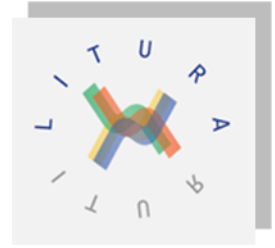


# ON SCIENCE – MYTHS AND TOPOLOGY\*

Marcus André Vieira\*\*



Although psychoanalysis clearly excludes itself from the field of conventional science, it never abdicated from a therapeutically consistent objective or from rigorous validation criteria.

If you are still interested in this subject after this introductory assertion, that means that at least one basic hypothesis is acceptable: the idea that the so called scientific field includes an area of intellectual practice that remains distant from laboratory experiments and its rigid protocols. Having said that, I do not consider absurd to postulate that ‘Science does not exist’, since a consensual definition that would comprehend the vast territory of research undertaken in the name of Science is an ideal and not a concrete possibility. I would like to proceed, taking this premise for granted, instead of going through the vast number of quotations and arguments that could justify it.

Let us simply accept, as a necessary condition for our discussion, that ‘Science’ can be considered a vast practice of fluid boundaries and imprecise conceptual limits. It is imperative that this premise is accepted, since the scientific status of Psychoanalysis depends on the legitimate existence of a ‘flexible area’ within the scientific field, in contrast to the so called hard sciences.

Psychoanalysis, moreover, is not alone in this ‘area’, that includes almost all human sciences. However, this old polarization between exact and human sciences has revealed itself to be unsatisfactory. It suggests that there is, on one side, a territory strictly limited by the true sciences, the exact sciences and, on the other, a plethora of different procedures, inspired by those ‘real’ sciences, that pursue the ideal of being included in the select, first rate group, without ever managing to do so. This point of view creates a gap between these two areas of science that prevents any approximation.

Once we abandon the idea of one and only true science, we are than obliged to consider new parameters. In this sense, one possibility to conceive the scientific field is to postulate a fundamental distinction between an ideal Science and science’s *Ideal*.<sup>1</sup> The latter is referred to the belief in one True uniform Science, definable as a practice of precise delimitation, based on the confirmation or refutation of premises through impartial empirical verification. The ideal Science, on the other hand, would be the fulfillment of this Ideal if it could be materialized. Hence this is impossible, from time to time, some scientific practices play that role of an ideal Science for the ones who are in the course of conceptualization of their field of study. The sciences that serve that purpose, vary according to cultural and historical

---

\*This article could not have been produced without the work carried on in our research group “Clinical research in psychoanalysis”, coordinated by myself and Prof. Ana Cristina Figueiredo, at the Psychiatry Institute (IPUB/UFRJ), since 1998.

\*\* M.D., Doctor in Psychoanalysis (Paris VIII), Guest Prof. of the post-graduation program in Psychiatry and Mental Health of IPUB/UFRJ.

circumstances, what explains, for example, why Physics was the paradigm of science throughout the last two centuries and now lost its privilege to Biology and Genetics.

Freud believed in the scientific Ideal, as well as in the ideal Science of his time, Physics. He always claimed for Psychoanalysis a status of *Naturwissenschaft*, equivalent of the status of the hard sciences. In that sense, Lacan's most important contribution was to demonstrate that, in spite of Freud's desire, Psychoanalysis does not need to be aligned with the scientific Ideal to operate. On the other hand, he also made clear that it depends on the construction of certain criteria, eventually referred to a some sort of ideal Science, aiming to simplify the communication of its fundamental logic. Linguistics was the science that played that role for Lacan, at least for a certain period of time, when he was concerned with the hermeneutical chaos that had invaded psychoanalysis. Based on it, he could create rigorous and consistent criteria, that made possible to demonstrate the effects of psychoanalysis, as well as formalize the steps of the psychoanalytic experience.

Lacan, however, never believed that Psychoanalysis should follow the ideal Science as the ideal of its practice. He affirmed that sharing or not the scientific Ideal, it was capable of reaching the same efficacy. The crucial task for every analyst is to follow Freud's steps, and always consider, in his theoretical formulations, the paradoxes inherent to his practice. In this sense, Freud's geniality, according to Lacan, consisted in turning the 'fragility' of Psychoanalysis into its very foundation insisting, in more than one occasion, that it was necessary to give up the 'construction of a building' in favor of the construction of 'scaffoldings'.<sup>2</sup> According to Lacan's interpretation, that meant that the instruments to read, alter and renovate the Freudian text were more important than the meanings that its elements could fixate.

Lacan, in this sense, never read Freud's work as if it was an untouchable 'monument'. He dedicated himself to the precise isolation of the invariant elements of the psychoanalytic experience and to the determination of their ways of articulation. A number of formulas was originated then, which Lacan named *mathemes*. Lacan's matheme is an attempt, in some ways analogue to Lévi-Strauss' method, to distinguish, among the myths and stories of a subject's life, the elements of repetition and impossibility, as well as the possibilities of articulation of these minimal elements. In other words, Lacan sought to extract the structure from within the chaotic mythologies created by the human mind.

These creations are rich, colorful, polymorph, attract our sight and compassion. Their structure, on the other hand, is a dry skeleton, impermeable to comprehension, detachable from the realm of meaning. The structure cannot be talked about, it is inexistent without the myth, at the same time, it transcends the myth and dictates its possibilities of arrangement and rearrangement, commanding the articulations of the what is to be signified. The goal of the structural reduction is to communicate the fundamental logic of the myth, with a small number of elements, what connects it with the core of scientific activity.

### **Totem and taboo**

The Freudian method is in some ways similar to the structural method, although it cannot be reduced to it. We can take for example "Totem and taboo", severely criticized for its lack of scientific veracity<sup>3</sup>. In this text, Freud conceives a sort of primal tribe in which a dominant male had all sons under his orders and enjoyed all women with exclusivity. Freud then suggests that, at a certain stage of the history of this tribe, a riot against the dominant male,

the Father, takes place. Not an individual conflict between a old dominant and a younger male, in accordance to the laws of Nature but, instead of that, an agreement among brothers who decide to kill their Father. That is a metaphor of the first form of contract, pointing out the birth of human community as we know it.

Anthropology, at that time, was still unable to refute Freud's hypothesis. Time, however, showed that almost all of his premises in this text were contradictable by scientific discoveries. From the point of view of the ideal Science, it is impossible not to consider Totem and taboo to be a scientific fairy tale<sup>4</sup>. Nevertheless, it will definitely be wiser for us to suppose that Freud could not at all be engaged in an attempt to cause a revolution in Anthropology but, instead, that he could be aiming to determine and to communicate the specific logic and configuration of phenomena that he came across in his practice. His 'fairy tale' could than be the scene where he could draw the lines of a certain type of configuration, notwithstanding its absurd meaning and lack of veracity. So, instead of describing in detail how every single patient was confronted with the Father figure, Lacan believed that Freud made use of anthropological elements to translate into universal terms the fantastic mythologies about the origin and the function of the Father for every individual. That was the way he chose to communicate what he observed in his practice, since that myth had a very specific structure.

With Lacan, we can go back to Totem and taboo and demonstrate the logic impasse put in words by the Freudian epopee. Given the riot that gives birth to civilization, two contradictory premises have to be admitted, at the same time:

*The Father is dead<sup>5</sup>.*

*To become the Father, one has to defeat him in an individual combat''.*

We than come to a paradoxical conception of the Father function that reaches the core of a fundamental question for every subject. If "the Father is dead", how can anyone become the Father? Obviously, going back to the myth, one of the sons, being stronger or viler, could break the agreement with his brothers and become a tyrant. However, he would never be in the same position of the primal Father. On the other hand, one of the sons could also become a sort of spiritual leader, loved by everyone, but him too would live as an impostor, aware of the impossibility to inherit the whole of the Father's legacy.

Emptying the myth from all its meaning contents, using the structural method in a Freudian sense, after Lacan, we come to one single formula where **P** stands for the Father, **s** for the son, **M** for the mother and **w** for the women:

$$\frac{\uparrow \bar{P}}{\bar{f}} \rightarrow m(M) \quad \text{or} \quad \frac{\bar{f}}{\bar{P}} \rightarrow m(M)$$

The bars designate the impossibility of a full access to the other sex, as the Father is dead and that the Mother will be prohibited forever. The arrows indicate that a son will only become a man through identification with a dead Father. In a certain sense, this 'mortifies' the son, shows his fragility since he will never become what the Father was supposed to have been.

As a consequence of this ‘mortification’, of this structural fragility, a man will only be able to enjoy a woman involved in a certain atmosphere of transgression, referred to the association of the sexual act with the possession of the Mother. Hence, sex and love will always be determined by fundamental loss and guilt<sup>6</sup>, and therefore, always incomplete.

So, Totem and taboo is not about some historic accident in the course of the evolution of our species, that implied that every man should be guilty. It is a metaphor for a inherent human condition that brings in it the revelation of its logic articulation. That is the aspect that places psychoanalysis in the realm of science, since it establishes precise and rigorous universal premises based on the variety of the clinical phenomena. Psychoanalysis’ clinical statements can be translated into a logical code, and eventually, into mathematical language, which in Freud can definitely be found, although in a sort of virtual state.

### **The refutable psychoanalyst**

And so more questions remain unanswered. Yes, psychoanalysis can be considered to be a serious, mathematized science. However, its empirical results cannot refute its premises. Surely, there is no guarantee that the ideas developed in Totem and taboo, for example, really correspond to a fact of experience that deserves to become an universal premise of human behavior. Who can assure that there is more to the text than a Freudian fairy tale? Could not another psychoanalyst or therapist come to different or even opposite conclusions about the same material? That was Wittgenstein’s argument, later revisited by Popper. Both of them argued that Psychoanalysis was irrefutable therefore not scientific, because all formulations made by an analyst were valid independent from their verification. If the acceptance by the patient is what confirms the validity of the formulations, on the other hand, a non-acceptance would only mean ‘resistance’, what would turn them valid anyway: “heads I win, tails you lose”<sup>7</sup>.

Freud’s answer to that is that there are criteria of validation for Psychoanalysis, although they are different from those of the ideal Science<sup>8</sup>. Let us find out why.

Certainly, Psychoanalysis cannot give up the possibility to rethink the course of its developments, every time that empirical results falsify or invalidate its formulations. Having left aside the experimental possibilities of a laboratory, it is necessary to find trustworthy criteria of test and refutation, otherwise we can pay the consequences that many structuralists, including Lévi-Strauss have paid, since they were able to determine the structure of phenomena, without however being able to create the instruments to alter their configuration. In this sense, it is definitely possible to define the structure of a mass of chaotic phenomena without being able to deal with the effect of this operation.

In the other extreme, today’s Psychiatry, for example, instead of eliminating the practice of tests, tries to extend to the phenomonic world the ideal conditions of a laboratory, trying to turn the polymorph universe of a hospital, in a space *in vitro*. Double-blind studies, and control-groups, for instance, are nothing more than immense efforts in that direction, with great losses in what concerns to the richness of subjective experience, but with indubitable gains in the field of scientific validation. We can be nothing but sorry about all that Psychiatry has lost in terms of clinic developments with its progressive alignment to Neurology, its Ideal Science, but it is true that in terms of acceptance by the scientific community it has gained a lot.

In this context, Psychoanalysis, or at least the greater part of it, resists. Not because its only power of healing is shamanistic or suggestive. Not because its barons are afraid to lose their power if their fake is revealed, as one insinuates here and there. It resists because it is founded and conceived as a scientific treatment for symptoms that Science cannot treat. Psychoanalysis was born exactly at the moment when Freud decided to create a space, within the scientific field, for the meaningless things hysterical women said, that only witch-doctors and shamans took into consideration. In this sense, the direction taken by Psychiatry, to leave aside the singular meaning of the patient's words, to use tables, queries or anything referred to a fixed code, signifies a suicide, that happens every time one tries to carefully register the sessions, seeks methods of measurement of the degree of transference, of the exactitude of interpretation or carries out similar peculiar procedures.

### **Constructions and topological surfaces**

Our question about refutation remains, only turned more complex. Our clinical material cannot be not standardized and our formulations cannot be refuted by clinical evidence, as we have no laboratorial protocols. If this is the case, how would refutation work for us? Freud's answer to that is his concept of 'construction'. A construction, in this specific sense, must include, along with the interpretation of the phenomena, 'something else', an element of the patient's personal experience that has a constitutive value and that will sustain the faith that the patient has in the analyst's formulations. Different from belief, this specific sort of faith is what Freud calls 'conviction', it is in the root of all effects an interpretation can cause and is also its source of validation.

Following this Freudian logic of construction, Lacan first translated the structure of the psychoanalytical operation into mathematic formulas, the mathemes. Later, he established it using topological surfaces, for they are constructions based on hollowness. They present visually that paradoxical characteristic of the human condition, determined by a 'fundamental loss'. Topological figures are constructed around a 'blank point', that, in our field, stands for that 'unspeakable pain', generated by the impasses that bring a subject to an analyst. It is a sort of suffering, impossible to put in words, as it is absolutely personal and unique. The analyst then can use, to *construct* the case, means of formalization like mathemes or topological surfaces, that will give to the 'unspeakable pain' a certain mainframe of signifiers, defining a certain subjective structure, but that will also include what is impossible to say as, for example, an 'interior hollow', maintaining the paradox alive and operative.

This is where topology comes to play. It is the way found by Lacan to draw the Freudian space using its paradoxical coordinates and indicating that there is something in the analytical experience that does not belong to classical logic or common sense. Since the conception of the famous scheme from "The Ego and the Id" where Freud establishes relations between the mental systems, it is already indicated that something paradoxical goes on in an analysis, which leads the psychoanalyst to refer to paradoxical figures and schemes to apprehend and communicate his experience<sup>9</sup>.

Using these instruments, the psychoanalyst can more easily include this 'strange truth' of the subject in his construction, that will be only valid if it awakens the subject's conviction. It is important to underline that a construction has nothing to do with any sort of explanative interpretation about what the subject is or is not, that should be accepted, like Popper imagined. What is at stake here is the elaboration of a logic articulation of the key elements

or facts of a subject's history, that can allow him to change his relations with these elements or facts. The result of that operation is a concrete modification of the subject's life, which is the only solid criteria of validation Psychoanalysis relies on. To illustrate this perspective, I will present a fragment of a clinical case.<sup>10</sup>

### **John, the street-dog**

John is a sad man. He is 40 years old, has been married two times, and after both of his marriages he went back to his mother's house, where he lives up to now. Throughout his analysis, he describes various feelings that, carefully examined in the course of prior treatments, have already been explained, bringing light to many details of his suffering: John feels imprisoned by his mother, as well as by women in general. Every time he left his mother's house, he did it by imposition of other women. He claims to have always tried to follow the path of his own life, but at the same time, to always have felt 'imprisoned'. John cries a lot because he considers himself to be a coward, incapable of living on his own. He does not trust anything or anybody and never dares to do anything. According to his own interpretation of the facts, he already knows what his problem is: he did not have a father to give him the 'necessary instruments to fight for his life'.

Given these circumstances, our task is not so much to find out what John has lost, or what he should have had, to reach the right interpretation, since he already knows all that. What needs to be reconstructed is how and for what reason the 'prison' was created.

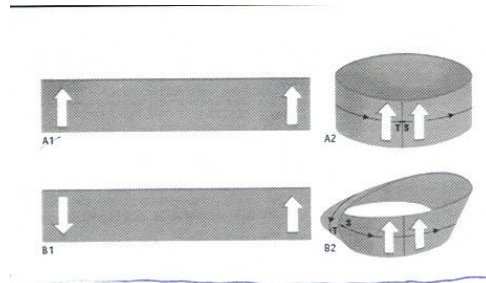
After several variations of this same theme, in a certain moment John produces a dream that than changes this state of affairs. In that dream, John was a street dog. Stuck in a house, with other dogs, he was waiting for a girl who was coming to set them free. He saw clearly the bars in the wall that stopped him from running, but through them he also saw the street outside. This dream could very well be interpreted in accordance to John's prior formulations about his condition. The street dog, caught behind bars, could perfectly describe him, he said. He remembers, even, that his sister has four dogs, all castrated. The geography of the space in which the scene takes place, could also be considered in the same way: John is incarcerated and has a glimpse, beyond the fence, of an infinite and unreachable freedom.

Nevertheless, this dream includes much more than what John had elaborated until then. With his associations, we find out that the house is in a road that pictures the freedom John had once experienced when, as a child, he played with his mates and when several good things happened to him. The road than starts to show a very special geography. It is a space, at the same time closed and open, as on one side there is a dead end and, on the other, a very busy avenue. Curiously, this relatively closed space functioned as a infinite exterior against the enclosed bedroom and living room where John's family had lived, and that is now revealed by the dream.

After that, all compartments of space that appeared to John to be either opened or closed, turned into paradoxical spaces of both enclosure and opening. John than remembers how the street dogs "passed between the bars" and how one of the houses in that road, specifically the one that had the bars, was a house where John always wanted to live. He remembers next how his father, a very violent man, "went in and out" the small house they lived in and how painful and difficult it had been for him to identify himself with that "street-dog father".

The Moebius band is the figure chosen by Lacan to demonstrate the transitive characteristic of the unconscious geometry. It is a tape the ends of which are connected in a specific way,

that establishes a continuity between them. From one point of view we see an ‘absolute’ opposition between the two sides, from another, however, as a consequence of the torsion of the tape, the sides show their structural continuity. Their opposition ceases to be absolute, since it cannot be maintained in all extension of the figure: a small ant, walking along the surface of the tape, goes from its interior to its exterior without crossing over. Just like John’s road, the Moebius band defines an inside that continues into an outside joined by one point of reversion where they are ‘the same side’.<sup>11</sup>



John’s story illustrates the paradoxical logic of the mental space. On one side, the bars protected him from the unknown, stopping him from walking freely on the street. On the other hand, when he realizes that, as a street dog, he could go through the bars, what before was an obstacle, remained as a sort of limit, but also became a possibility to ‘walk around’. This story also shows that once this space is recreated, the symptom is necessarily changed. We could name a number of statements that describe John’s path towards his change, from depression to sadness: “I lost my joy”, “I’m down”, “I never had any freedom”, “I miss the instruments to fight”, “I’m castrated by women”, “I’m imprisoned”. After the dream and its associations, “I’m a street-dog”, and then, “I’ve got something from my father”, “the prison is relative”, “I’m inside some places and outside others”. This is how John can set himself free from the imaginary chains of the Euclidian sadness, and really start his analysis. There is no guarantee that his way will be free from sadness. Therefore, once he experimented the signifier’s property to refer it to a Moebian space, it becomes lighter and above all, transitory.

### Conclusion

Finally, we conclude that the psychoanalyst finds himself in this uncomfortable position, submitted to relatively fragile validation conditions. In this context, he relies on the clear and rigorous demonstration of his cases to communicate the effects of his practice and to reach some sort of universality of premises. Moreover, the survival of Psychoanalysis depends, not only on our capacity to explore and exercise the conceptual instruments created by Freud and Lacan, but also on our ability to recreate them.

With the case fragment we examined, it is possible to verify the essential relation between the clinical material and the concepts of Psychoanalysis, underlined by Freud since 1915, when he postulated the link between these two fundamental elements of the experience. In this sense, theory does not prevail over clinical material nor vice-versa:

“The starting point of scientific activity consists above all in the description of phenomena [*Erscheinungen*] that are afterwards put together, put in order and articulated [*Zusammenhänge*]. From the moment of the description, we cannot avoid to apply to the material a certain number of abstract ideas [*abstrakte Ideen*] that we find here and there, but, certainly not only in our present experience [*Ehrfahrung*]”.<sup>12</sup>.

Obviously, it is impossible to say that the Moebius band was already there in John’s dream, even in a subjacent way. However, even in dreams like this one, it is possible, recurring to this class of figures, to this ‘abstract idea’, to undo the knot of the symptom and to somehow introduce that ‘blank’, that unspeakable pain, in the webs of speech.

In this way, research, in the field of Psychoanalysis, will only make progress if it manages to demonstrate the effects of a fruitful relation between a very specific conceptual system and the clinical phenomena originated from an also specific operation – the psychoanalytical act. To accomplish this task, we must concentrate our efforts in the exercise with instruments of clinical thought like the models, structures, schemes and topological surfaces, what is unthinkable of without the permanent return to the concrete progresses of specific cases which are our foundations for the construction of those instruments. Only then we can use the practice of scientific research to constitute valid formulations about this art of moving within this unique territory created by the interlocution between somebody that “says whatever is in his mind” and somebody else who silently listens.

## Abstract

After a discussion about the scientific status of Psychoanalysis, the author analyses the value of the structural approach as a method of construction and elaboration of clinical cases, based on the works of Jacques Lacan. The fundamental idea is that this method, based on the report of the history of a treatment, can provide a theoretical system that is scientifically consistent, sustained by Freud’s concept of “construction”. The implications of the use of this method for the research in psychoanalysis are illustrated and discussed with the exposition of a clinical fragment.

Key-words: psychoanalysis, research, science, topology

---

<sup>1</sup> Cf. MILNER, J. C. *L’oeuvre claire*, Paris, Seuil, 1997, pp. 35 and following.

<sup>2</sup> See FREUD, S. «Pulsões e destinos das pulsões», *Edição Standard Brasileira*, Rio de Janeiro, Imago, 1974, vol. XIV, p. 137.

<sup>3</sup> FREUD, S. «Totem e Tabu», *Op. cit*, vol. XIII, p. 20 and following. On the criticism about the lack of scientific veracity of the Freudian method, see for example EYSENCK, H. *Decline and fall of the freudian empire*, London, Penguin, 1985, p. 45 and following.

<sup>4</sup> As Kraft-Ebing, commented once, after one of Freud’s case presentations (See FREUD, S. «A história do movimento psicanalítico», *Op. Cit.* vol. XIV, p. 31/2).

<sup>5</sup> Lacan makes use of this sort of procedure practically throughout all his works. See, for example, LACAN, J. *Escritos*, Rio de Janeiro, JZE, 1998, pp. 518/9 and 58, 554, 680, 819. About this text by Freud, see particularly LACAN, J. *O Seminário livro XVII*, Rio de Janeiro, JZE, 1992, pp. 95 and following.

<sup>6</sup> If we substitute **P** for God, **s** for Man and **M** for original sin we will reach, with the same formula, the mathematization of man’s position in religion, according to Freud.

<sup>7</sup> See WITTGENSTEIN, L. *Lições et conversações*, Paris, Seuil, and POPPER, K. *Knowledge and the body-mind problem*, London, Routledge, 1994, pp. 107 sq.



---

<sup>8</sup> FREUD, S. «Construções em análise», *Op. Cit.* vol. XXIII, p. 291.

<sup>9</sup> FREUD, S. «O eu e o isso», *Op. Cit.* vol. XIX, p. 38.

<sup>10</sup> This case was already examined, from a different point of view, in VIEIRA, M. A. *A ética da paixão*, Rio de Janeiro, JZE, 2001, pp. 193-197.

<sup>11</sup> Just for additional information, besides the Freudian schemes, Lacan uses a great number of formulas as well as five topological surfaces and various knots to Apenas a título de informação suplementar, vale assinalar que além dos esquemas freudianos, Lacan utiliza-se de um grande número de fórmulas assim como de cinco superfícies topológicas e de inúmeros nós para transmitir a configuração sui generis do espaço subjetivo (cf. GRANONT-LAFONT, J. *La topologie ordinaire de Jacques Lacan*, Paris, Point hors ligne, 1985).

<sup>12</sup> FREUD, S. «Pulsões e destinos das pulsões», *Edição Standard Brasileira*, Rio de Janeiro, Imago, 1974, vol. XIV, p. 137 (grifos meus). Cf. Quanto a este ponto VIEIRA, M. A. *L'éthique de la passion*, Paris, PUR, 1998, pp. 10-12.