Preface

The 15th century printing revolution in Europe introduced new standards of accuracy and speed in the dispersal of textual and graphical information when compared to earlier methods of copying manuscripts and drawings individually by hand. Twenty-first century electronic publishing will also have profound effects on scholarship, though for different reasons. For example, vocabulary standardization and indexing render database queries more accurate and efficient, computer graphics allow data to be presented and retrieved in fundamentally new and better ways, and the World Wide Web provides immediate access anywhere in the world to a wide variety of information.

The brain atlas presented here is a hybrid of the print and electronic media. It is, on the one hand, a second revised edition of the larger, more ambitious book, *Brain Maps: Structure of the Rat Brain* (Swanson 1992a); and, on the other hand, an improvement on the less sophisticated template files on floppy discs, *Brain Maps: Computer Graphics Files* (Swanson 1993). The need for a smaller book at the side of the microscope or monitor is obvious—so long as laptop computers are larger with less resolution. Further advantage has been taken of better hardware and software to design more useful computer graphics templates.

The core of this work is a series of 73 computer graphics maps or templates, which are drawings traced from photomicrographs of thin, approximately transverse histological sections down the longitudinal axis of the adult brain. The original files contained a series of unilateral drawings in Adobe Illustrator 3, which did not feature the use of layers (transparent overlays). The new files are more sophisticated, and were created in Adobe Illustrator 7, although they can be used with other professional drawing applications, as well as a basic drawing tool kit included on the CD-ROM.

Each complete electronic template has a bilateral drawing with two sets of coordinates (stereotaxic and physical), a list of abbreviations, and a fiducial rectangle for database registration—features on various layers that can be viewed in any desired combination. New layers are created for mapping neuroanatomical data, and data summaries from different experiments may be compared readily in a layer manager at any of the 73 levels. In addition, different features of the atlas level map itself (abbreviations, outline, fiber tracts, cell groups, mask) can be placed by the user into different layers, a useful feature when trimming and modifying the templates for publication.

Flatmap templates have also been added. Like wall maps of the earth, they are schematic and distorted, but do contain all of the major cell groups and fiber tracts of the central nervous system in a standard arrangement that will be improved over time. These flat, two-dimensional maps are especially useful for comparing gross expression patterns (like a series of footprints) and for bilateral circuit diagrams.

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