RCMOS - Multidisciplinary Scientific Journal The Knowledge.
ISSN: 2675-9128. São Paulo-SP.

Year VII, v.1 2026 | Submission: 05/20/2026 | Accepted: 05/23/2026 | Publication: 05/26/2026

Engineering and psychoanalysis: the transversality of knowledge in motion.

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SUMMARY

This article analyzes the interface between engineering and psychoanalysis and proposes "transversality" as a means of professional integration. Starting from Vahan Agopyan's premise about the uncertainty inherent in technology and Freud's concept of the "prosthetic God," it uses the Brumadinho case to demonstrate that the neglect in listening to the material structure reflects the helplessness of the subject. From the perspective of Judith Butler's "precariousness," it concludes that the engineer's technical training, combined with analytical specialization, constitutes a robust ethical basis for the practice of psychoanalysis, focused on supporting the subject in the face of the imponderable.

Keywords: Engineering; Psychoanalysis; Professional Ethics; Transversality; Brumadinho.

ABSTRACT

The article analyzes the interface between engineering and psychoanalysis, proposing "transversality" as a path for professional integration. Based on Vahan Agopyan's premise regarding the inherent uncertainty of technique and Freud's "prosthetic God" concept, it examines the Brumadinho dam disaster to demonstrate how negligence in listening to material structures reflects the subject's helplessness. From the perspective of Judith Butler's concept of "precariousness," the conclusion is that the engineer's technical background, combined with analytical specialization, constitutes a robust ethical foundation for the practice of psychoanalysis, focused on supporting the subject in the face of the imponderable.

Keywords: Engineering; Psychoanalysis; Professional Ethics; Transversality; Brumadinho.

1. Introduction

This article proposes a reflection on the porous boundaries that define knowledge. Technical knowledge and subjective knowledge, based on the premise that the rigidity of professional nomenclatures It should not obscure the unity of human experience.

As an illustration of this work, I highlight the words of the eminent psychoanalyst Renato Mezan (graduate, master's and doctoral degree in Philosophy), who, in his lecture "Research in Psychoanalysis" (PUCRS, 2022) emphasizes that, regardless of their field of activity, all The professional possesses the competence to develop a research project. Regarding the question Specifically regarding the insertion into the study of psychoanalysis, the eminent researcher points out: "Many times It's a person who has experience in something else [...] it's someone who has a very broad education. "great in geology and decided to become a psychoanalyst" (Mezan, 2022); and, referring specifically to Ignacio Gerber, civil engineer and full member and lecturer of the Society.

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The Brazilian Psychoanalytic Association of São Paulo adds: "After a while, he got tired of being..."
He was a physical foundations engineer who went on to study the foundations of the mind, and became a psychoanalyst. (Mezan, 2022). This contribution highlights the robustness of the interface between engineering and psychoanalysis, as well as dispelling any hesitations regarding the legitimacy of this connection.

Thus, by recognizing that both areas ultimately deal with
Structuring life in the face of the unpredictable seeks to provide a foundation for the training of professionals. which, stemming from the rigor of construction processes and specialized in analytical listening,
They find in the transversality of knowledge the ethical and technical basis necessary for the practice. from psychoanalysis. It's about understanding the management of structures – whether they are made of steel or of desire – as an ongoing commitment to sustaining the individual in the world.

It turns out that, when we place ourselves in contemporary times (2026), from the moment in that engineering fails to provide this material support, or when the symbolic support
The knowledge provided by psychoanalytic principles crumbles, revealing the radical exposure of the subject. to helplessness.

Managing this precariousness therefore means recognizing that technical rigor and listening are essential. Analytical systems are networks of interdependence designed to ensure that life remains viable. to be lived and sustained, both in concrete terms and in desire.

2. Theoretical Framework

The theoretical foundation of this study rests on the convergence between phenomenology. technique and Freudian metapsychology. On the one hand, the perspective of Vahan Agopyan is used (2019) to deconstruct the myth of engineering as an exact and infallible science, redefining it as a practice that operates in the domain of uncertainty and variability inherent in systems real. This perspective allows us to shift engineering from the realm of cold statistics to the realm of Ethical and prudential responsibility.

On the other hand, the reference point is anchored in the concept of 'helplessness' according to systematized by Freud (1996, p. 163) in Inhibitions, Symptoms and Anxiety (1926), a work in which defines helplessness as the primary condition of danger, in which the subject finds himself incapable. to master internal and external excitations by their own means, depending invariably an object of protection. This ontological vulnerability finds an echo – as mentioned earlier – in Judith Butler's contemporary notion of 'precariousness' (2019).

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By combining these concepts, it is established that both the physical structure (buildings) and Symbolic elements (language/unconscious) function as "prostheses" necessary for life. Therefore, The proposed interface is not a juxtaposition of professions, but a unified field of knowledge. through the ethics of interdependence, in which the exercise of calculation and listening to desire collaborate. to protect the individual from the collapse of their support networks.

3. Methodology

This investigation is characterized as qualitative research, of a qualitative nature. exploratory and bibliographical, based on the cross-sectional analysis method across fields. distinct from knowledge. The methodological approach was structured based on a survey. A bibliographical overview of fundamental works in Freudian metapsychology and contemporary philosophy. contrasted with the technical and essayistic literature of civil engineering, specifically with articles that address the analysis of the causes of the Brumadinho dam collapse, in Brazil.

Through an interdisciplinary analysis, conceptual analogies were established between structural stability and subjective support, using the concept of precariousness as An integrating axis between technique and ethics. This theoretical framework served as the basis for a study. a reflective case study on the traumatic event of Brumadinho, aiming to validate the hypothesis that Technical failure is inseparable from negligence in listening to reality. Ultimately, it is a matter of... of a dialectical construction that seeks, in the gap between the exactness of calculation and the enigma of unconscious, an ethical synthesis for professional practice.

4. Results and Discussion

The connection between seemingly distinct fields is based on the premise that Engineering is not merely a cold technique, but an inventive response to the needs of reality – a human attempt to cope with helplessness through technology. In short, While psychoanalysis deals with supporting the subject who enjoys the results of this... In its pursuit, engaging with the rigor of the laws of the unconscious, engineering deals with the actions that They guarantee life in society under the harsh laws of nature.

Therefore, in addition to the rigidity of the numbers, I take as a guideline the perspective of Vahan Agopyan (2019), who emphasizes: "Engineering relates to nature, applying

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real materials, methods and processes, all with inherent variability, which result in "Uncertainty of the project as a whole." This uncertainty manifested itself traumatically in Brumadinho (2019), where the dam collapse revealed the culmination of technical and ethical omissions.

Corroborating the above assertion, the report of the Panel of Experts (Robertson et al., 2019) points to the rupture as evidence that engineering cannot be restricted to Theoretical models are used when physical signals indicate a critical state. Ultimately, what What occurred was a double silencing: the technical one, regarding the signs of structural deformation, and the ethical one. From risk-taking to management that ignored the unpredictable. At the interface with psychoanalysis, This material silencing finds a parallel in the silencing of the subject: what is ignored It "pulsates" beneath the structure until reality erupts in tragedy.

This view of a technique that deals with the imponderable finds an echo in Freud, who, In *Civilization and Its Discontents* (1930), he describes modern man as a "God of prosthesis," adding: "When he makes use of all his auxiliary organs, he is truly magnificent; however, these organs did not grow in him and, at times, he still... "They cause many difficulties." (Freud, 1996, p. 99).

Currently (2026), if engineering materializes these prostheses that extend the Extending human capabilities to the very ends of the universe, it also brings the construction site closer to... couch. In both scenarios, a fundamental interdependence is acknowledged: the subject who inhabits A building depends on the silent ethics of calculation, just as the analysand depends on listening. from the analyst's perspective, to give shape to the uncertainty.

Given this intrinsic relationship, it is understandable that the engineer should not fear the transit through psychoanalysis; on the contrary, it should occupy him recognizing that technical rigor does not It excludes listening to the human element. By demystifying engineering as a purely exact science, it opens up- there is room for transversality in which knowledge moves between the concrete and the symbolic, allowing the professional to assume the ethical responsibility that arises in the space. between the project and life. Finally, it is observed that when engineering fails to provide the physical support or psychoanalysis encounters the collapse of symbolic support, revealing itself to radical exposure to helplessness. Managing this precariousness therefore means recognizing that The technical rigor and ethics of listening are safety nets designed to ensure that life It remains something that can be lived and, if lost, something that can be mourned.

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Final Considerations

It can be concluded, therefore, that the connection between psychoanalysis and engineering reveals that both are... ways of coping with the precariousness of existence. This condition, theorized by Judith Butler. (2019), defines us as beings subjected to social and economic vulnerability. politically induced, whose survival depends on material infrastructures and networks of The care that precedes us. By recognizing that we are 'dependent on others who barely 'We know', the engineer-psychoanalyst assumes the fullness of his ethical responsibility: understands that calculating a structure is not just a technical act, but a pact of Trust that sustains the lives of anonymous individuals driven by desire.

Cases like Brumadinho teach us that a failure to 'listen' to the issue and negligence... These techniques are violations of this pact of interdependence, exposing the subject to radical helplessness. The professional who manages this interface acts as a guardian of human integrity. operating in the zone where the rigor of the concrete meets the fluidity of the symbolic. The true Engineering accepts its own uncertainty and acknowledges that no technological solution will be definitive. Complete success is achieved by ignoring the unease of those who benefit from it. In practice, the engineer calculates and It works within the realm of what is measurable, but applies a "safety factor" precisely. because it recognizes and acknowledges that matter, nature, and human intervention are all part of it. unpredictable; that is, the engineer does not operate with absolute certainty, but within the margin of error and in risk management. The practice of psychoanalysis by this professional is the natural evolution of someone who It is understood that supporting a building means offering the best possible solution to the discomfort of... civilization.

Finally, in a historical appeal, it is important to highlight that Freud himself, in his dialogue with the 'Impartial Person' in the text *The Question of Lay Analysis* (1926) advocates that the Psychoanalysis operates within a logical framework independent of medicine, and can be practiced by... professionals from different fields; and argues in his Postscript (1927): "the important question It's not whether an analyst has a medical degree, but whether they have received specialized training. necessary for the practice of analysis" (Freud, 1996, p. 247).

Most notably, however, is the fact that the work in question was developed in In defense of the autonomy of psychoanalysis and of its disciple, Theodor Reik, who was accused of charlatanism. for the illegal practice of psychoanalysis – at the time, viewed as a medical treatment – despite He holds a **PhD in Psychology** from the University of Vienna. All this, a century ago!

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