

# THE HUMAN NERVOUS SYSTEM

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SECOND EDITION

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Edited by

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*Cover image:* Figure 17.12, Panel A: illustrates the mixing of neurons that stain with antiserum against ORX (brown) and with a digoxigenin-labeled probe for MCH mRNA (blue) in the perifornical region of a rat. Although the two types of neurons cluster closely with one another around the edge of the fornix, there is virtually no colocalization within individual neurons. Modified from Elias, C.F., Saper, C.B., Maratos-Flier, E., Tritos, N.A., Lee, C., Kelly, J., Tatro, J.B., Hoffman, G.E., Ollmann, M.M., Barsh, G.S., Sakurai, T., Yanagisawa, M., and Elmquist, J.K. (1998b). Chemically defined projections linking the mediobasal hypothalamus and the lateral hypothalamic area. *J. Comp. Neurol.* **402**, 442–459.

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To Alexi and Benigna

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## Preface

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Neuroscience comprises increasingly diverse fields ranging from molecular genetics to neurophilosophy. The common thread between all these fields is the structure of the human nervous system. Knowledge on the structure, connections and function of the brain of experimental animals is readily available. On the other hand the structure of the human brain was studied by the classical anatomists and their work is difficult to retrieve. With the current intense interest in the structure of the human brain engendered particularly by imaging studies, groups of scientists familiar with the classical works, but who are also versed in modern neuroscience technologies, have commenced human brain studies.

The present book gives an authoritative account of the structure of the human brain tempered by functional considerations. The task of describing all parts of the nervous system in the context of modern hypotheses of structural and functional organization would be overwhelming for a single individual. We have, therefore, asked scientists with knowledge and affection for their research areas to contribute to this edited volume. We trust that the combined effort of contributors to *The Human Nervous System 2e* will do justice to the data and concepts available in our field while stimulating the readers' brains, arousing curiosity and providing a framework for thinking.

*George Paxinos and Jürgen K Mai  
Sydney and Düsseldorf*