



# The First Brain: The Neuroscience of Planarians

*Oné R. Pagán*

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Planarians, a class of flatworm, are extraordinary: they possess the remarkable ability to regenerate lost body parts, including complete regeneration of the nervous system. If cut into pieces, each piece of the planarian can regenerate into a complete organism. They are also unique among invertebrates in that they display addiction-like behaviors to many drugs abused by humans. Because of these distinct neurological traits, the planarian is often used as an animal model in neurological research, being used most recently for developments in neuropharmacology.

*The First Brain* is a discussion of how planarians have been used in neuropharmacology, and what role they have played in scientific developments that have a high impact on our culture. Planarians have been the animal models for research in drug addiction, antidepressant development, and various other topics in biology, neurobiology, and even zoology. Pagán uses these flatworms as a framework to explore the history of biological research. The book provides accessible background information on how biomedical research is impacted by evolution, and defines neurobiology and neuropharmacology in ways that are easy to understand. At the same time, Pagán provides enough detail for the book to be useful for scientists working in various subsections of biology.

The planarian has played a key role in the history of biological, neuropharmacological, and zoological research, and has even made appearances in a few unexpected places in popular culture. Oné Pagán explores all these roles, and shows us why the planarian truly is one of the most extraordinary and influential organisms in scientific research today.

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