

This article was downloaded by: [212.88.240.190]

On: 12 June 2015, At: 00:30

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Neuropsychoanalysis: An Interdisciplinary Journal for Psychoanalysis and the Neurosciences

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rnpa20>

### The Oxford-style debate: the 15th neuropsychoanalysis congress, New York, 2014

Daniela Flores Mosri, Ariane Bazan<sup>a</sup>, Nikolai Axmacher<sup>b</sup>, Richard J. Kessler<sup>c</sup> & Lisa Ouss

<sup>a</sup> Service de Psychologie Clinique et Différentielle; Centre de Recherche en Psychologie Clinique, Psychopathologie et Psychosomatique; Université Libre de Bruxelles (ULB)

<sup>b</sup> Department of Neuropsychology, Institute of Cognitive Neuroscience, Ruhr-University Bochum, Germany

<sup>c</sup> Faculty, Institute for Psychoanalytic Education Affiliated with the NYU School of Medicine  
Accepted author version posted online: 08 Apr 2015. Published online: 10 Jun 2015.



[Click for updates](#)

**To cite this article:** Daniela Flores Mosri, Ariane Bazan, Nikolai Axmacher, Richard J. Kessler & Lisa Ouss (2015): The Oxford-style debate: the 15th neuropsychoanalysis congress, New York, 2014, *Neuropsychoanalysis: An Interdisciplinary Journal for Psychoanalysis and the Neurosciences*, DOI: [10.1080/15294145.2015.1038131](https://doi.org/10.1080/15294145.2015.1038131)

**To link to this article:** <http://dx.doi.org/10.1080/15294145.2015.1038131>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

## COMMENTARY

### The Oxford-style debate: the 15th neuropsychoanalysis congress, New York, 2014

“This house believes that neuroscientific terms must never replace psychoanalytic ones”

Following the successful debut of Oxford-style debates in the congresses of Athens and Cape Town, the 15th neuropsychoanalysis congress had its own motion: *This house believes that neuroscientific terms must never replace psychoanalytic ones*. Moderated by Katerina Fotopoulou, the debate took on one of the biggest discussions in neuropsychoanalysis, which is that of two languages in a dialogue that are thus exposed to mutual influence and updating, but not necessarily to supplanting each other. There are several opinions on the topic, and four colleagues who have been active in the neuroscience-psychoanalysis dialogue for a number of years were asked to share their thoughts. For the motion were Ariane Bazan and Richard Kessler. Against were Lisa Ouss and Nikolai Axmacher. Clinical and research

perspectives were represented on both sides of the question: on the “for” side, Kessler is a psychoanalyst, and Bazan is both a biologist and a psychoanalyst; on the “against” side, Lisa Ouss is a child psychiatrist and a psychoanalytic psychotherapist who also conducts research, and Nikolai Axmacher is a cognitive neuroscientist. In this issue, we present essays based on the speakers’ opening statements. Responses will be invited from a range of contributors for online viewing, and selected responses, including those of the original debaters, will appear in a forthcoming issue of the journal.

Daniela Flores Mosri  
[dannmos@yahoo.com](mailto:dannmos@yahoo.com)

### Speaking to the subject or speaking to the function: each address requires its proper terms

Ariane Bazan

In neuropsychoanalysis, the epistemological line most held is the “dual aspect monism” perspective. This perspective holds that “our brains, *including mind*, are made of one kind of stuff, cells, but we perceive this stuff in two different ways” (Solms & Turnbull, 2003, pp. 56–58; our italics). One is the neuroscientists’ “objective” way, or the brain, which we dissect “with scalpel and microscope or look at it with brain scans and then trace neurochemical pathways.” The other way is the psychoanalysts’ “subjective” way, or the mind: “how we feel and what we think. Freud refined this kind of observation into free association.” As, however, there is only one object, in the end, there is a more or less direct correspondence between phenomena of the brain and phenomena of the mind.

I propose, to the contrary, that an object cannot exist as an inert object, constituted independently from its perception: an object is also shaped by the observation method applied to it, this is, by the kind of questioning through which it appears (see, e.g. Van de Vijver & Demarest, 2013). In other words, I do not think there is only one object, but there are multitudes of objects – which are of two kinds: one is the brain, constituted by the biological method and the other, the mind, constituted by the clinical method. Obviously, the method in and by itself does not determine the object’s shape: the

idea is that an object appears in the “negotiation” between the questioning subject and the resisting “reality,” or “Nature” as Freud sometimes calls this, or the Real in a Lacanian perspective. But there is no direct access to reality: any approach of reality involves a constitution in which the constituting agent is implied. Of course, the brain is no more this reality than is the mind: “the mesolimbic dopaminergic circuit,” for example, is as much a constituted object, necessitating an interpretation in a certain knowledge framework, as e.g. the Freudian concept of “drive” or the Lacanian concept of “*jouissance*.” There is no language to describe reality, be it physiological or mental, that would not immediately involve a constitutive effort in a certain framework of knowledge.

However, as both brain and mind arise in a negotiation movement with the same reality, the mental and the biological are clasped together at common points of resistance, where reality imposes limits, which condition the constitution of the respective objects. For this reason, something can be said about the nodal points tying them together. The fundamental difference between my position and the dual aspect monism, however, is that these nodal points have a constraining effect, but not an organizing effect. Indeed, the organization is governed by the principles proper to the considered dimension,

either the biological or the mental. As a consequence, the deployment of these nodal points, their status and dynamic meaning, are organized differently according to the realm in which they are considered. For this reason, there is no one-to-one linear correspondence between the mental and the biological, beyond the common intersection points. Therefore we need the vocabulary proper to each domain to describe the mechanisms and dynamics of the respective domains.

We can compare this with the way we consider the relation between physiology and chemistry. No one doubts that anything physiological is also chemical, but no one doubts that at a level proper to physiology, chemical vocabulary is not effective, either. For example, the description of organisms (their body plan) and of organs (their anatomy, their mechanics, and their functions), cannot usefully be described with a chemical vocabulary, even if chemical information is important at some points. For all these function- and organ-level descriptions a properly physiological conceptual apparatus is needed. There is no doubt that physiology is an autonomous discipline and that its concepts, even if there are direct intersection points with chemistry, will never be replaced by chemical ones. So, it would be amazing that it would be different for the mental and the neurophysiological.

I thus propose that the same is true for neuroscience and psychoanalysis. More essentially, the organizational level of these two realms of description is different: in physics, reality is caught at the level of atoms, in chemistry of molecules, in physiology of cells and organs and of their functions. Similarly, as it comes to human life, neuroscience speaks at best to the level of the *function*, while clinical work, and psychoanalysis in particular, speaks to the level of the *subject*. The science of the psyche is, therefore, an autonomous discipline, requiring a proper vocabulary which cannot be equated to any other conceptual corpus.

To take an example from a clinical case, my patient Hervé, whose grandfather had come back crazy from his military time in the First World War and who had incestuous relations with his daughters later on. He even had children with his eldest daughter, Hervé's mother, though Hervé himself was born later from the union of his mother and the husband she married (Bazan, 2012). We cannot do anything with this life story in a neuroscience framework. In a psychoanalytic framework, we can begin to think: who is Hervé's mother for Hervé, knowing who she was for her father? How did this mother accommodate to the long-standing incestuous relations with her father? Hervé says: "My grandfather had sex with all his daughters, but most with my mother," and he also says: "I beat my mother and my father, but I beat my mother most." Only in clinical terms – in psychoanalytic terms even – can we hear that

these two little phrases resonate, and can one begin to think: what are the paradoxical effects of "being chosen," even in abuse? If there was transgression to start with, how much was this mother willing herself to be held to social laws? How much was she herself intrusive, and incestuous with her son? How much is my patient's schizophrenia a way of keeping the traumatic intrusion alive, to present the intrusion as something *that does not want to get over* – in the end, *as the First World War even, which is in so many ways not yet over in Flanders Fields?* These questions are the ones that enable the clinical work which is meaningful for the life of the subject, and for the community of subjects. We cannot think these questions in biological terms.

But it is not only clinical work that needs the psychoanalytic concepts. The fact of the matter is that biology needs them also and now more than ever. Indeed, paradoxically, with the increasing resolution of neuroimaging, neuroscience will get itself more and more in trouble. Beyond the indisputable value of the discoveries of the brain revolution, there is also a disconcerting embarrassment of richness in the gathering of data, without an overarching theory to put them in a meaningful pattern. I propose that the theory, which neuroscience is in need of, is a theory that offers a perspective *upon* the body, not a perspective *from* the body. Trying to find clues for the interpretation of the body within the body itself, is reminiscent of Aesop's fable of the goose that laid the golden eggs: one has to open up the goose's inner body to be sure the golden grail is not in its stomach. We will have to turn every last neuron inside out to make sure man's soul is not in there, and to be able to mourn this perspective. Then, maybe, will we be ready to accept another one: the body does not speak for itself, it has to be interpreted. Psychoanalysis, because it is informed as no other discipline as to the intimacies of what it means to live in such a body, is one of the theories which can offer such a perspective. This means that it is able to offer concepts which neuroscientists might be in need of to make sense of the brain circuitries and their productions. In searching for a common language between neuroscience and psychoanalysis, if we replace the psychoanalytic terms, we would lose whatever it is we can offer from within our field to other fields so as to contribute to the meaningful deployment of knowledge.

To give only one concrete example, clinical work, by means of the theory which it has nourished, namely metapsychology, teaches us that primary process mentation happens in young children, in anxiety, in dreams, in unconscious processing, in psychosis, and in pregnant women. Only psychoanalytic theory has a meaningful rationale to explain (and predict) that at some neurophysiological level – such as, in this case, for example, the Default Mode Network – we should find commonalities

between these otherwise quite diverse situations and conditions – which indeed has proven to be the case. No other theory, neither biological, nor cognitive, has one rather simple theory to gather these diverse instantiations into one concept. Say we would have replaced “primary process” by some neurobiological concept, be it even “prefrontal disinhibition,” we would have lost at once the whole range of clinically gathered associations (in this case, e.g. the literal understanding in children and psychotics, the paranoid associations, the anxious irrationality, the bizarreness of dreams, the mental

“transparency” in pregnancy), in other words, the whole added value of what a theory based on clinical empiricism offers for the interpretation of the physiological data.

For all these reasons, this house believes that neuroscientific terms must never replace psychoanalytic ones.

Ariane Bazan

*Service de Psychologie Clinique et Différentielle; Centre de Recherche en Psychologie Clinique, Psychopathologie et Psychosomatique; Université Libre de Bruxelles (ULB)*  
[Ariane.Bazan@ulb.ac.be](mailto:Ariane.Bazan@ulb.ac.be)

## An abundance of sources for psychoanalytic concepts

Nikolai Axmacher

Apart from my interest in neuropsychanalysis, I mainly work as a cognitive neuroscientist. Thus, it may not seem surprising to see me on this side of the debate. However, when I was initially asked which side of the argument I would like to defend, I was tempted to favor the opposite claim – that “neuroscientific terms should never replace psychoanalytic terms.” In fact, to my knowledge there is currently no discussion of any specific psychoanalytic term being replaced by a neuroscientific term, and this does not seem likely in the near future. Moreover, one may want to argue that there are good reasons for this, because psychoanalytic terms are derived from the psychoanalytic therapeutic interaction, which follows different laws than neuroscientific research does. Psychoanalytic terms are founded in the intimate interactions between the dynamic unconscious of the patient and the analyst. These interactions cannot simply be transferred into an experimental setting as is characteristic for neuroscientific research. Thus, why should it be possible, or even desirable, to ever replace psychoanalytic terms by neuroscientific terms?

involve involuntary body movements and a loss of consciousness. However, seizures can be due to different causes: They can be due to a neurological disease – epilepsy – which can often be well treated with antiepileptic drugs. Or seizures can have a psychogenic origin – they can be related to a conversion disorder or can be consequences of a psychological trauma. In these cases, the patients should not be treated with antiepileptic drugs, but undergo psychotherapy. Replacing the original concept of “seizure” with the more specific concepts of “epileptic seizure” and “non-epileptic seizure” is thus very useful.

Now, a similar situation may at least be possible for psychoanalysis and neuroscience. Imagine that one day, neuroscientific research will reveal the brain networks associated with repression. In this case, the psychoanalytic concept of repression will not need to be replaced by the neuroscientific concept of brain activation in a specific network, but it may be useful to think of both concepts in the case of neurological patients. If a neurological patient is repressing awareness of deficits, then this suggests that specific brain lesions favor repression. Conversely, if a patient were to show a particular pattern of brain activity patterns in a brain network associated with repression, this may suggest that he or she is repressing conflicts.

Concept replacement can be even more useful if psychoanalytic and neuroscientific terms do NOT describe the same thing. For example, it may turn out that neuroscientific research would come up with distinctions that are useful for psychoanalytic clinical interactions. Again, I am not saying that this has occurred yet, just that it is possible. Let me give three examples. First, studying the neuroscientific basis of repression may allow one to better understand which memory systems are inhibited during repression and which are not, what the fate of repressed emotions is, and how exactly repression can lead to specific neurotic or psychosomatic symptoms. This may ultimately lead to

### What is “concept replacement”?

Let me start with some general remarks on the idea of “concept replacement.” Typically, higher-level concepts can be replaced by lower-level concepts if the lower-level concepts are better suited to reveal some underlying features of the higher-level concepts. For example, in chemistry, the concept of “water” has been replaced by its formula “H<sub>2</sub>O” which describes its molecular compositions and explains several properties of water (for example, that frozen water is more extended than liquid water). The history of medicine contains many instances in which concepts that were derived from clinical observations were later separated into, and replaced by, multiple other concepts because of a better understanding of the underlying pathology. For example, the concept “seizures” refers to brief episodes that often

a revision of the term of “repression” into several more specific clinical terms. Second, remember our discussion about emotional systems following Oliver Turnbull’s presentation (at the NPSA 2014 conference in New York): Psychoanalytic drive theory may benefit from distinctions that have been made in the affective neurosciences. As mentioned in this discussion, these findings emphasize the role of drive theory for psychoanalytic metapsychology in general. Furthermore, they give some suggestions for a new classification of drives. How exactly this will look is still quite unclear, but it is a clear example of a case on the basis of which we can refute the claim that “neuroscientific terms must never replace psychoanalytic terms.” Another example which I just mention here is Mark Solms’ account of the conscious id (Solms, 2013, 2014), again related to findings from the affective neurosciences (that those brainstem systems which support the “id” are inherently conscious, while neocortical systems which support the “ego” are not), and again suggesting important changes to psychoanalytic metapsychology.

Now, one may argue that the situation in somatic medicine is inherently different from psychoanalysis. While in somatic medicine, the best concept is the one that refers to an organic cause, one could argue that psychoanalytic terms refer to the subjective perception of oneself and of individual complaints. Following this perspective, psychoanalytic terms should only refer to this phenomenological first-person perspective, and not to external observations. Then, one may argue that it only counts how a patient experienced previous events, not how (or even if) they actually occurred. From this phenomenological view, terms like “dementia” or “seizures” should in the case of psychoanalysis not be replaced by more modern concepts because they describe well how the patient experiences his disease.

However, while this phenomenological view may be an accurate description of psychoanalytic interactions, it does not account for various other psychoanalytic terms. In particular, many terms of psychoanalytic metapsychology do not derive from a subjective, phenomenological perspective. They have many different roots. Many Freudian concepts of drive theory such as the one of free and bound energy or libidinal cathexis were derived from nineteenth century physiology and the principles of homeostasis, or “constancy.” Other concepts related to the dynamic unconscious such as primary process thinking, displacement, and condensation are by definition not consciously accessible. Thus many psychoanalytic concepts are not derived from subjective phenomenology, but, similar to concepts from other scientific disciplines, they serve as a heuristic to make sense of psychopathological phenomena. Perhaps these

terms may be more open to integration with “objective” neuroscience terms than those that are more fundamentally rooted in subjective experience.

### *Psychoanalytic terms change over time*

Throughout the history of psychoanalysis, many new concepts were added, which were very often derived from other disciplines; just remember how Lacanian psychoanalysis was influenced by structural linguistics, and child psychoanalysis by attachment theory. These terms are now considered integral to psychoanalytic theory, and such modifications are not surprising: As in all other scientific disciplines, there is no unitized corpus of psychoanalytic knowledge which will remain constant for all times – such a corpus would instead be characteristic for a dogmatic doctrine or a religion. Concepts are tools and not revelations.

So, which psychoanalytic concepts could or should now be replaced by neuroscientific concepts? Again: This is not the question of our debate. Remember: The proposition I am arguing against is “This house believes that neuroscientific terms must never replace psychoanalytic ones.” What I find particularly disturbing are the words “must never,” because they suggest two things: First, that psychoanalytic concepts are categorically distinct from concepts from other sciences; second, that it would be BAD in a normative way – not just incorrect – to replace them. Both claims are wrong. Psychoanalytic concepts are not carved in stone for eternity. They come from various sources, including neuroscience. And they neither will nor should remain identical for all time. Apart from new scientific discoveries which should improve psychoanalytic theory, there are good clinical arguments why terms may need to be adapted: Subjective suffering is not identical in all times – in addition to the classic “hysteric” patients described by Freud, there are now many patients suffering from depression and narcissism, and patients with new disorders such as attention deficit hyperactivity disorder. Psychoanalysis has invented new concepts to characterize these contemporary patients. Subjectively, people are also describing themselves differently today – this is beautifully demonstrated by Siri Hustvedt’s writings, which intimately combine a neuroscientific and a psychoanalytic view of inner personal states.

Because psychoanalytic concepts have always been influenced by research in other disciplines, including neuroscience, they will very likely also be influenced by today’s neuroscience concepts. We as neuropsychanalysts are just at the forefront of this development: During every neuropsychanalytic conference I have attended thus far, I have heard fascinating presentations in which current neuroscientific terms were used to describe

psychopathologies. This does not necessarily mean to replace psychoanalytic concepts from one day to another – this is not how science proceeds. Instead, there will be a slow development, during which some concepts are considered more useful and appropriate than others. Some new inventions may be given up soon, others may last for a longer time period, while some older concepts will be considered less useful than they used to

be. And this is certainly not a bad development that needs to be prohibited by a categorical statement.

Nikolai Axmacher

*Department of Neuropsychology, Institute of Cognitive Neuroscience, Ruhr-University Bochum, Germany*  
[nikolai.axmacher@rub.de](mailto:nikolai.axmacher@rub.de)

## Metapsychology: the creative bridge between psychoanalysis and neuroscience

Richard J. Kessler

Having come across the following clue in the *New York Times* crossword puzzle of July 21, 2014: “*kind of fixation* (4 letters),” I wondered whether psychoanalytic concepts were so embedded in our culture and in our understanding of all human endeavors that on this basis alone one could argue that they were irreplaceable? Maybe! However, what I will contend is that psychoanalytic concepts, especially those related to metapsychology, have become indispensable for the very enterprise that has brought us here today, neuropsychanalysis. After all, metapsychology is the *lingua franca* of neuropsychanalysis.

The invention of a genius neurologist, psychoanalytic metapsychology is populated by frontier concepts, ideas on the border of mind and body. As such, like with metaphors, their so-called *doubling* function helps to create new meanings while sustaining a productive tension between foundational concepts and new neuroscientific and clinical findings. So first off, let me have you note some of the topics of this congress: *repression, defenses, free association, and free energy*, i.e. the world of metapsychology. Then ponder neuroscience’s recent assertion that perceptual consciousness is fundamentally a hallucinatory process (Blom & Sommer, 2012) and stand it aside Freud’s theory of *hallucinatory wish fulfillment* elaborated by the master of metapsychology, psychoanalyst, Barry Opatow (1997). Consider too how Mark Solms (2014) helps to illuminate the symptoms of the *specimen disorder* of neuropsychanalysis, anosognosia, by referencing the permeability of *self/object boundaries* of *primary narcissism*. Even those work-horses of metapsychology, *the primary and secondary processes*, have been validated and reinvigorated by enlightened scientists from other fields, Friston (2010), Carhart-Harris and Friston (2010) and my colleague, Ariane Bazan (2011). And last but by no mean least, one could reflect on the correction (but not discarding) of *drive theory* demanded by Jaak Panksepp’s work. Panksepp leaves ample room for psychoanalysis. Even while dismantling some of Freud’s theories about psychosexuality he states:

thus modern neuroscience gives us *food for thought* (my italics) when it comes to reconsidering classical theories

of psychosexual development. However, it does not inform us about the true nature of psychosexual development in childhood or about any aspect of the culturally driven tertiary-process level of BrainMind emergence. (Panksepp & Biven, 2012, p. 279)

Of course, Panksepp’s “food for thought” metaphor suggests the answer to the crossword puzzle query and provides for me the inspiration to mine the creative ore of metapsychology in an unusual way. Thusly, I offer an “Ode to Orality”:

*Oral*

Rooting and sucking

Losing and finding

Yes and No

Nursing, theta, REM and peek-a-boo

Nursing, pelvic thrusting and erection

Oxytocin

Gluttony, greed and envy

Suck your thumb, your blanket, your binkie

Smoke your cigarettes. Chew your gum. Swallow your pills

Kiss of life, kiss of death

Kiss goodbye

Kiss off

Kiss the dust

Kiss my ring, my feet, my ass

French kiss

Close your eyes and I’ll kiss you, tomorrow I’ll miss you

Psychoanalysis is a veritable playground for interdisciplinary exchange and its metapsychology offers a natural two way bridge to neuroscience. Yet, Peter Rudnytsky (2002), paraphrasing Gerald Edelman, who incidentally dedicated *Bright Air, Brilliant Fire* to the memory of Darwin and Freud, has stated that in the domain of metapsychology, “psychoanalysis must always yield to biology’s findings” (p. 244).

But in the current context we need to ask, “What kind of biology?” Let us consider the decades-long debate between Mark Solms and Alan Hobson. Hobson’s work on dreams exemplifies an effort to replace a psychoanalytic concept with a neuroscientific one. Was Hobson’s much acclaimed scientifically sound and carefully researched “activation-synthesis” theory “good biology”? Was there ever a chance that rapid eye movement (REM) sleep, a momentous, 180 million–

year-old evolutionary innovation, was correctly characterized by him as random brain stem stimulation and that dreams were essentially mindless, motivationally neutral, and without purpose (Hobson & McCarley, 1977)?

Well, due to the efforts of both researchers and Alan Hobson's commitment to the scientific method, even he no longer believes this anymore. However, he is not finished trying to replace psychoanalytic concepts with neuroscientific ones. In 2012 at a conference at Mt. Sinai Medical School entitled "Dreaming: Psychoanalysis or Neurobiology," referring to his 2009 paper, he declared, triumphantly and un-self-consciously, that he had discovered that dreams represent a *protoconsciousness* and the operation of a *primary consciousness* and a *proto self*. He did so with nary any reference to the century old and well elaborated psychoanalytic metapsychology to which these terms refer.

What Hobson's work always lacked was an appreciation that to be alive means to be always intending, to be striving, to be motivated, to be searching for safety and comfort, to be seeking pleasure and avoiding pain. And this is even true for people with brain lesions or psychoses. It is this larger context that psychoanalysis brings ... that even when asleep, our dreams, like any other human behavior, are a reflection of our appetites. One might say that neuroscience is a laser but psychoanalysis is a light bulb. And you cannot light up a room with a laser.

I invoke Hobson/Solms to remind us not only of the inevitable lure of reductionism, but also of the necessary and appropriate relationship of neuroscience to

psychoanalysis. Eric Kandel (1979) utilizes E.O. Wilson's (1977) hierarchical arrangement of scientific disciplines into pairs, consisting of a discipline and an anti-discipline, to explicate the relationship between neurobiology and psychology. He designates neurobiology as the anti-discipline to psychoanalysis, the parent discipline, the parent discipline potentially deeper and richer in content, but whose assumptions are challenged by the anti-discipline. Each is valid at its own level, but knowledge can only advance if they are not dualistically split from each other. Wilson (1978), however, has noted that the practitioners of the anti-discipline, "having chosen as their primary subject the units of the lower level of organization believe that the next discipline above can and must be reformulated by their own laws" (p. 7). Their interest is relatively "narrow, abstract and exploitative." As a result, the history of the interaction is predictably a "mixture of aversions, misunderstandings, overenthusiasm, local conflicts and treaties." Over time they become complementary, each discovering that the other contains what they lack.

In conclusion, let me quote Kandel (1999, p. 519) on the question of neuroscience replacing psychoanalysis: "such a reduction is not simply undesirable but impossible."

Richard J. Kessler

*Faculty, Institute for Psychoanalytic Education Affiliated with the NYU School of Medicine*  
[drrichardjkessler@verizon.net](mailto:drrichardjkessler@verizon.net)

## Psychoanalytic complexity: metaphors from many domains enrich our vocabulary, so why not neuroscience as well?

Lisa Ouss

"The deficiencies in our description would probably vanish if we were already in a position to replace psychological terms by physiological or chemical ones."

Freud (1920, p. 60).

### 1. The Freudian vocabulary has at least three sources, and it is not a homogeneous set

The Freudian vocabulary is heterogeneous. Some words come from everyday language: *act, love, anxiety, conflict, guilt, defense* ... Others words come from previous scientific and technical use, which were reappropriated or reinvented by Freud: *affect, ambivalence, dynamics, network, association, energy, quota* ... Freud also proposed new terms, specific to psychoanalysis; most of them are neologisms, or a combination of two words, sometimes coming from two different epistemological

fields: *free association, splitting of the ego, Oedipus complex, metapsychology, psychoanalysis* ... Some words already belong to both the fields of neuroscience and psychoanalysis (representation...). Ariane Bazan has imported some new words in her conceptual scaffolding, like "phantom". Different origins for our vocabulary can lead to conceptual complexity. Particularly words from everyday language; they were "imported" probably because they are easier to manipulate and understand, but the metaphors they evoke are confusing, often introducing more ambiguity than specificity.

The psychoanalytical edifice would never be what it is, if Freud had not used scientific metaphors: hydraulic and fluid facilitation, optics, photo camera and projection, electricity and networks, telephone, telegraph and communication, microscope and living unicellular organisms, weaving and mesh, regulation function. Those

terms form the basis of metapsychology. This vocabulary is rooted in the scientific context in which it was created, through what Stengers (1987) called “nomadic concepts,” which travel from one scientific field to another. Freud was very much influenced by his “contemporary” sciences and the technical metaphors. The real revolution came from using these metaphors in order to propose totally different logics of psychic functioning. In a similar process, Lacan’s theory was built on structuralism and linguistics. Many psychoanalysts have borrowed concepts from other disciplines, such as “self-organization” (Pragier & Faure-Pragier, 2007), Prigogine and Stengers “strange attractors” (1984), “saliency” and “pregnancy” of mathematician René Thom (1991).

Each period has its own epistemological premises. The current context favors neuroscience. If we consider that the most important thing is to have metaphorical terms in our vocabulary, why not use current neuroscientifically relevant metaphors?

## 2. Psychoanalysis as a singular practice. The question of scientificity is relevant for the clinical practice

To ground this question in a specific instance, we can take development as an example. I believe we should better study developmental bottom-up phenomena, which could better inform us on top-down processes, the ones that psychoanalysis is dealing with. This, in my opinion, represents a complete inversion of the psychodynamics logics. Freudian determinism must be reconsidered regarding early development. The infant’s early experiences in the preverbal period leave “traces.” Some of these traces are reinterpreted as “nachträglich.” Some remain vivid in the bodily, prosodic inscription, and contribute to mind embodiment (Varela, Rosch, & Thompson, 1992). They certainly refer to what Freud called the “third unconscious” (1923), which contains material that has never come to consciousness because of the early development period in which the experiences took place, and the very nature of its inscription. These traces will never be transformed by secondary processes, so they will never be repressed, yet they will be present in the clinics, and they will *therefore* be difficult to directly reach by verbal or representational techniques. Neuroscience has very much to say about these “original” and primary processes. Probably we should change some terms, derived from an “adultomorphic” psychoanalytical point of view. Psychoanalytical experience with patients without language (for example, infants or autistic children) or with organic troubles (brain injured patients), attachment theory, epigenetics, and work on brain plasticity have shed light on those preverbal or archaic processes. They can be reached by nonverbal techniques,

which pay attention to the quality (and not to the content) of the psychoanalyst’s psychic functioning, to bodily countertransference, to Anzieu’s “formal signifiers.”

The challenge is that psychoanalysis, which provides a practice and an investigation of psychic functioning, may also apply outside the standard treatment, with a wide variety of patients who consult with us. Psychoanalysis helps to conceive of the subject functioning within a complex system. This perspective integrates the biological dimensions of development, epigenetics, and the new neuroscientific data ... Adding new information into a complex system increases its stability, and thus enriches our approach to patients. This is a real issue for psychoanalysis, more than just an esoteric discussion about the terms. A practice once (and still largely) reserved for an elite, or to neurotic adults, has to be accessible to all patients, all researchers. We have to add another degree of freedom through interfacing with, and integrating, language and information from related domains. This is the ethical position that I take in this debate today.

## 3. Psychoanalysis as a theoretical system that underlies the practice: we advocate for a possible opening to neuroscience

Psychoanalysis deals with complex facts. The psyche is a complex epistemic object, whose ontological reference depends on several fields. This is the limit, and the specificity of psychoanalysis. The levels of description of this entity are necessarily heterogeneous. The main question is: do we have one object, one method, one language, or two (or more) objects, methods and languages? The response could be: the psyche for psychoanalysts, and the brain for neuroscientists. But we could also answer: the psyche for psychoanalysts, and its material part, the brain, for the neuroscientists. If the *contents* of the psyche are not easily described in neuroscientific terms, at least its *processes* should be.

Freud’s work on metapsychology, on the nature of the psyche, on the place of biology, has not been completed. The psyche did not fit biological laws in the way they were described by Freud; but our understanding of these biological laws has now changed. The challenge is to continue this work. Freud could not proceed further because the terms of the debate were dualist (psyche or biology?). He had no valid epistemological alternative. Neuroscience has since made huge advances, from the study of an isolated brain slice in a Petri dish, to the study of two interactive brains and the complexity of their functioning. Today, metaphors can be exchanged, with less reductionism.

If we agree that there is only one type of physical substance that composes all bodies, then Broad’s (1925)



ideas about complex phenomena may now support this exchange of metaphors as we seek to correlate brain and mind. He suggested that complex phenomena are structured in aggregates of different order of successive levels of organization and laws: trans-ordinal laws, which connect properties of adjacent orders, and intra-ordinal laws, which hold between properties within the same order. The trans-ordinal laws are irreducible to intra-ordinal laws, and are fundamental emergent laws. They describe the synchronic covariation of the properties of the two levels. We propose that these trans-ordinal laws could be described in neuroscientific terms.

To avoid reductionism, Widlöcher (1993) proposes to distinguish the “why” –the causal logics of the thought chaining and meaning, of the behavior and the act – from the “how,” the causality of production, in fact, the processes which underlie the realization of the act or of the mental state, at the “infra-intentional” cognitive and biological level. We could, by “switching operators”, gradually reorganize the processes from psychic to brain operations. These intermediate levels are also good candidates to replace the psychodynamical terms.

Therefore, neuroscientists need not rewrite or rename metapsychology, but they could propose a kind of “meta-decomposition” of complex phenomena, in order to establish a parallel and synchronic covariation between heterogeneous phenomena, instead of explaining them.

#### 4. *Aimer est le grand point, qu’importe la maîtresse?*

Qu’importe le flacon, pourvu qu’on ait l’ivresse». Alfred de Musset (La coupe et les lèvres)

(“To love is the main point, never mind the mistress, Never mind the bottle, what matters is the drunkenness”)

To understand each other, we must either speak a common language or have a translator. Since the Second Vatican Council, no Mass is said in Latin. My first anarchist adventures taught me that to better infiltrate the enemy, it is necessary to speak his language ... and never say never! Language is the vehicle of a mutual understanding, and efforts must be made for neuroscience and psychoanalysis to approach each other, without sacrificing to the irreducible heterogeneity of one field to another, but let them “distort” each other. The psychoanalysts fear the neuroscientific words, because they threaten to restrain their field. It is probably a matter of politics and power: we fear being swallowed by neuroscience, which most of the time does not care about psychoanalysts. Neuroscientists fear psychoanalytical terms: abstruse, allusive, too complicated. It is not a matter of allegiance, but simply of opening. It’s not a matter of terms, but of rigor.

To stay alive, a language must be willing to integrate in its dictionary some terms that the environment or common use have introduced de facto. To be valid, it must accept the friction. The aim is not to answer Popper’s falsifiability, but to accept the confrontation with related theories, under penalty of death. We must be careful, not to cut the branch on which we sit, or to behave as temple guardians! So, why not replace?

#### References

- Bazan, A. (2011). Phantoms in the voice: A neuropsychanalytic hypothesis on the structure of the unconscious. *Neuropsychanalysis*, 13, 161–176. doi:10.1080/15294145.2011.10773672
- Bazan, A. (2012). From sensorimotor inhibition to Freudian repression: Insights from psychosis applied to neurosis. *Frontiers in Psychology*, 3, 452. doi:10.3389/fpsyg.2012.00452
- Blom, J., & Sommer, I. (Eds.). (2012). *Hallucinations: Research and practice*. New York, NY: Springer.
- Broad, C. D. (1925). *The mind and its place in nature*. London: Routledge and Kegan Paul.
- Carhart-Harris, R. L., & Friston, K. J. (2010). The default-mode, ego-functions and free-energy: A neurobiological account of Freudian ideas. *Brain*, 133, 1265–1283. doi:10.1093/brain/awq010
- Freud, S. (1920). Beyond the pleasure principle. In J. Strachey (Eds.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 18, pp. 7–64). London: The Hogarth Press.
- Freud, S. (1923). The ego and the id. In J. Strachey (Eds.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 19, pp. 3–63). London: The Hogarth Press.
- Friston, K. (2010). The free energy principle: A unified brain theory? *Nature Reviews/Neuroscience*, 11, 127–138.
- Hobson, A. J. (2009). REM sleep and dreams: Toward a theory of protoconsciousness. *Nature Reviews/Neuroscience*, 10, 803–813.
- Hobson, A. J. (2012). *Dreaming: Psychoanalysis or neurobiology* (5/5/12). Talk presented at “Minding the Gap,” Mt. Sinai Medical Center, New York, NY.
- Hobson, A. J., & McCarley, R. W. (1977). The brain as a dream state generator: An activation-synthesis hypothesis of the dream process. *American Journal of Psychiatry*, 134, 1335–1348.
- Kandel, E. R. (1979). Psychotherapy and the single synapse: The impact of psychiatric thought on neurobiological research. *New England Journal of Medicine*, 301, 1028–1037.
- Kandel, E. R. (1999). Biology and the future of psychoanalysis: A new intellectual framework for psychiatry revisited. *American Journal of Psychiatry*, 156, 505–524.
- Opatow, B. (1997). The real unconscious: Psychoanalysis as a theory of consciousness. *Journal of the American Psychoanalytic Association*, 45, 865–890. doi:10.1177/00030651970450030601
- Panksepp, J., & Biven, L. (2012). *The archeology of mind*. New York, NY: W.W. Norton & Company.
- Pragier, G., & Faure-Pragier, S. (2007). *Repenser la psychanalyse avec les sciences*. Presses universitaires de France.

- Prigogine, I., & Stengers, I. (1984). *Order out of chaos*. New York, NY: Bantam (original title, La Nouvelle Alliance).
- Rudnytsky, P. (2002). *Reading psychoanalysis*. Ithaca, NY: Cornell University Press.
- Solms, M. (2013). The conscious id. *Neuropsychanalysis*, 15(1), 5–19.
- Solms, M. (2014). *Insights from Anosognosia: Seeing through the mind's eye* (4/5/2014). New York, NY: Arnold Pfeffer Center for Neuropsychanalysis.
- Solms, M., & Turnbull, O. (2003). *The brain and the inner world*. London: Karnac.
- Stengers, I. (Ed.). (1987). *D'une science à l'autre: Des concepts nomades* [From one science to the other: About nomad concepts]. Paris: Seuil.
- Thom, R. (1991/2003). Saillance et Prénance. In R. Dorey (Ed.), *L'inconscient et la Science* (pp. 64–82). Paris: Dunod.
- Van de Vijver, G., & Demarest, B. (2013). *Objectivity after Kant: Its meaning, its limitations, its fateful omissions* (Vol. 95, pp. vii–xxviii). Hildesheim: Georg Olms Verlag.
- Varela, F. J., Rosch, E., & Thompson, E. (1992). *The embodied mind: Cognitive science and human experience*. Cambridge, MA: MIT press.
- Widlöcher, D. (1993). Intentionnalité et psychopathologie [Intentionality and psychopathology]. *Revue Internationale de Psychopathologie*, 10, 193–224.
- Wilson, E. O. (1977). Biology and the social sciences. *Daedalus*, 106, 127–140.
- Wilson, E. O. (1978). *On human nature*. Cambridge, MA: Harvard University Press.
- Wilson, E. O. (1978). *On human nature*. Cambridge, MA: Harvard University Press.