



# Neuroethics: A Conceptual Approach

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## 1. WHAT IS NEUROETHICS

### NEUROBIOETHICS

**Primarily normative:** ethical theory applied to

1. issues arising from neuroscientific research and clinical applications,
2. issues raised by public communication of neuroscience.

### EMPIRICAL NEUROETHICS

**Descriptive and occasionally explanatory:** empirical data used to inform theoretical (e.g., what is moral reasoning) and practical issues (e.g., who is really a moral agent).

### CONCEPTUAL NEUROETHICS

**Primarily foundational:** conceptual analysis of key notions used to address issues such as the construction of neuroscientific knowledge, the relevance of empirical knowledge of the brain to philosophical, social, and ethical concerns.

## 2. WHY CONCEPTUAL NEUROETHICS?

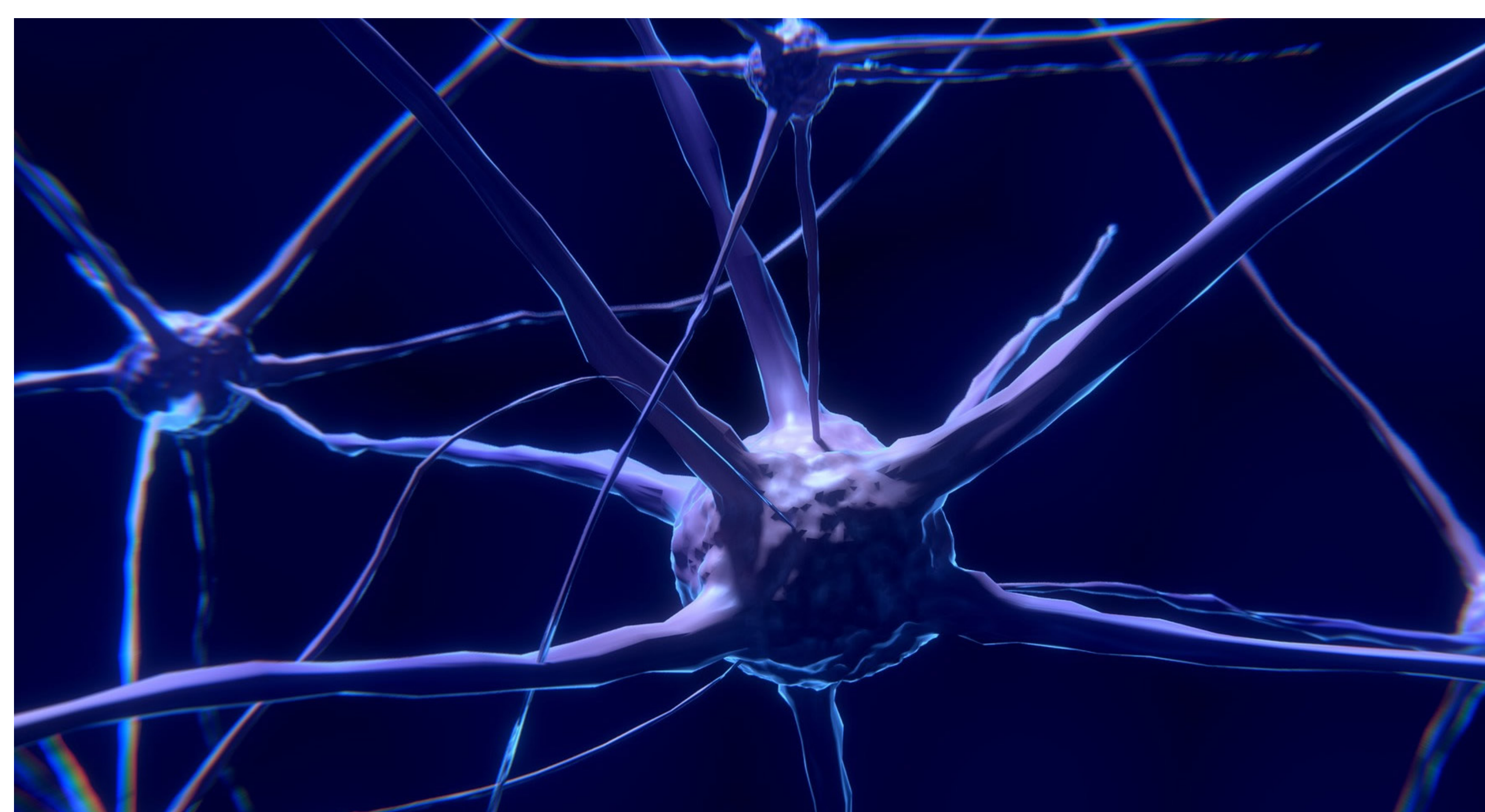
**Neuroscience is conceptually limited**

Some **intrinsic reasons**

1. Its conceptual component is not as elaborated as in other more developed scientific disciplines (e.g. physics).
2. Even if a material correspondence between cerebral levels (the object of neuroscientific investigation) and mental levels exists, the mental cannot be totally explained by third-person scientific accounts.
3. The nature of the brain itself, which is a complex and dynamic system.

Some **extrinsic reasons:**

1. Scientific theories and findings can serve highly problematic ends in the name of science and objectivity.
2. Scientific research is not just about objective empirical evidence and methodology, it is permeated by the values (including non-epistemic values) of its practitioners.



## 3. WHAT IS FUNDAMENTAL NEUROETHICS?

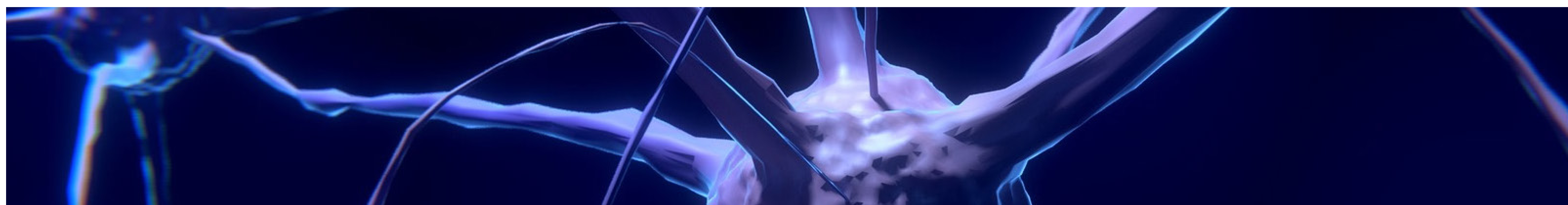
- It is a **type of conceptual neuroethics** that reflects on foundational elements (contents and methods) within neuroscience ("fundamental" = foundational)
- It is a **conceptual investigation** of neurosciences' linguistic and theoretical tools and of their possible impact on our understanding of diverse notions (identity, consciousness, and normative judgment).
- It is a **multidisciplinary and interdisciplinary field**.
- It addresses not only human praxis and the neural basis of ethical reasoning, but more broadly to an **examination of the human innate predisposition to evaluate the world in order to satisfy specific needs**.

## FINAL REMARKS

These three neuroethical approaches are **complementary dimensions** of one and the same field with many aspects in common.

**Conceptual work should always be part of empirical neuroethics and neurobioethics.**

If true, further development of fundamental neuroethics, in the collaboration with other fields besides neuroscience, will be very productive to help us achieve a more integrated picture of



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