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Introduction

One of the main challenges of biology consists in articulating **a coherent view of the central nervous system and its structure**. To this end, **neuroscience** has emerged as an **interdisciplinary project** which looks to integrate the different disciplines.

But, insofar as it looks for an explanation of the central features of a human being, neuroscience **goes beyond the boundaries of natural science** and enters terrain which has already been explored, since antiquity, by **philosophy**. At this point an alternative appears.

First Attitude: Natural science must replace philosophy

Natural sciences are the right and definitive scientific approach to those matters previously explored by philosophy, as, for example, consciousness, knowledge, freedom and personal identity

But this attitude is not free from difficulties. Here are some of them:

- It ignores many questions, concepts and findings made by philosophers since antiquity.
- It enforces a reduction of the subject of understanding in order to make it empirically tractable, namely, analysable according to present standards of science, losing thereby some of their more relevant aspects.
- Reductivism also encourages further reductive ways of presenting the results and achievements of neuroscience, many of which raise doubts and concern in the public. Some of these results, for example, involve that freedom is an illusion, a suggestion which affects man's self-image, the relation between doctor and patient and even social interaction. These concerns can be potentially damaging for science as a whole.



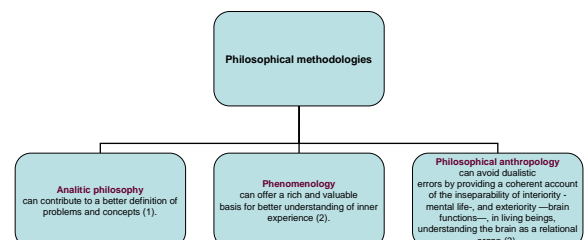
Second attitude: philosophy has an irreplaceable role to play

Philosophy affords the method which should be adopted to eschew naïve and reductive approaches to issues that concern specially intractable problems, such as the problem of the inner experience. It also contributes to the debate with ontology and ethics

This demands an integration of philosophy into the design of experiments and the interpretation of their resulting data:

- It accurately defines the meaning of the concepts involved when topics hardly reducible to empirical method are at stake, such as consciousness, feelings, freedom and identity.
- It rightly addresses the question about the imports of these topics in science and coherently integrates the different results.
- Finally, philosophy is relevant not only in methodological issues. It can adequately deal with presenting scientific results and their application to public opinion, adequately taking ethical issues into account (4).

This demands bringing the empirical method of science into dialogue with contemporary streams and traditions in the philosophy of biology, philosophy of mind, epistemology and ethics. This should be done in a way that is rendered coherent by their common roots in a tradition of understanding the whole human being that stretches back to Aristotle.



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