

## Preface

The book's third edition has returned to the large format of the first, and its photo of each atlas level with accompanying drawing of gray and white matter distribution. The new feature is a second drawing that illustrates major features of gray matter regionalization in a color-coded way that is carried through the flatmaps of the rat CNS (Frontispiece, Fig. 11, and poster) and the hierarchical nomenclature tables of section VIII.

The nomenclature tables are considerably revised from the second edition, based on a deeper appreciation of the problem's history (Swanson 2000b) and abundant experimental evidence (Swanson 2000c, 2003a,b). Table A is now a taxonomy of major nervous system parts that applies to mammals in general, whereas Tables B-D consider specifically and in detail cell group regionalization, fiber systems, and the peripheral nervous system of the rat. Nomenclature and the taxonomy of nervous system parts are fundamentally important problems in nascent development of neuroscience databases and knowledge management systems, and a great deal of work on basic principles remains to be done in this arena. For example, there is still no ontology of neuroanatomical terms—formal definitions of, and relationships between, names for structural features.

Computer graphics files of the atlas and flatmaps are provided on the CD-ROM. These *Interactive Brain Maps* can be used to learn more about the structure of the brain, to map experimental results on standard or reference templates, to form databases of spatial information about the rat brain, and to create 3-D models (Swanson 2001). The *Brain Maps, Computer Graphics Files 3.0 /COMPLETE* atlas (rendered in vector graphics) is very complete and features the color-coded regionalized atlas template, the gray and white matter atlas template, the Nissl-stained section used to derive the template drawings, stereotaxic and physical coordinate grids, an alignment box for databases and 3-D models, and a simple yellow mask for the templates (as in the second edition of the book). These brain maps can be adapted by the user in endless ways.

I would like to extend a special note of thanks to Dr. Johannes Menzel of Elsevier Science for his encouragement and help with the third edition. As usual, I dedicate this work to Neely and Reid.

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*Los Angeles*