



## Microcosms of the Brain: What Sensorimotor Systems Reveal about the Mind

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By Douglas Tweed

Oxford University Press. Paperback. Book Condition: New. Paperback. 208 pages. Dimensions: 9.2in. x 6.1in. x 0.5in. How can we understand a system as intricate as the human brain? Microcosms of the brain presents a bold new approach. It argues that the key to understanding brain function lies in the sensorimotor systems - those that gather sensory data such as light and sound, and use them to control action, steering the eyes, head, or limbs. The book shows how these subsystems can serve as microcosms of the brain - small enough to be analyzed but substantial enough to reveal general principles of brain function. By studying these simple systems and simulating them on computers, we can get some answers to the bigger questions about the brain. In ten chapters Douglas Tweed explores ten concepts that may help form a basis for the computerized neuroscience of the future: optimization, computation, complexity, learning, dynamics, interfaces, loops, degrees of freedom, information, and inference. He explains these concepts in simple, non-mathematical language, and shows how they can bring some order to our view of the human brain. Written to be accessible to lay readers as well as students and researchers in the cognitive sciences, this is...



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