

**Psicologia e Neurociência: Uma Avaliação da Perspectiva Materialista no Estudo dos Fenômenos Mentais [Psychology and Neuroscience: An Assessment of the Materialist Perspective in the Study of Mental Phenomena]** (second edition) by Saulo de Freitas Araujo. Juiz de Fora: Federal University of Juiz de Fora (UFJF), 2011. 94 pp. \$20. ISBN 9788585252809.

*Psicologia e Neurociência [Psychology and Neuroscience]* is a book that offers interesting and fruitful contributions to current studies involving the mind–brain question. Starting from a critical analysis of the materialist perspective in the light of the philosophy of mind, psychology, and neuroscience, it promotes a debate on the language used in the description of mental phenomena and scientific experimental procedures for studying these same phenomena.

The book is derived from the Master's degree work of the author, Saulo Araújo de Freitas (Professor, Department of Psychology, Universidade Federal de Juiz de Fora (UFJF), Brazil). First published in 2003 by the UFJF press and currently in its second edition (2011), the work is divided into six chapters logically linked, addressing the issue of materialism from its foundations to its application to the study of mental phenomena. The second edition (which was used to prepare this review) also presents an addition: a historical investigation of materialism prior to the twentieth century.

In general, the book questions the optimistic promise of materialism and its supporters to reach in the near future a complete understanding of all mental processes through the progress of neuroscience research. Among other things, the author criticizes the deletion of the autonomy of the subjective dimension in the investigation of human mental life. Reduced or reformulated in objective terms (the brain), subjectivity would be lost in this process. The intention of materialism in explaining subjectivity (first person) through the objective perspective (third person) has not achieved success over all of its historical attempts. However, the advocates of materialism, a kind of “messianic promise,” argue that, one day, all mental phenomena will be explained by the progress of neuroscience.

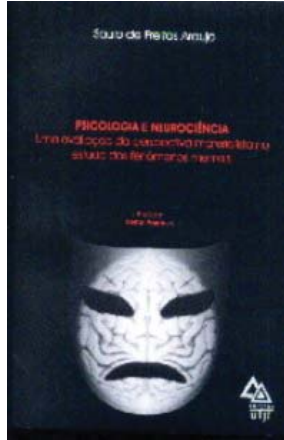
The book's chapters are arranged in a progressive way, which architecture goes from the conceptual foundations of materialism (its constituent bases) to its operative culmination in the “eliminative materialism” of Paul and Patricia Churchland, in the philosophy of mind. The author thus shows a kind of conceptual embryology of materialism applied both to the philosophy of mind and to the neurosciences and its impact on the current constitution of the future of psychology.

The first chapter weaves elaborations about “folk psychology” (the psychology of common sense). One of its main features is the use of popular vocabulary for the expression of or attempts to describe various states and mental phenomena. From this perspective, many of the existing psychological theories are supported by this popular vocabulary. One of the proposals of “eliminative materialism” (a position taken by Paul and Patricia Churchland) is precisely to eliminate this popular language and replace it with objective, scientific terms, supported mainly by neuroscientific studies. Words such as desire, will, belief, motivation, etc., would be eliminated in a truly future scientific psychology. Folk psychology, devoid of ontology, is not scientific.

In the second chapter, the author presents the theory of identity, created in the late 1950s by Place, which is the first systematic attempt to define a materialist ontology for psychological concepts. Continuing in a dense and complex argumentation, in general the theory of identity, distant from a dualistic stance, says that consciousness and mind (and all its processes and attributes) can be identified as particular sets of brain processes. Although the theory of identity has been further complemented by the work of D. Armstrong in the 1970s, it still has maintained a continuity between the language of science and the language of common sense, making it difficult to create a genuine materialist theory of mind. In fact, the proposal for a complete break with popular language came only with the emergence of eliminative materialism.

The third chapter introduces a first formulation of eliminative materialism, which occurs with Feyerabend (1963). Based on the Theory of Identity, this first formulation affirmed the importance of the study of brain processes to an understanding of mental phenomena, and its proposal was to eliminate all the “mentalist” vocabulary of psychological theories. It advocated the creation of a physiological theory for the investigation of mental processes. The term *eliminative materialism* was created by Rorty (1970), and its main idea was to eliminate from scientific psychology not only mental terms, but also popular vocabulary and common sense, replacing them with concepts generated by physiology and neurology. In the past, demons were accused of causing behavioral disorders in individuals (“the subject is possessed by a demon”), but we know now that there are mental disorders that cause such disturbances. Thus, the belief in demons is no longer needed. For Rorty, the same will occur in the study of sensations, for example. Once neurology advances, mention of feelings will be replaced by discourse on the brain. However, the most radical materialistic proposal appeared with the Churchlands, where not only sensations but all mental processes are considered as products of the brain.

In the fourth chapter, the eliminative materialism of the Churchlands is presented, and the central idea of this approach is to eliminate (and not merely replace or reduce) the entire vocabulary of folk psychology. This view attempts to refute the dualism of mind–brain and argues that only the brain is real and that mental terms are a kind of popular fiction that should be eliminated in a future scientific psychology. Thus, terms such as *belief*, *desire*, *will*, *fear*, *intent*, etc., would be eliminated. The eliminative materialism of the Churchlands represents the culmination of the materialist perspective in the philosophy of mind.



The fifth chapter continues with a critical view of the proposed hypothesis (eliminative materialism). The central point lies in what the author called “the paradox of elimination.” That is, to eliminate the popular vocabulary (folk psychology) of a future scientific theory of mind, you must use the folk psychology to realize such a construction. The interpretation of neuroimaging and people’s subjective reports can only be expressed in terms of folk psychology, which is the vocabulary available. Thus, to eliminate folk psychology and then build a vocabulary based on neuroscience, folk psychology would need to be used. This is the “paradox of elimination.” Another criticism reminds us of the complexity of the human brain. Will we ever be able to faithfully reproduce the human neuronal apparatus in a computer? This constitutes a difficulty for the eliminativist program. After all, if we cannot reproduce the complexity of the human brain, how can we understand it in its entirety?

In the sixth chapter, the author weaves in an overview of the future of a scientific psychology. In the twentieth century, the materialist proposal (identification, reduction, or even parallelism between mental functions and neurological brain function) failed to solve the mind–brain problem. Although folk psychology has not been eliminated, it is necessary, however, to develop a specialized vocabulary for the study of the mind. Then it could progress on its own ground of psychology in a scientific way. Research in neuroscience should be complemented by analysis of social and cultural contexts that influence trends, opinions, and behaviors (neuroscience + social psychology).

Finally, focusing on the materialistic proposal, the author states the “messianic promise,” that “one day, everything will be explained by progress in neuroscience,” is a repetition of old hopes that never materialized.

He also draws a distinction between scientific practice and worldview. Science depends on correct methodology, logic, and conceptual coherence. Materialism, in turn, is a worldview that can be adopted by scientists. In other words, science and materialism are not synonymous. According to the author, the materialistic view attempts to suppress the autonomy of the subjective dimension of human beings, reducing them to the objective dimension.

It is true that neuroscience progresses every day, but will this progress be able to completely explain all mental phenomena and their complex network of relationships, trends, and expressions? The materialists are betting yes. Saulo Araujo de Freitas, with this book, puts in doubt certain aspects of this proposal. An interesting book, dense and complex, it is designed to shed light on current debates about mind–brain issues, but it is also directed to students of anomalistic psychology, considering that since the time of the Society for Psychical Research (London), and on through the works of the Rhines at Duke University and up until today, the mind–brain problem is still one of the most intriguing of all.

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