The Freudian Web

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Summary:
This work, after doing justice to some Freudian errors, aims to demonstrate the continuity of Freud's scientific work ranging from neuropathology to psychoanalysis. What links the diverse Freudian scientific activities is the concept of variability, something Freud shares with Darwin, perhaps as a re-proposition of the Cartesian notion of res extensa. *Such variability should be understood in a concrete sense as a variability of in the first place biological, and later linguistic, features.*

> The "pure spirit" is a piece of pure stupidity: take away the nervous system and the senses, the so-called "mortal shell," and the rest is miscalculation—that is all.
>
> F. Nietzsche, *The Antichrist*

1. Freudian fairness

This paper seeks to be fair with Freud. It's not easy "being fair with Freud", as Foucault and Derrida had anticipated. Sigmund Freud's *Gesammelte Werke*

takes up seventeen volumes plus a general index and a *Nachtragsband*, for a total of nearly 7000 pages, without counting the various letters. Among so many pages there are things that are good and not so good, brilliant intuitions as well as nonsense, as is normal in the work of a great thinker. This makes the task of being fair somewhat complicated. How can one be fair with both the good things and the nonsense? How much is the nonsense worth in comparison to the innovative material? Perhaps it's enough, in order to be fair in the overall judgment, to set the value of every instance of nonsense to zero on the scale. But in doing so, one doesn't deal fairly with the nonsense. In fact, it must be recognized that some of the nonsense has traits, if not of brilliance, at least of intellectual audacity. I cite one well-known example by way of drawing attention to the problem: the difference posed by Freud—regarding female sexual pleasure—between clitoral and vaginal pleasure, with the latter intended to substitute the former. This has no biological foundation. Was Freud a biologist? Judging from some of his claims regarding women or Weisman's eternal plasma, it doesn't seem to be the case. Rather, it seems he often and willingly blundered.

Nevertheless, I seek to be fair with Freud. How? Simply, with Freud. My aim is to help Freud be fair with himself. Many of his followers have not been fair with Freud in a number of ways. For example, the exclusion at one time of *Zur Auffasumg der Aphasien* (1891) (*On Aphasia*) from *Sigmund Freud Gesammelte Werke* (and thus from the *Complete Works of Sigmund Freud*) was not being fair with Freud. The reason? It was considered a secondary work, scholastic, written to promote his university career, not worthy of being included among the strictly psychoanalytic works, and perhaps also too scientific in a positivistic sense. That's all well, but the contrary is also true. I argue that it anticipates not only the subsequent *Traumdeutung*, but also modern neurobiology. It has the same structural framework—mechanistic and Cartesian.

Certainly, the translator who translated *Entwurf für eine wissenschaftliche Psychologie* as *Project for a scientific psychology* was not fair with Freud.

Entwurf also means “draft” and “sketch”, something tossed out. With this sketch, which he left in the hands of Fleiss, and with which he wanted nothing more to do, Freud tried to formulate…what? A biology, a psychology, a biological psychology, a psychological biology? We don’t know and we’ll never know. Why? Because Freud himself didn’t have the courage to go to the very bottom of his delusion, even if it was a good delusion. Paradoxically, in the case of the sketch for a psychology, it was Freud himself who wasn’t fair with Freud.

The official history of Freud was written by a hagiographer, Ernst Jones, who in three volumes sang the praises of his own teacher. Among these praises one reads that Freud deserved receiving the Nobel Prize in medicine on at least two occasions: the first for having discovered the use of cocaine as a local anesthetic; the second for the neurone theory. In 1906 Ramon y Cajal and Golgi received the Nobel prize for their neurone theory, which postulated the singleness of neurons, as being distinct from one another rather than coalescing with one another, as many of Freud’s contemporaries believed. According to Jones, the Nobel Prize would have gone to Freud had he continued with his career as a neuropathologist.

The thesis I want to develop is the following: Freud changed professions, but continued talking about the same thing and perhaps in the same manner, that is scientifically. From neuropathology he moved on to psychoanalysis, but he always talked about the same thing. I certainly agree with the majority of neuroscientists, but perhaps for reasons that differ from theirs. I also think it appropriate to keep neuroscience and psychoanalysis distinct. The neurosciences do not have any representation of the unconscious, which is a type of unrepresentable knowledge. This does not prevent one from bringing about contaminations. What I propose is to contaminate things that are distinct while keeping them distinct. In other words, I shall work on two parallel planes, without making them coincide.

2. Populations: a new concept

What did Freud really talk about in his pre-psychoanalytic writings? Being the neuropathologist he was, he talked about nervous tissues. How? Here, one should open up an in-depth historical study in order to do away with preconceived notions, due in part to Freud himself, and in part to his hagiographer, regarding the false confrontation between Darwinism and Lamarckism in Freud. The historical study would show that Freud was neither Lamarckian nor Darwinian. He wasn't Lamarckian, for having admitted the inheritance of acquired cultural traits; nor was he Darwinian, for having invented the myth of the so-called Darwinian horde. Rather, Freud puts forward the truth of Darwin and Lamarck, that "objectively subjective" truth of the subject of science, as Zizek calls it, which escaped both of them. But let's go more slowly and return to our theme of biology.

What was new in biology in Freud's time? We know that it was dominated by the Darwinian paradigm. The novelty of Darwin—it's said—is natural selection, the struggle that leads to the survival of the fittest. It can't be denied that in Darwin's model there are selective factors at work, but one must be careful not to make of them a *deus ex machina*, geared towards the selection of the fittest, that is, man. This religious finalism, chased out the door by Descartes, would re-enter through the window. Even before selection, which is not so novel, being a well-known practice among breeders, Darwin's real novelty lies in having conceived of the biological variability on which selection exercises its influence. This might seem like an obvious fact. Biodiversity, as it's called today, is before everyone's eyes. But Darwin had the merit of looking at it with the eyes of a subject of science and placing it at the center of his own theoretical speculations. Today, his merit escapes us. We can't imagine how he was able to conceive it, placing it at the basis of the difference between species, without knowing the primary source of biodiversity: Mendel's laws of genetics, which at the time had not yet been… rediscovered. Before Darwin, species were fixed essences, created by God and ordered by Linnaeus in the

Hyperouranios of Nature. Darwin overturned the fissistic paradigm. He introduced the notion of a species as a population: a unity formed by diverse elements, characterized by a median value and dispersion around the median. Variability between species and within a species constitutes the logical assumption thanks to which one can think of biological evolution. The model of evolution by selection is not unique. Today, there are other alternatives. There is, for example, the model of evolution by—for lack of a better word—anti-selection, proposed by Gould, which is the flipside of the Darwinian orthodoxy: the fittest don't survive, but many of the presumed or possibly fittest are decimated. This makes it seem that the truly fittest survive. Even this theory is based upon the Darwinian assumption that biology deals with populations of individuals and not ideal essences, variable sets and not predefined constants.

In short, when he attended Brücke's laboratory or the laboratory of marine biology in Trieste, doctor Freud dealt with biological populations: nerve cells or sex cells. As the story goes, he would later change discourse, moving on to psychoanalysis. My thesis, which only seems paradoxical, is the following: in moving on to psychoanalysis, Freud did not stop working on populations. Certainly, the Freud of *Group Psychology*, *Civilization and its discontents*, *The future of an illusion*, and *Moses and monotheism*, worked on the psychoanalysis of human populations. What is less obvious is the passage from cellular populations, in particular neurons, to the populations of signifiers that inhabit the unconscious.

Let's clarify accurately this passage by examining the *Sketch* cited above. What amuses us when we read it today? That the nervous system is organized like a testicle, where an increase in stimulus brings about an increase in the amount of secretion to be discharged? That in the absence of discharge, the "quantity" spreads into the surrounding tissue, waiting its release? That Freud treats this tension in the same way as inhibitions, by way of paths, the so-called *Bahnungen*, where the "quantity" enters a waiting area and is organized in structures that form the nucleus of the Ego? All this amuses us. But we

are also amazed at the author's intellectual audacity and his moral obstinacy in wanting to tackle something that proves to be intractable with the limited intellectual means at his disposal. What surprises us still today is the attempt to deal with the quantitative factor within a discourse regarding subjectivity, which is traditionally viewed—by all the humanistic disciplines—as being qualitative. The quantitative factor, heir to the Cartesian *res extensa*, implicit in the populational approach, would become explicit in Freud much later as an economic factor, ridden with poorly specified thermodynamic connotations. The *Entwurf* deals with it directly, perhaps in an overly naive, if not clumsy, manner. In fact, it should have been handled through an infinitesimal or differential approach, typical of Lagrangian mechanics. If one reasons in thermodynamic terms, as Freud claimed to do, the concept to use is not the amount of charge per unit of intensity—for example, the amount of heat per unit of temperature—but its differential. Symbolically, not Q/T, but dQ/T. This new quantity would later be called differential entropy, and as integral would become the basis of thermodynamic and computer sciences. Today, it's an unavoidable element of the neurosciences. A failure, therefore, on the part of Freud?

Yes and no. The need for handling the quantitative factor in terms of differential calculus, although, and perhaps because, it was misunderstood, produced effects on another level. The missing differential produced a population of difference, the *Vorstellungrepräsentanzen*, better called unconscious signifiers, each of which functions to the extent that it's different from all the others. Darwinian variability took on a new aspect. The new Freudian population became that of the signifiers of "*lalangue*"—as Lacan playfully defines the subjective idiolect—each one operating independently of the Ego's awareness of it. Freud's scientific error, *felix culpa*, resulted in the notion of the unconscious. How many times in the history of science has a mistaken argument led to a correct, even innovative, result?

3. The Freudian web

The unconscious is structured like a language, goes the Lacanian refrain. A language is a population of single units that differ from one another. In technical Saussurian terms they are called signifiers. The linguistic mass is a structured population. According to Jakobson, the criteria for structuring are combination and selection. Both produce "threads" or signifying sequences. Combination works metonymically, extending a single thread. Selection works metaphorically, passing from one thread to another. I intentionally use the non-technical term "threads", rather than sequences or series, to highlight a parallelism: just as the nervous system is a tissue, so too the linguistic system is a tissue. The linguistic tissue is made up of a warp and weave. The weave is the concatenation of one term with another, of one signifier with another in order to form a thread. Freud spoke of the law of displacement. The warp is the metaphorical substitution of one signifier by another, which makes possible the passage from one thread to another. Freud spoke of condensation in order to underline that there is more than one linguistic thread in the process. The two axes, warp and weave, are interlaced to form a tissue. Freud was interested in tissues, whether as a neuropathologist—in which case the tissue was the nervous system—or as a psychoanalyst—in which case the tissue was language.

The second analogy between populations and nervous tissues, and populations and linguistic fabrics, comes from the so-called associative paths. In *On Aphasia*, Freud maintained that there were no centers, only associative paths. But in psychoanalysis, the associative paths are none other than sequences of signifiers, the threads of the linguistic tissue. In this way one finds confirmation that Freud worked with tissues both as a neuropathologist and as a psychoanalyst.

The Freudian turn from neuropathology to psychoanalysis brings about a certain exhilaration. In attempting to objectively tell the subjective truth, Freud exposes himself to the risk of nonsense. The first instance we have

already noted: the inheritance of acquired traits. Now we can justify it. The linguistic fabric is made to contain the historical memory of the individual and of the group. The same fabric confers to the individual an ancient knowledge that he does not know he knows: the unconscious, which will never be completely exhausted by the limited instruments of consciousness. But there is a second bit of nonsense, which is more vibrant, and on which serious academic knowledge doesn't usually insist. In fact, one can't treat it seriously. Instead, we'll try to do so, not in order to save it or resize it, but because it signals an important place in metapsychological discourse: the place of the feminine.

In *Lecture 33* on femininity, Freud allowed himself a small delusion, for which this time he took full responsibility. He doesn't deny it as he did in the earlier neurological delusion. He claims that perhaps the only contribution of the gentler sex to the history of civilization is the invention of the art of weaving, which is no small thing. He then goes on to claim that women probably invented weaving by drawing on their practice of handling pubic hair. In more ordinary words, the art of weaving is the sublimated transposition of female masturbation. He adds: "If, then, you laugh at my foolishness, I don't have the means for defending it". Finally, Freud recognizes that he is defenseless in front of something that he was never able to fully grasp, neither with the tools of biology, nor with those of psychoanalysis. With the uncertain tools of neurobiology and with the even more uncertain tools of analysis, Freud sought to dominate something dreadful, which continued to escape him his entire life and perhaps forced him to babble nonsense off in the corner. Can we give a name to this mysterious entity? We can call it female pleasure, or the pleasure of the body, something that escapes the phallic, male grip and produces symptoms of malaise, but at times leads to inventions and the construction of cultures.

4. The mind that isn't there

The terms collected up to now—population, tissue, variability, language and

femininity—split into two categories whose exact definition can help to better understand the Freudian psychic mechanism. Understood in a Cartesian sense, these are quantitative terms—not necessarily requiring a measure—regarding extension or plurality: individuals, words, women. Today, in mathematics, non-metric quantities are dealt with in set theory which distinguishes between extensions that are too large to be unified into one class and extensions that are small enough to be so unified. In this way it avoids running up against the well-known antinomies. The distinction, anticipated by Von Neumann, was formalized by Gödel (Gödel 1940) and Bernays. Large extensions are called proper classes. They are classes that cannot be defined as elements of other classes. Small extensions, instead, form regular sets that can be defined as elements of other classes by way of a characteristic property. Surely language and femininity, like the paternal or unconscious knowledge, are extensions that are too broad to be unified by a property. They are proper classes. However, certain biological populations, like zoological species or cell tissues, are at first glance classifiable as sets.

How can this distinction be useful for understanding Freudian metapsychology? It is not directly, but indirectly, useful, providing the assumptions for the pre-understanding of the entire work of Freud.

Today, especially on the part of the cognitive neurosciences, one frequently speaks about mind and the mind-body relationship. What does the neuroscientist mean by mind? The starting point is clear. The mind is an effect of the nervous system. The argument is linear. What purpose does the nervous system serve? To move the animal in search of food and sexual partners. Animals that move and reproduce need a nervous system in order to move and mate. Plants that don't move and draw their food from the earth, don't have a nervous system. They don't even need to find sexual partners since a third-party plays the go between: the wind and insects that carry pollen from the flowers of one plant to another. For the neuroscientist, the discourse on mind is inserted here like a construct, mostly imaginary, whose function is

to control motility. The mind is that presumed superstructure of the nervous system that controls the animal's behavior, man included, in the environment. It's that ecological organization of the inner world (*Innenwelt*) that solves the problem of the animal's adaptation to the external world (*Außenwelt*).

Freud also distinguishes between *Innenwelt* and *Außenwelt*, but not in such a heavily dichotomous way as the neuroscientist. Under Freud's pen even the *Innenwelt* of drives becomes external to the Ego. Lacan invented an apt neologism: the psychic world is "extimate", the contrary of "intimate", with respect to the Ego. Derrida would later speak of a "topological *enclave*". In a certain sense, the Freudian mind doesn't exist. It's a fiction belonging to the same genre as the emperor's new clothes. Since Freud created the unconscious, i.e. a knowledge that one doesn't know oneself—not self-conscious—one cannot logically speak of mind as a unity founded on itself, autonomous and sound. One cannot speak of a unity of synthesis that is capable of dominating, with a panoramic gaze, its own field—which is always too vast—of sensations, perceptions and emotions. The impossibility of establishing a common meaning of mind does not justify, however, the iconoclastic operation of eliminating altogether the term 'mind' itself. We're not afraid of the word, nor do we like the logic of all or nothing. We can continue to speak of the mind in a weaker sense than that attributed to the soul by the ancients: a simple and eternal unity for Plato; or a synthesis of form and content for Aristotle. The Freudian mind is not one. According to the terminology just introduced, the mind is a proper class. There is no structure that contains everything. Consequently, even this has a weak, and not very conceptual, existence.

This creates a rift that is not easily patched between Freudianism and the neurosciences, especially of the cognitivist type. Freudianism is metapsychological, not psychological. It doesn't allow one to speak of the mind as something completed: the modular mind of Fodor, the computational mind of Johnson-Llaird, the mind as a neural network according to Rumelhart and

McClelland. From a Freudian point of view it has to do with fallacies—as even Putnam finally recognized—since they confront the epistemic question—what do I know and how?—without including its own lack. Modern knowledge, unlike ancient knowledge which is all already given in some holy or profane book, is an accumulated knowledge. Not everything is written, but is being written, like Antigone's laws. The mind that hosts it, therefore, can only be an open system. Following Penrose, who assigns to the mind non-codifiable functions? Perhaps one can say something that isn't only negative. The positive contribution to the Freudian position comes once again from a Darwinian biologist: Edelman (1987) with his theory of selection of neuronal groups.

Without entering into the technical details, since we need only clarify the concept, we can say that Edelman's theory of selection of neuronal groups is an "immunological" theory. An organism's antibody response to a foreign antigen does not occur because the antigen provides the immune system with the necessary instructions for making the antibody that adapts itself in a complementary manner, like a film positive to a negative, to the antigen. The antibody response occurs because the antigen chooses among a diverse population of cellular clones just the one that "already"--in a congenital way--produces the antibody to which it is best suited, and causes it to proliferate. Similarly, in the nervous system there is a population of diverse nervous conjunctions—the synapses—that function as hinges between two or more neurons. The external stimulus activates or deactivates those that "already know how" to respond, creating *a posteriori* nerve centers suited to the global environmental response. One sees here an analogy with the Freudian theory of association. There are no nerve centers that are already established on the basis of some genetic code. Genetically, there exists only wide variability. Associations are created among the variable elements, at first provisional, then stable, and which are determined only through exposure to the environment. In a certain sense, thanks to the internal variability of the organism, the external environment responds to itself by passing through the organism's

"extimity". One finds here the inside/outside dialectic. The outside is brought inside in a precise sense—mechanically. "Extimity", in Lacan's sense, loses in this way its metaphysical connotation and becomes a physical fact, one that is scientifically verifiable.

In conclusion, the mind in Freudian discourse doesn't exist or hardly exists as a predefinite unit. It is an associative structure that puts diverse elements together on the basis of experience, having as an innate prerequisite only a wide variability of responses. The mind is *one* response among many other possible ones. It unifies the vast world of environmental stimuli—in our language, a proper class—into a partial and temporary synthesis. The mysterious leap from *res extensa* to *cogitans* would consist in the unification of experience *par provision*, as Descartes would say. One needn't postulate a pre-formed mind. The mechanisms of variability and selection suffice for explaining mental facts.

At this point, placed in the appropriate scientific context, the Freudian hypothesis of unconscious knowledge becomes a corollary to Darwinism. Whether it has to do with populations of neurons or populations of linguistic meanings, selection produces partial syntheses. In our language we can say that metapsychology, considered in the abstract, deals with the passage from proper classes to sets, which at times are finite. This passage, which produces the unique Freudian mental apparatus, is essentially and unavoidably reductive. Indeed, the majority of knowledge remains in the real and doesn't pass on to the mind; it rests in the Id and doesn't reach the Ego. Or, as Freud would say, the infinite escapes the grasp of axiomatic, finite systems. On this point even the neuroscientist can agree, if he's Cartesian.

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