Review article

What is scientific metapsychology?

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INTRODUCTION

Psychoanalysis is traditionally divided into theory and practice. Both are complementary and usually mingled in the psychoanalyst’s work. However, it is possible to analyze them from a didactic perspective, separating them to have a better understanding of the dimensions that compose the universe of psychoanalysis. In this sense, firstly we must clarify what “psychoanalytic theory” stands for. To do so, we can refer to the argument used by Laplanche,¹ that the psychoanalytic theory can be divided into two levels.

In level I, there are children’s sexual theories, i.e., “ideologies, myths, formalizations that, as such, cannot be neither refuted nor proven by psychoanalysis”¹ (p. 83). Those theories are developed in the patients’ own speech, and are later systematized by psychoanalysis, representing generalizations called complexes (for example, Oedipus complex, castration complex). According to Laplanche,¹ those fixations use to be much criticized by those who oppose psychoanalysis.

On the other hand, in level II there is metapsychology, a theoretical model built to describe and explain what is provided as data in level I. Metapsychology, therefore, intends to be a refutable and falsifiable theory.¹ In this sense, we can support the idea of a scientific metapsychology. Thus, some concepts, such as unconscious, repression, drive, among others, can claim their metapsychological nature.

Having defined what we understand as “psychoanalytic theory,” we can compare it to the dimension of psychoanalytic practice. This can be divided into praxis and theory of psychoanalytic technique. Praxis involves all the ethical dimension of the psychoanalytic experience, characterized by an ethic of desire, which differs from the moral ethic. This praxis comprehends concepts as “analyst’s desire” and “countertransference,” among others, and was developed and deepened by Lacan’s teaching. According to him, ethic is the “deepest dimension of the movement of analytic thought, work and technique”² (p. 248). On the other hand, there is the technique theory, which involves concepts as "free association," "resistance," "transference," "interpretation of dreams and parapraxis," among others.
Many concepts involved in psychoanalytic practice can be explained from the metapsychological perspective. Among the concepts mentioned above, we stress the “transference” concept as the main instrument of psychoanalytic practice, without which the whole psychoanalytic treatment loses its meaning. The tendency of the current psychoanalysis is to focus on the analysis of transference as a privileged work instrument, disregarding other technical devices, such as, for example, the interpretation of dreams. Although transference is in the center of all psychoanalytic practice, we cannot use it as a single and exclusive instrument in the psychoanalytic process, since the other devices mentioned earlier should help in the course of this process, including in the development of the transference bond itself.

Therefore, once the division between theory and practice in psychoanalysis has been established, there is no doubt that metapsychology, as an explanatory theory, can claim the quality of being scientific. It is based on the metapsychology, as a mind’s scientific model, that the current neuroscience can establish a fertile dialogue with psychoanalysis.

METHODOLOGY

With regard to methodology, psychoanalysis offers its own model, based on the empirical observation of clinical data; it can be characterized as a hypothetical-deductive method. Freud develops metapsychology based on the observation of patients, analyzing their speeches and referring them to an abstract model of the mind (that is, the “psychic apparatus”); i.e., he formulates hypotheses and deduces psyche structures based on clinical evidence. On the other hand, affirming that, in psychoanalysis, theories come from clinical practice may not be completely true, since Freud developed great part of what would be the psychoanalytic theory before the creation of psychoanalysis itself, in his “Psychology for neurologists,” a text that was posthumously published as Project for a scientific psychology (1895). In other words, we may assume that Freud deduced the basic structures that compose his psyche model based on his previous experience as
neuroscientist and enhanced this model confronting it with the data from clinical practice, thus building metapsychology.

Neuroscience, at Freud’s time (late 19th century and early 20th century), was far from providing reliable instruments able to provide biological confirmation for the theories developed by the Austrian psychoanalyst. However, the situation today is much different: neuroscience has surprisingly evolved over the past decades of the 20th century, and it now offers the possibility of observing the brain in its full functioning. This is a moment without precedents in the history of science, in which the different branches of neuroscience, together, are able to reveal the mystery of the mind.

Nevertheless, the neuroscientific method differs from the psychoanalytic model for being inductive, based on experiments that can be tested in laboratory. This gives a higher reliability to the results obtained by this method, besides a more comprehensive acceptance by the scientific community.

If we state that Freudian metapsychology intends to be scientific, then the results obtained by the psychoanalytic method should coincide – if not totally, as least in great part – with the results provided by the neuroscientific method. Otherwise, metapsychology could not be considered a reliable scientific theory. However, if what characterizes a scientific theory is its possibility of being refuted or falsified, one should expect that metapsychology might be corrected or modified, based on the data obtained from the neuroscientific method. This possibility of confronting the psychoanalytic with the neuroscientific method offers metapsychology a double criterion of truth, providing subsidies so that the theories developed by Freud and by other psychoanalysts can be corroborated or refuted by current neuroscience. The combination of both methods has been used in the investigation of patients with neurological lesions, representing a new field of studies, called neuropsychoanalysis.6
CONCEPTUAL OBSTACLES

Nevertheless, to claim its condition of scientific discipline, metapsychology must, independent of neuroscience, solve its own internal contradictions. In this sense, some concepts in psychoanalysis seem to place obstacles against performing a scientific metapsychology. Among those concepts, we can cite Oedipus complex and death instinct.

Oedipus complex has become the core to which all attempts of causal explanation of psychic phenomena in psychoanalysis point. Freud stated that Oedipus complex was a universal and necessary concept; however, this concept has been much criticized throughout time. Lacan, in his turn, tried to solve this problem by conceiving the Oedipus complex as a structure. Although the Lacanian solution seems interesting as a response to recurrent critiques, the problem is still present as the concept of Oedipus complex is used as reference to explain all genesis of human sexuality or even the subject’s genesis.

As mentioned earlier, the concept of Oedipus complex should be classified as a level I theory, according to Laplanche's classification, being a concept originated from children’s sexual theories. Therefore, it is not a necessary concept, but a generalization. One example is that the Winnicottian psychoanalytic theory is built based on a non-Oedipal paradigm; however, it still has its efficacy as explanatory theory. Therefore, it is essential for psychoanalysis to limit the use of the Oedipus complex concept as a master key able to open and close all doors. It is necessary to restrict the concept to some clinical phenomena.

Another conceptual obstacle to the development of metapsychology is the concept of death instinct. This concept is not compatible with biological science, especially regarding the evolutionary thought, widely accepted by the scientific community. Evolution defends the propagation of life, therefore it does not admit the existence of a death instinct opposed to life and leading living beings to the inanimate.

An interesting proposal is trying to answer the questions raised by Freud with the concept of death instinct based on the concept of narcissism. According to Maia, the three determinants of
the death instinct concept in Freud are: 1) repetition compulsion; 2) the principles of binding-unbinding; and 3) aggressiveness. According to Maia, the concept of narcissism is enough to explain the three determinants related above, which would allow the rejection of a death instinct concept. In this sense, Maia points narcissism as being regulated by the principle of reduction to zero (based on the concept of repetition compulsion), as being the psyche pole that performs the negation of alterity (through drive unbinding) and that reacts to object dependence (through aggressiveness). It is a useful argumentation, as it proves to be compatible with the attempt of establishing a dialogue with biology.

Therefore, by limiting the use of the Oedipus complex concept and rejecting the concept of death instinct, psychoanalysis could considerably improve the dialogue with neuroscience, based on a scientific metapsychology.

ISSUES RAISED BY SCIENTIFIC METAPSYCHOLOGY

Having evaluated the epistemological and methodological dimensions, as well as the main conceptual obstacle to transform metapsychology into a scientific theory, let us now focus on the examination of the most essential issues raised by scientific metapsychology.

*Drive versus instinct*

The issue on the meaning of the *Trieb* concept in Freud’s work has generated some controversies. As will be discussed later in this article, the problem of translating the originals in German often leads to misinterpretations of the Freudian work, especially regarding the concepts of metapsychology.

The word *Trieb* can be translated as *drive* or *instinct*. Another German word, *Instinkt*, is also used by Freud to refer, in this case, only to instinct in its exclusively biological sense. In spite of acknowledging the difference between *Trieb* and *Instinkt*, Andrade proposes the translation of *Trieb* as instinct, as he believes, among other things, that the term is more appropriate, easier and
more faithful to Freud’s writings. On the other hand, many psychoanalysts translate *Trieb* as drive. This is our position in this article.

Therefore, independently of the translation used, there seem to be sufficient arguments to consider the concept of *Trieb* as different from *Instinkt*. Drive differs from the biological instinct as it aggregates psychological qualities to the latter. Only drive has plasticity, is able to adapt itself to an infinity of objects. Drive is what moves the subject toward an object.

This drive plasticity is associated with neural plasticity itself. Human beings are the only animals born with an immature brain. The other animals act by instinct. The influence of environment in the human brain maturity is extraordinary, leading it to develop cognitive abilities and capacities with no precedents in the evolutionary chain.

We can thus say that sexual drive (libido) differs from sexual instinct, since, differently from animals, human sexuality is not only at service of reproduction and preservation of the species, but it is perverse, i.e., it goes beyond genitality and acquires a wider character. Similarly, the self-preservation instinct is expanded in the preservation drive of the biopsychic individual, that is, in the concept of ego drive. In summary, we can say that the ego drive is to libido like the preservation of the biological individual is to the preservation of the species.

**Representations and affections**

According to the Freudian metapsychology, drive is only manifested, in psyche, as psychic representatives, which have two distinct natures: representation and quotas of affect.3

Psychic representations are inscriptions presented as mnemonic traces that only determine the qualitative factor regarding ideas and thoughts. There are only two types of representations: thing representations, which are restricted to the unconscious; and word representations, which are qualitative components restricted to the preconscious/conscious system.13

Quotas of affect, in their turn, are the quantitative representatives of the psyche. The quantities attributed to quotas of affect may vary according to the intensity of the experience.
inscribed as mnemonic trace, or representation, in the psyche. Only quotas of affect, as representatives of the psyche, may move from the unconscious system to the preconscious/conscious system.\textsuperscript{13,14}

It is important to stress that “the quota of affect differs from affect itself, since the former refers to the amount of psychic energy, whereas the latter is the perception of a discharge of that energy, which reaches the somatic. That is why Freud does not consider the existence of unconscious affects, as all perception must necessarily pass through consciousness. However, one can talk about unconscious quota of affect”\textsuperscript{15} (p. 86).

Freud clearly expressed the difficulties related to the study of affects.\textsuperscript{13,16} Therefore, the study of affects seems to have been, in a way, placed in the background by psychoanalysis. According to Green,\textsuperscript{17} this is due to the “absence of a satisfactory psychoanalytic theory of affect” (p. 8). Among the affects studied by Freud, anxiety (\textit{Angst}) is undoubtedly the most deeply investigated.\textsuperscript{16,18} Freud stresses the importance of affect for the psychoanalytic theory as a whole and, in particular, for the theory of repression. On the other hand, he did not sufficiently develop the issue of affect, leaving many questions about the concepts involved “in this obscure region”\textsuperscript{16} unanswered (p. 462).

\textit{Theory of repression}

Having outlined some of the basic concepts of Freudian metapsychology, we now move on to the theory of repression, the most important fundament of the psychoanalytic theory.\textsuperscript{19} Firstly, it is important to distinguish between the concepts of \textit{primal repression, repression} and \textit{suppression}, since the imprecise use of those concepts can often cause subtle flaws in the understanding or even misunderstandings that compromise the correct understanding of metapsychology.\textsuperscript{15}

To avoid the possibility of confusion, we will previously define the terms that will be used in our discussion. Therefore, we use the term \textit{primal repression} to refer only to the \textit{originary}
repression (Urverdrängung in German; refoulement originaire in French). The terms repression (Verdrängung in German; refoulement in French) and suppression (Unterdrückung in German; répression in French) will be respectively used to refer to the secondary repression and to the “psychic operation that tends to make an unpleasant or inopportune content disappear from consciousness: idea, affect, etc.”\textsuperscript{20} (p. 457).

Therefore, having defined the terms with which we will work, we can start our discussion on the theory of primal repression.

**Primal repression** is responsible for the division or cleavage of the psychic apparatus into two large systems: the unconscious (\textit{Ucs}) and the preconscious/conscious (\textit{Pcs/Cs}). Therefore, we are referring to the unconscious in its systematic sense.\textsuperscript{13,21} At a first moment, we might say that the main characteristics of the \textit{Ucs} is that it works under the principle of pleasure-displeasure and by the primary process (see further argumentation), only admitting thing representations within it;\textsuperscript{13} it is also the place where quotas of affect are originated. **Primal repression** is responsible for the occurrence of language and the translation process\textsuperscript{1} – or reinscription of the mnemonic trace (according to the “topic hypothesis”) – that will allow reinscribing thing representations (belonging to the \textit{Ucs}) into word representations (in \textit{Pcs/Cs}). There are strong reasons to attribute the function related to **primal repression** to the hippocampus.\textsuperscript{15} Among them, we can affirm that: 1) the hippocampus is responsible for translating implicit memories (unconscious) into declarative or explicit memories (conscious); 2) the hippocampus maturation takes place around 2 years of age, concomitant with the appearance of verbal language.\textsuperscript{15}

**Repression** (or secondary repression) is the “operation by which the subject tries to repel or maintain unconscious certain representations (thoughts, images, remembrances) linked to a drive”\textsuperscript{20} (p. 430). In this sense, what is repelled and maintained in an unconscious state is a word representation that at least once was conscious. Therefore, we are talking about a dynamic unconscious.\textsuperscript{21} According to Izquierdo,\textsuperscript{22} “it is about declarative memories, almost always episodic, that the individual simply decided to ignore, and whose evocation is often suppressed for decades”
(p. 30). The content of those repressed memories is unpleasant for the ego, so it becomes unconscious (according to the “functional hypothesis”). However, it may return to consciousness through a work of free association, during psychoanalysis or, in some cases, spontaneously. Those contents, or word representations, according to Freud, are attracted by the $Ucs^{14}$ core, which was submitted to primal repression. According to Izquierdo, “repression probably involves cortical systems able to inhibit the function of other cortical areas or of the hippocampus” (p. 31). This possible relation with the hippocampus could corroborate the Freudian hypothesis about the relation between repression (secondary repression) and primal (originary) repression. On the other hand, the likely relation with inhibition of function of other cortical areas has been recently confirmed by Ramachandran in the assessment of patients with anosognosia, showing more precisely the importance of the relation between brain hemispheres in the production of some defense mechanisms described by Freud.6

Suppression, in its turn, previously described, is related to working memory and, therefore, to the prefrontal cortex.22 This privileged region of the cerebral cortex is responsible for evoking memories, which “lasts from a few seconds up to, at the most, 1-3 minutes” (p. 51). The prefrontal cortex is also associated with perception and attention, besides having connections with the hippocampus.22 We could relate the prefrontal cortex and its function of evoking memories to what Freud calls a perception-consciousness system ($Pcpt – Cs$)23 or old system of neurons $\omega$.5 Therefore, this region would be responsible for perception and consciousness. This region undoubtedly works under the reality principle, by the secondary principle. There are no doubts that a word representation can only become conscious if invested by a given quota of affect.15 We can call unconscious, in the descriptive sense,13,21 all representations that are outside consciousness ($Pcpt – Cs$).

Once defined what we call primal repression, repression and suppression, we have also defined the systematic, dynamic and descriptive senses of the term “unconscious.” Similarly, we defined consciousness ($Pcpt – Cs$). Therefore, we still need to conceptualize the preconscious. To
do so, we should also take into consideration the dynamic sense ("functional hypothesis") and state that the preconscious is the region whose content is between what is suppressed by consciousness and what was submitted to repression (secondary repression).

Therefore, we have defined the first Freudian topography (unconscious, preconscious and conscious). However, some questions are raised. Firstly, we know that the primary process, as well as the principle of pleasure/displeasure, is the $Ucs$ system itself; on the other hand, there is no doubt that the secondary process, along with the reality principle, acts in consciousness ($Pcpt – Cs$ system). However, between those two systems, there is an intermediate zone, formed by the preconscious and by the dynamic unconscious, which seems to be problematic. We may call this region defective zone.

According to Laplanche & Pontalis,20 “like some unconscious contents, as pointed by Freud, are modified by the secondary process (for example, fantasies), preconscious elements can also be ruled by the primary process (day’s residues, for example). In general, we may recognize in preconscious operations, under its defensive aspect, the domain of the principle of pleasure and the influence of the primary process” (p. 351).

Thus, it seems that, to solve the problem attributed to this defective zone, we have to admit the hypothesis that the dynamic unconscious works, by attraction and adherence to the $Ucs^{14}$ system, by the primary process and under the principle of pleasure/displeasure; and that the preconscious, in its turn, works by the secondary process and under the reality principle, due to the possibility of becoming conscious; although in both cases, as we have seen, there are exceptions.20 We have thus found a parsimonious solution for the problem called defective zone.

Another raised question – but not about a problem in the same sense as the previous one – is the difference between what we call repression and suppression. In this case, the difference is only dynamic. What is repressed is only what was suppressed from consciousness at a higher level and due to stronger reasons. Well, what is suppressed from consciousness and only becomes preconscious is only obeying a natural and adaptive tendency of the consciousness,22 which could
not support a larger amount of representations (memories) working at the same time. Suppression, therefore, as well as forgetfulness, in this sense, is a necessary process. On the other hand, what has been repressed occurred in a much stronger sense than what has been simply suppressed – it has been repelled (according to the “functional hypothesis”) by consciousness at a higher level, due to the unpleasant content that would threaten the ego's integrity. Therefore, we can once again state that, as it seems to us, the difference between repressed and suppressed is merely dynamic.

**Other issues**

Another interesting issue to develop a scientific metapsychology is the examination of the *Ucs* nature and its relation with implicit memories (emotional and procedural). In this sense, one can investigate the relevance of the concept of procedural unconscious for psychoanalysis, besides proposing a distinction between this concept and the emotional unconscious, defining the role played by procedural, emotional and traumatic memories in the genesis of a trauma theory and, more specifically, in the understanding of the concept of repetition compulsion.

The approach to the concept of repetition compulsion performed by Freud in *Beyond the pleasure principle* (1920) brings problems to the metapsychological conception of the psychic apparatus developed to date. After the introduction of the concept of repetition compulsion, we have to admit some changes in the understanding of the *Ucs* as a system. Firstly, we start by questioning what, at a first moment (mentioned earlier), seemed unquestionable: that the *Ucs* works by the primary process. Considering the difference between the *Ucs* system – made possible from the existence of the primal (originary) repression – and the dynamic unconscious – submitted to repression (or secondary repression) –, we would have to admit, following a new hypothesis, that the *Ucs* simply works by repetition compulsion, whereas the dynamic unconscious is in fact the one that works by the primary process. This new approach can only be supported if the role of “unconscious resistance” is attributed to repetition compulsion, that is, this compulsion would be responsible for the *Ucs* attraction over the representations repressed through the process of
repression (or secondary repression). This hypothesis seems interesting, but, at the same time, it is also a problem, since we have to review the model that has been defended so far. Laplanche adopts this hypothesis, considering the repressed unconscious as one of the two levels of the $Ucs$ system and, more precisely, the level that really works by the primary process. The other $Ucs$ level, according to Laplanche, may be formed by the representations submitted to primal (originary) repression, i.e., those original representations that would never go through consciousness, that is, that have always been unconscious. Laplanche calls them thing-representations (in a different sense of “representations of thing”).

Because of those problems presented above, Freud adopted the term id, derived from the structural model of the second Freudian topography, to refer to the old $Ucs$ system, used in the first topography.

Therefore, we can relate the concept of thing-representation with implicit memories in general, attributing them to the main characteristic of working according to a repetition compulsion.

Finally, it also seems important to consider the advances in neuroscience in the understanding of the mechanism of dream formation, which has confirmed some of the Freudian hypotheses about the process of oneiric elaboration.

CONCLUSION

In this study, we pointed metapsychology as a privileged theoretical space to perform a productive dialogue between psychoanalysis and neuroscience. We thus showed the importance of an in-depth study on the Freudian metapsychology, as well as on the contributions of other psychoanalysis theoreticians. We acknowledge the limitations of the Freudian metapsychological model, i.e., the existence of some conceptual problems that must be resolved by post-Freudian theoreticians; however, it does not prevent the attempt of dialoguing with neuroscience, as the character of being subject to refutation or falsification is what makes metapsychology a scientific
Therefore, it is necessary to carry out new reviews and make necessary changes to metapsychology, so that it remains offering an adequate model both for thinking about clinical practice and for the dialogue with neuroscience, in such a way that we might call it scientific metapsychology.
REFERENCES


ABSTRACT

In this article, the author presents the epistemological, methodological and conceptual bases for a scientific metapsychology, which would offer a privileged theoretical space for the dialogue between psychoanalysis and neuroscience. Thus, the author considers the possible obstacles to the attempt of establishing this dialogue (Oedipus complex and death instinct), as well as formulates the main questions raised by scientific metapsychology. Among the questions presented by the author are: the pulsion versus instinct problem; the concepts of presentations and (quotas of) affections; the foundations of the theory of repression; and the relevance of the concept of repetition compulsion.

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