

European Radiology

Book review

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Nowinski W.L., Bryan R.N., Raghavan R.: *The electronic clinical brain atlas: multiplanar navigation of the human brain.* New York: Thieme, Stuttgart, 1997, CD-ROM (PC and MAC compatible), DM 600 (prepublication price DM 525), ISBN 3-13-107661-5

The electronic brain atlas is a digital version of three well-known and widely used stereotactic brain atlases: (1) The Co-planar Stereotaxic Atlas of the Human Brain (Talairach and Tournoux). These atlas contours can be overlaid on an MR image elastically deformed to conform to the atlas structures. However, the quality of the MR image is poor (only a few grey values) and the different colour components of the atlas overlays appeared shifted. (2) The Referentially Oriented Cerebral MRI Anatomy (Talairach and Tournoux). (3) The Atlas for Stereotaxy of the Human Brain (Schaltenbrand and Wahren). Both the contours and stained sections are included.

The atlas is stored on a single CD-ROM and can be accessed via an easy-to-use and clear interaction program that can be run directly from the CD. It poses only weak requirements on the hardware [Macintosh and PC (Windows 3.11 or Windows 95) are supported, although we had problems using the Windows 95 version on Windows NT]. The package contains a booklet describing the functionality of the user interface. Tri-planar navigation through a single atlas is possible (though not for the Schaltenbrand and Wahren atlas). In multiple-atlas mode, corresponding slices of the same orientation from other atlases can quickly be accessed. The struc-

tures in the atlas can be labelled. A list of structure names is also available. Selecting a structure brings you directly to the atlas slice containing it. The booklet contains some information on the digitisation process of the atlases but it does not say how they should be used, how the original atlases were constructed or precisely what information is contained in them. This information still needs to be read from the original atlas. The 3D atlas could not be run from the atlas user interface.

Planning a functional stereotactic intervention based on this digital atlas follows the same procedure as with the conventional atlases (atlas coordinates of the cursor are given directly). The authors did not exploit the possibilities of digital technology here. No overlay of atlas data on patient images is possible. Atlas slices can be scaled independently in the horizontal and vertical direction and printed, but this does not correspond to the original Talairach transformation and would be difficult to use for the determination of functional target coordinates.

As a teaching and self-assessment tool the atlas is especially useful for those who already know some neuroanatomy. Although a 3D atlas is available, it does not provide much extra help in building a mental 3D model of the brain's anatomy. As a research tool, the atlas does not allow much flexibility. Atlas contours cannot be extracted from the program.

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