

*Is formalization still our ideal?*

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It was during the *Encore*<sup>1</sup> seminar that Lacan uttered this sentence, which, it seems to me, continues to compel us to question ourselves about the transmission of psychoanalysis:

"Mathematical formalization [...] is our goal, our ideal: why? Because only it is a *mathème*, that is to say, capable of being transmitted in its entirety."

This is remarkable: something, then, could be transmitted in its entirety in our discipline? What could be closer to a royal road! Lacan continues, of course, by emphasizing that something stands in the way of this path, but without declaring it impracticable.

Let us remember that Lacan, very early on, became part of the so-called structuralist movement, which developed research and invention in the humanities<sup>2</sup> concerning the structures (in the mathematical sense) underlying the objects of study.

At that time, there was a goal, a hope, that elucidating the structures underlying the objects of study in the humanities could lead us to an understanding and, why not, an effectiveness comparable to what had long existed in the so-called "hard" sciences.

Some time earlier (1960), Eugen Wigner had questioned "The Unreasonable Effectiveness of Mathematics in the Natural Sciences." The precision achieved by mathematical formalizations in physics, while definitively established, remained astonishing even to those who used them on a daily basis.

1. Lesson of May 15, 1973

2. It should be noted that Lacan denounced this term, "human sciences," as "the very call of servitude," and preferred the expression "conjectural sciences of the subject." His criticism went unheeded, and the term "human sciences" remains in universal use.

Nothing prevented us from hoping to achieve comparable precision within the "conjectural sciences of the subject," and it is precisely this hope that Lacan expresses, for example, in 1967, in his "Short Address to Psychiatrists,"<sup>3</sup> where he clarifies what he means by formalization:

"There is something in what I have said that seems quite promising to me, which is that, thanks to my efforts, there is a very small beginning of formalization. Namely, something that can be expressed by what is purest and most manageable in the Function as such of the signifier, namely the handling of small letters. It is in a certain way of handling these small letters and putting them together in defined connections that this theory of desire is founded, in which it leaves hope for a much more precise further development, provided that we apply this kind of mental capacity that belongs to combinatorics."

It is indeed the hope of a much more precise future development that is at stake for Lacan at the time, and for this reason, he invites us to bring our combinatorial abilities into play, as he does for us, for example, by proposing the Markov chain as an elementary model of a signifying chain.

It seems to us that the seminar *Encore* marks a turning point in Lacan's teaching with regard to this structuralist conception of the role of formalization. To the sentence quoted above, he adds:

"Mathematical formalization is writing, and that is where I will try to move forward today. However, this mathematical formalization only subsists if I use the language I use to present it. That is where the objection lies. No formalization of language can be transmitted without the use of language itself. It is through my saying that I make this formalization, this ideal metalanguage, exist.

[...] What speaks without knowing makes me, the subject, the subject of the verb, certainly, but that is not enough to make me be."

It is from this point, which seems to me to be a real turning point, that Lacan commits himself, never to return, to the use of knots to produce, through a new practice that he will describe as real writing, something that is no longer strictly speaking a formalization of psychoanalysis, but rather a form of demonstration without demonstration, in which the one who demonstrates is as much, if not more, engaged than the one who is invited to follow his proposition.

3. The conference was announced under the following title: "Psychoanalysis and the Training of the Psychiatrist."

It is now a different practice: real writing, which no longer requires access to any kind of precision. But what is the aim of this new practice invented by Lacan?

Several authors<sup>4</sup> continue to explore the field opened up by this question. Lacan himself gives us some clues, for example in *Les non-dupes errents*<sup>5</sup>, when talking about art:

"From art, [...] we have to take a leaf out of its book for ourselves, to make it into that third thing that is not yet classified, to make it into something that is close to science on the one hand, and that takes a leaf out of art on the other. And I will go even further: that can only be done in the expectation of ultimately having to give up."

Practicing this real writing would therefore mean doing something that would ultimately be destined to "give up the ghost." Formalizing psychoanalysis, between art and science, leaning on both, would be an activity that would ultimately aim not at some kind of precision that would be nothing more than a desire for mastery, but at an "I don't know: I give up the ghost."

One observation can be made here: throughout his teaching, Lacan produced an impressive number of formalizations which, without being mutually exclusive, are all ways of approaching "psychoanalytic theory" from radically different angles. Throughout this period, Lacan's students followed him, attempting to "understand," make use of, and explain these tools (but are they really tools?). The recent book edited by Pierre-Christophe Cathelineau, *Essays on Clinical Topology* (EME), lists a number of these explorations of the field of formalizations opened up by Lacan.

Very few, however, have attempted an effort similar to Lacan's using other mathematical forms<sup>6</sup>.

Why? Why, contrary to Lacan's abundant inventiveness in the search for structures, have his students followed his example so little, preferring to continue his advances where he had made them? It is at this point, it seems to me, that we should question the validity of the practice of formalization. Admittedly, many of the formalizations proposed by Lacan<sup>7</sup> seem to have become indispensable in the transmission of psychoanalysis. But research aimed at introducing into our discipline of new constructions still be considered desirable?

4. We are thinking here, for example, of Christian Fierens, Erik Porge, and Michel Bousseyroux.

5. Lesson of April 9, 1974

6. We can cite Marc Darmon with the introduction of Boy's surface, or Pierre Christophe Cathelineau with his exploration of the potentialities of homotopy or topos.

7. Such as, for example, the topologies of surfaces and knots, the graph of desire, the formulas of sexuation...

Or even, taking the question a step further, does psychoanalysis still need formalization precisely for the sake of transmission ("only the matheme can be transmitted in its entirety")? Are these still effective, necessary tools, or can we do without them?

Or perhaps we should do without them?

In my opinion, this question becomes particularly crucial at a time when artificial intelligence is bursting into our daily lives, notably in the form of the "AI assistant" that anyone can now acquire, shaping it to their liking using data from their choosing.

For a long time now, the hard sciences have accustomed us to using simulators to learn about what interests us, allowing us to see the results of a particular theory. Anything that is sufficiently formalized can be coded and, at the same time, displayed using a machine that converts what interests us into images, thereby dispensing us from doing what we usually call "understanding." What, then, should we think of research aimed at formalizing the discourse from which a subject originates?

What are we to make, for example, of the Markov formalism used by Lacan to give us an example of an elementary signifying chain? It is indeed this same formalism, immensely expanded and perfected in the neural networks used in our modern robots, that now makes it possible to achieve a plausible approximation (even indistinguishable from the original) of a subject's speech, of what constitutes their style, their signature, in a word their symptom, and all this automatically!

Lacan seems to have glimpsed this possibility<sup>8</sup> when he tells us:

"The discourse of science has suffocating consequences for what we call humanity. Analysis is the artificial lung through which we try to ensure that we find the jouissance we need in speech so that history can continue. We haven't noticed this yet, and that's a good thing, because in the state of inadequacy and confusion in which analysts find themselves, political power would already have gotten its hands on them, which would have robbed them of any chance of being what they must be: compensatory."

8. In an interview with France-Culture dating back to 1973

Isn't formalization running the risk of providing politics with—everything related to capitalist discourse—the means of getting our hands on what has kept us breathing air that is sufficiently breathable until now? It is on this question that I wanted to focus, and I hope to focus your attention as well.

Bernard Vandermersch kindly agreed to summarize the above points on the spot—for which we thank him—and it was around these themes that the discussion took place on Sunday, January 26, 2025. Two points struck me (upon listening to the recording of this discussion) as particularly vivid. The first is Bernard Vandermersch's emphasis on the existence, in Lacan's view, of a permanent tension between:

- a "scientific" horizon, expressed in the multiple formalizations he developed throughout his teaching, and concretized by his advances in the topology of surfaces and then knots;
- a poetic horizon: Lacan lamented that he was "not poetic enough," and his search, right up to his last seminars, for what real writing might be bears witness to this.

The second point is the return of the questioning of the body, foreclosed by AI, and whose articulation with the notion of the machine has been rightly reestablished.