followers tired of the austere code and murdered the leader. Their memory of the murder and monotheism were forgotten (repressed). Perhaps a century later, their descendants united with monotheistic Midianites, whose leader was likewise called Moses. The repressed memories returned. Time passed and the new tribe or nation (Jews now) conflated the ethical god of the Egyptian Moses with the vengeful

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volcano god of the Midianites. Memories of the murder of Moses and his creed were again repressed. Centuries later, the principles of ethical monotheism returned to group consciousness. Memory of the murder has remained repressed (among Jews at least) and an enduring source of unconscious collective guilt. These circumstances – the traumatic event, the repressed memory, the birth of a new moral order – recall precisely the murder of the primal father. The perfect analogy is met with today in psychopathology, in the genesis of human neurosis (Freud 1939, 90–91).

II. Forgetting the evolutionary Freud, part one

In 1967, the British medical journal *Lancet* published an evolutionary account of depression by John Price, a psychiatrist. The article marks a postwar revival of interest in evolutionary narratives in psychiatry. It did not "launch" the revival but rather is representative of the narratives that followed. It comprises an epidemiological puzzle and an evolutionary solution. Clinical depression is a common disorder, affecting one person in seven in the general population. It also has a significant genetic component. Symptoms include low mood, diminished interest or pleasure in most activities, abnormal sleep patterns, low energy, feelings of worthlessness and guilt, diminished ability to think or concentrate, and recurrent thoughts of death and suicide. Since prevalence is highest among women and peaks during the child-bearing years, it carries a significant reproductive disadvantage. Nevertheless the prevalence remains constant and it can be assumed that this situation is unchanged from earliest times.

According to Price, the syndrome originated as a behavioral adaptation to life conditions in the Paleolithic. Natural selection made it part of the human genetic legacy. Like many experts during the 1960s, Price supposed that our ancestors exploited an ecological niche similar to situation of East African baboons today. Like baboons, our ancestors were aggressive and competitive, and social life was based on a dominance hierarchy. Collective survival required a mechanism that would permit individuals to move up and down without excessive mortality, despite potentially deadly contests. This mechanism would induce losers to automatically cease resisting and, at the same time, successfully communicate surrender to the victor. Price called the solution the "yielding response" and claimed that its clinical expression is "the sort of behaviour and symptoms that we observe in depressed patients. The ideas of inferiority and unworthiness, the withdrawal, the selective forgetting of memories conducive to self-esteem, the loss of appetite and libido: these might have been designed to prevent an individual from desiring and attempting to regain former status" (Price 1967, 244).

Price ended his account with a list of authorities, including ethologists, evolutionary biologists, and anthropologists. There are two notable omissions: John Hughlings Jackson and Sigmund Freud. In his celebrated Croonian Lecture (1876), Jackson had outlined an evolutionary account of the nervous system, based on a scheme previously proposed by Herbert Spencer (Jackson 1931; Spencer 1855). He pictured the nervous

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system as a hierarchy of levels, each level representing a successful biological and behavioral adaptation to an environmental challenge to the survival of the species. The evolutionary history of the nervous system might be read in "positive symptoms": behaviors representing a regression ("dissolution") to an archaic level. The behaviors were once adaptive and normal, and even today they may subserve normal functions when properly controlled or inhibited by more evolved structures. The behavior becomes pathological when it is "disinhibited" through disease, injury, toxins, alcohol, fatigue, etc. (In contrast, "negative symptoms" are simply abnormal, without an evolved hierarchical status or narrative.)

Jackson's theory was widely adopted within psychiatry. It influenced Freud's understanding of both primary process thinking and the origin of psychopathologies (Smith 1992, 205–222; Stengel 1963). It is represented today in efforts aimed at tracking schizophrenia's characteristic symptoms – bizarre utterances, delusions – to "a diminution of higher (cortical) and a relative dominance of lower or more primitive neural centers associated with affect and instinct (the subcortical limbic system)" (Sass 1992, 390). The "yielding response" fits the Jacksonian pattern precisely: it is an automatic, evolved response that operates outside of awareness and is normally held in check by volitional structures (both mental and neurological) that evolved later.

Price ignores (or is unaware of) a striking similarity between the Paleolithic band in his article and the primal horde described in *Totem and Taboo*, *Group Psychology and the Analysis of the Ego*, and *Moses and Monotheism*. The similarities extend beyond shared assumptions concerning the pervasiveness of social hierarchy and the will to dominate in archaic times. Price writes that the yielding response is also a source of *awe* and facilitates the psychological investment that followers place in the leader. Thus the yielding response – according to Price, a neurological "heirloom" equivalent to the body's appendix – explains the onset of depression and likewise the physician's healing power, his ability to comfort distressed patients. Just as "baboons in time of insecurity turn to their overlord for reassurance," so does the patient turn to the physician who "is perceived as powerful, confident, assured, and yet strongly committed to the patient's interests" (Price 1967, 244–45). In Freud's primal horde, the father brutalizes and exploits his sons and denies them access to females, the sons want to correct this situation but, at the same time, they attribute to the father a capacity for "wisdom" and "love." And when they ultimately kill their father, as described in *Moses and Monotheism*, they are overcome with guilt and sorrow.

Price is one among many evolutionary psychiatrists who forget or ignore the evolutionary Freud. The pattern is repeated in a stream of scholarly publications, including *Darwinian Psychiatry* (McGuire and Troisi 1998), *Evolutionary Psychiatry*, (Stevens and Price 1996), and *The Maladapted Mind* (Baron-Cohen 1997). One might expect to find the evolutionary Freud in books such as *Genes on the Couch, Explorations in Evolutionary Psychotherapy* (Gilbert and Bailey 2000), which includes chapters on "Evolutionary Psychoanalysis" (Kriegman 2000) and "The Evolution of Incest Avoidance: Oedipus and the Psychopathologies of Kinship" (Erickson 2000). The

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authors intend to provide an evolutionary framework for developing psychoanalytic ideas and practices, but their framework is group selection theory and not Freud's. Or consider Christopher Badcock (1998). His target is a "new synthesis of Darwin and Freud" that he calls "PsychoDarwinism." Unlike Krieger and Erickson, he mentions the evolutionary Freud – citing *Totem and Taboo; Group Psychology and the Analysis of the Ego*; and *An Overview of the Transference Neurosis* – but just in passing. His evolutionary terms of reference – selfish genes, reciprocal altruism, evolved algorithms – derive from non-Freudian sources: Richard Dawkins, Cosmides and Tooby (modularity of mind theory), and group selection theory.

Frank Sulloway's *Freud, Biologist of the Mind: Beyond the Psychoanalytic Legend* (1979), is a partial exception to this pattern. Sulloway chronicles the influence of various evolutionary thinkers on Freud, but Freud's evolutionary theories are only tangential to the book's true subject: "[T]he two great myth-complexes of Freud the hero and Freud the pure psychologist have repeatedly converged in their far-reaching defense of what is essential to . . . the theory of psychoanalysis. Biological psychology . . . was expediently seen by Freud and his followers as part of the faulty scientific reality that Freud – the pure psychologist – had overthrown" (Sulloway 1979, 488). Biological psychology would include "the prevailing doctrines of hereditary taint, degeneration theory, somatic and localization doctrines, physiological reductionism, and biological determinism more generally." The evolutionary Freud is not mentioned here: he is odd man out, the biologist (of sorts) of the mind who survives in plain sight to the very end, *Moses and Monotheism*.

III. Freud's "biological point of view"

Lucille Ritvo's *Darwin's Influence on Freud: A Tale of Two Sciences* (1990) is altogether a different story. It is a valuable introduction to the evolutionary Freud and especially his interest in Lamarck's *Philosophie Zoölogique*. In the years 1914–15, Freud and Sandor Ferenczi undertook a brief and intense study of Lamarck's concept of "use-inheritance," in an effort to explain the evolutionary sources of contemporary psychopathology. "Use-inheritance" was understood to be the idea that the vigorous exercise of body parts can eventually produce changes in these parts – usually development or enlargement – that are inherited by subsequent generations. Lamarck's theory was more complicated. It claimed that the process would be either restricted or enhanced by the evolutionary status of the species and, more specifically, by the capacity of the nervous system to experience sensations, inner feelings, and emotions, and to perform "intelligent acts" that are, in turn, dependent on will, thought, and memory. Memory and thinking are described in physical terms, as events moving the nervous fluid within and among the relevant organs. Since the nervous system extends to every part of the body, connecting all of its organs, repetition of an experience would produce two dual effects: the formation of a trans-generational memory and associated ideas, and the

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trans-generational transmission of the behavior patterns originally associated with the remembered events (Lamarck [1809] 1984, part 3, chaps. 4 to 8).

In an effort to understand fully the process of use-inheritance Freud proposed to Ferenczi that they work on the project together, each man studying his own copy of the *Philosophie Zoölogique*. (Ferenczi's interest in Lamarck is mentioned in his own evolutionary narrative, *Thalassa: A Theory of Genitality* [1933, see v. 3, p. 11].) In 1915, Freud wrote to Karl Abraham that his interest in Lamarck was not in the inheritance of acquired characteristics per se but rather "what Darwin had called [the] "Lamarck nonsense of . . . 'adaptations from the slow willing of animals'." Lamarck had provided a mechanism that would explain how experiences might be transmitted across thousands of generations. Of equal importance was that Lamarck provided a "biological point of view" for understanding the concept of the ego, subsequently described in *The Ego and the Id* (1923). Abraham wrote back that he "did not quite follow" Freud's point. This is Freud's respons:

> The idea is . . . to show that the "necessity" that according to [Lamarck] creates and transforms the organs is nothing but the power of unconscious ideas over one's body, of which we see remnants in hysteria, in short the "omnipotence of thought". This would actually supply a psycho-analytic explanation of adaptation. . . . There would be two linked principles of progressive change, adaptation to one's own body and [the] subsequent transformation of the external world. (Freud and Abraham 1965, 261–2)

IV. Forgetting the evolutionary Freud, part two

As Ritvo argued in her book, Freud's "biological point of view" included the notion of use-inheritance. Lamarck's mechanism was not, as sometimes assumed, a desperate *deus ex machina* for explaining transgenerational memory. Rather it is integral to Freud's understanding of the evolutionary origins of psychopathology. However, when Freud the biologist is discussed, even by sympathetic writers, the evolutionary dimension is consistently ignored.

Take the example of *Freud's Project Reassessed*, by Carl Pribram (a neurosurgeon and neuroscientist) and Merton Gill (a British psychoanalyst). Their subject is Freud's unpublished "scientific project," focused on neuronal systems within the brain, and abandoned by him in 1895. "Our encounters with Freud's *Project for a Scientific Psychology* . . . have been filled with the same sense of surprise and excitement which Freud so movingly expressed in his letters to [Wilhelm] Fliess . . . we found that 'everything seemed to connect up', that 'the whole worked well together'" (Pribram and Gill 1976, 14). In their epilogue, Pribram and Gill discuss the implications of *The Project* for Freud's subsequent writing. The copious citations trace Freud's writing from 1895 to the posthumous publication of *An Outline of Psycho-Analysis* (1940). Freud's evolutionary books are absent (likewise Pribram 1998).

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Here is another example: "Biology and the future of psychoanalysis: a new intellectual framework for psychiatry revisited," published in the *American Journal of Psychiatry* in 1999, a decade after Ritvo's book. Eric Kandel, a Nobel laureate in neuroscience, writes:

> Our understanding of heredity, . . . the brain, and the generation of behaviour have been profoundly expanded as biology probes progressively deeper into the molecular dynamics of life processes. The strengths of psychoanalysis are its scope and the complexity of the issues it addresses. . . . Just as medicine has time and again provided direction to biology, and psychiatry to neuroscience, so can psychoanalysis serve as a skilful and reality-oriented tutor for a sophisticated understanding of mind-brain. (Kandel 1999, 519–520)

The text is followed by 136 citations, none of which mentions a possible evolutionary context for psychopathology. About the same time, the New York Academy of Sciences published the proceedings of a conference titled *Neuroscience of the Mind: On the Centennial of Freud's Project for a Scientific Psychology*. Again, the evolutionary Freud is nowhere mentioned.

In the same year, a collection of papers presented at a conference sponsored by the Freud Museum in Vienna were published as *Freud and the Neurosciences: from Brain Research to the Unconscious*. The evolutionary Freud appears twice. In a paper by Malcolm Pines, a London psychoanalyst, he is mentioned but just in passing. Oliver Sacks' chapter is the significant exception and it is worth dilating upon. Sacks starts with Freud's debt to Hughlings Jackson and quickly moves to their differing views on what Jackson, in his Croonian Lecture, called "the mode of connection between mind and matter." Freud had been initially encouraged by Charcot's efforts to connect the motor symptoms of hysteria to what he called "physiological lesions," conceived by Charcot as dynamic biochemical abnormalities affecting the nervous system. By the 1890s, Freud rejected any kind of cortical localization, although this was the prevailing view (as now) and the opinion of Hughlings Jackson. He moved "from Charcot's notion of a circumscribed (if physiological) lesion in hysterical paralysis to a vaguer but more complex sense of physiological changes distributed among several different parts of the nervous system, a vision which paralleled the emerging insights of [his own monograph] *Aphasia*" (Sacks 1998, 16). While Freud had, by 1893, abandoned any hope of finding physical explanations for hysteria, his view of the nervous system remained unchanged. He continued to favor the existence of large, dynamic cortical fields rather than localizable regions of interest. I will return to this point later, to suggest how Freud's anti-localization view may have contributed, in a small way at least, to the invisibility of the evolutionary Freud today. At this moment though, I want to finish my chronicle of the disappeared Freud.

To summarize so far, the evolutionary Freud is largely forgotten. When he does make an appearance, it is usually in association with *Moses and Monotheism*. But he is an unwanted presence, like an embarrassing relative one tries to explain away (e.g., Bernstein's 1998, 46–52; Paul 1991, 276). In the next pages, I want to explain his

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disappearance and its significance. I proceed via three questions: Exactly *what* has been forgotten? *Why* was it forgotten? And is it too late now to be *remembered*?

V. Why was the evolutionary Freud forgotten?

There are three plausible explanations. One, the "Overview of the Transference Neurosis" is the key to Freud's efforts to produce a comprehensive evolutionary theory of psychopathology; however, it was not published until long after his death and at an inopportune moment. In the years since then, the essay has attracted a tiny audience. Two, Freud abandoned the "Overview" and, one assumes, his hopes for a comprehensive evolutionary theory of psychopathology. Three, Freud's evolutionary theory was rejected because it is uniquely defective. It is based on just-so stories and a discredited evolutionary mechanism, Lamarckian use-inheritance, and these considerations make it fundamentally different from the evolutionary accounts of psychopathology that circulate in mainstream journals (e.g., the *American Journal of Psychiatry*, *British Journal of Psychiatry, Archives of General Psychiatry*) and are considered credible. Explanations one and two are correct but uninteresting. The assumption underpinning number three is mistaken, but worth investigating.

Freud was subjected to a similar criticism following publication of *Totem and Taboo*. "To be sure, this is only a hypothesis, like so many others with which archaeologists endeavour to lighten the darkness of prehistoric times – a 'Just-So Story', as it was amusingly called by a not unkind English critic; but I think it is creditable [*ehrenvoll*] to such a hypothesis if it proves able to bring coherence and understanding into more and more new regions" (Freud [1921] 1959, 69). Freud is saying that speculative accounts of this sort may stimulate lines of inquiry that yield scientific discoveries uncompromised by the epistemological fragility of "just so stories" (i.e., etiological fables for children, see Kipling 1907). This is a defensible claim, but I wish to set it aside to consider this other matter, the corollary bit: the assumption that Freud's evolutionary account is singularly deficient.

VI. Distinctions without a difference

In an essay that accompanies Freud's "Overview" text in the *Phylogenetic Fantasy* book, Grubrich-Simitis writes: "What must appear to the reader as . . . out of date . . . is [Freud's] tendency to the grand theoretical scheme, to the forcefully simplifying reconstruction of the evolutionary history of basic features of the *conditio humana*. The phylogenetic development of these basic features, such as speech, is reconstructed in the form of chains of events conceived linearly with respect to time, primal dramas – brilliantly reductionistic ideas, which from the standpoint of today, certainly, are modeled more on myth than on scientific theory" (Grubrich-Simitis 1987, 103).

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In reality, explanatory reductionism (mental modules, evolved algorithms, etc.), myths (the Paleolithic "Environment of Evolutionary Adaptation" in Tooby and Cosmides 1992), and dubious ethnographic analogies (a window through which one sees homo sapiens' evolutionary origins) never went out of fashion. Here is an example. It is a sequel to Price's *Lancet* article and is about the subjective side of depression. Part of the argument is organized around an ethnographic example, borrowed from Gregory Bateson's Melanesian ethnography, *Naven*. Bateson describes an endemic form of spousal conflict and lineage competition that threatens social solidarity. Breakdown is avoided through a collective ritual that restores the community to the *status quo ante*: the contesting parties accept defeat. "Depression can [likewise] be seen as ritual form of losing behaviour. . . . It performs the function which death performs in unritualised fighting, and which the referee performs in culturally ritualised competition." Depression's vegetative symptoms are "a ritual (psychological) substitute for the physical damage which is suffered by the loser in an unritualised contest" (Price et al. 1994, 310).

The three behavioral patterns – depression, yielding, and the Melanesian ritual – have a preservative function and an evolutionary origin. Each performance has a social consequence and a subjective dimension comprising memories and self-appraisals. These experiences are the source of "self-esteem" in humans and an "animal self-concept" in baboons. And this solves additional epidemiological puzzles, such as the high prevalence and severity of depression observed among elderly people. The syndromal behavior of old people retains its ritual character, since it is an evolutionary product over which ego, will, neocortex have no control. At the same time, the behavior pattern has lost its ritual efficacy. It would be equivalent to transporting one of Bateson's Melanesians to Manhattan. The elderly have lost their audience and the moral economy with which self-esteem is rooted. And there is no way back to the *status quo ante*.

Randolph Nesse continues the narrative. Depression includes low mood. Its function is to induce individuals to disengage, without conscious intention, from unprofitable situations. Episodes of depression often coincide with "life crises" – the loss of a job, divorce, etc. – when life must take a new direction. The characteristic crisis in Paleolithic times would be the exhaustion of the home territory. The start-up costs of new enterprises are high and individuals past and present may under-estimate potential costs, however "pessimism, lack of energy, and fearfulness can prevent calamity even when they perpetuate misery" (Nesse 2000, 17).

The mental modules responsible for depression seem to operate much like the phylogenetic memories that explain the origin of the neuroses in the "Overview." The modularist's concept of "genome lag" – the idea that we have Paleolithic brains, are guided by Paleolithic algorithms, and Paleolithic action patterns can escape cortical control – is not remote from Jacksonian dissolution. These are distinctions without a difference perhaps. But what about real differences between the evolutionary Freud and his successors? What about Lamarckian inheritance? Lamarck is not an entirely dead issue in science. Genetic researchers and philosophers of biology now talk about

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"neo-Lamarckian systems of inheritance" in connection with the hereditary transmission of environmentally induced changes in gene expression (Jablonka 2001; Francis et al. 1999). One should not take this too seriously, however. The "Lamarck" part of "neo-Lamarckian" is figurative. These epigenetic processes (characteristically the methylation of single cytosine nucleotide located in a transcribing segment of DNA) are certainly *not* what Lamarck, Freud, or Ferenczi had in mind. We must face the facts: the evolutionary Freud relied on phylogenetic memory and had no satisfactory way to explain the hereditary transmission of these memories. But there is one fact to consider, namely that mental modules may be no great improvement over phylogenetic memories. Modularists have succeeded mainly by camouflaging the problem that Freud failed to solve. The biological transmission of adaptations is conveniently off-loaded onto the logic of "Natural Selection" and metaphors such as "inference engines" and "neurocircuits."

A final contrast is worth examination. The "Overview" provides a comprehensive account. It is a series of linked narratives, a psychiatric *Ring des Niebelungen,* permitting Freud to include and connect all kinds of disorder (in our terms, mood disorders, anxiety disorders, psychoses, etc.). The typical modular narrative is a one-act primal drama. It explains the origin of a single diagnostic classification – depression, agoraphobia, postpartum depression, etc. (e.g., Hagen 1999). This arrangement is consistent with diagnostic conventions from DSM-III (1980) onward. Within the system, psychiatric disorders are constructed as Aristotelian categories. Each classification can have its own evolutionary narrative, but no narrative can span the boxes. If so, Freud's account is ruled out.

It is widely presumed that the DSM diagnostic logic "cuts nature at the joints." In reality, it is a transient historical product (Young 1995). Influential sectors of the psychiatric community now question its soundness. If so, there is no a priori reason to reject Freud's account simply because it is comprehensive. One can go further, to argue that modular accounts (in contrast to Freud's) have a weakness that stems from current diagnostic conventions. The one-act stories are products of "reverse engineering" (Fodor 1998, 2000). This process – whether applied to major depressive disorder or a jet engine – consists of two operations. The object is disassembled into its constituent parts and the researchers infer the function of each part as it was intended by the object's manufacturer. In the case of modularized depression, the manufacturer is a process of natural selection that ceaselessly seeks to optimize the organism's adaptation to its total environment, physical and social. The crucial difference between jet engines and psychiatric disorders is that there is just one way to successfully reverse a jet engine and the proof is in the pudding. Psychiatric disorders can be reverse engineered in multiple, mutually contradictory but equally plausible ways (Orr 2003).

This is the bottom line: Grubrich-Simitis is correct to argue that Freud's evolutionary account relies on "reductionistic ideas, which . . . are modeled more on myth than on scientific theory." This does not, however, differentiate his account from current evolutionary narratives. To explain the success of one or the failure of another, one must

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understand that these evolutionary accounts are also cultural accounts and are plausible to the extent that they are consistent with our taken-for-granted knowledge of the world. The story of the youngest son, Freud's fable of the bees, has no resonance for the story's potential audience. Inference engines, algorithms, and a life-world reduced to calculation and competition are a different story.

VII. Is it too late to remember the evolutionary Freud?

In *Totem and Taboo*, Freud writes that "Psychoanalysis has shown us that everyone possesses in his unconscious mental activity an apparatus which enables him to interpret other people's reactions, that is, to undo the distortion which other people have imposed on the expression of their feelings" (Freud [1913] 1950, 13:159). This apparatus reminds us of the modular "cheater detector" that, according to contemporary researchers, may differentiate the normal mind from the mind in schizophrenia and autistic disorder (Byrne and Whitten 1997; Baron-Cohen 1995). And there is a parallel between Freud's effort to intertwine the evolution of language and *dementia praecox* (in the "Overview") and current efforts to intertwine language, hemispheric laterality, and schizophrenia in an evolutionary frame of reference. And there is a further parallel between on-going brain research into "mirror neurons" and Freud's idea (thanks to Lamarck) that there is an intrinsic, unconscious, physical connection between words and enervation of the motor cortex (Gallese 2003; Meltzoff and Decety 2003).

Perhaps there are more parallels between the ideas of the evolutionary Freud and current research in neuropsychiatry and cognitive neuroscience. But we can stop here, since it is an empty exercise. These researchers made their discoveries and reached their conclusions without the help of Freud. Remembering him now brings no added value. Today, we want to know how mind is connected to brain. So did Freud. The mind/brain project now proceeds via functional neuroimaging (e.g., Gallagher and Frith 2003). This technology cannot work for Freud or even the memory of Freud. Recall Oliver Sack's description of Freud's perspective on the brain, specifically Freud's belief in the existence of dynamic cortical fields and his rejection of localizable regions of interest within the brain. But it is precisely these regions of interest (ROIs) that are the targets for neuroimaging. To represent Freud's concepts through this technology and its intrinsic epistemology is to transform them into something new and different (cf. Kandel 1999).

In this sense, it is too late to remember the evolutionary Freud.

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