The focus of the next five chapters is to illustrate brain structures derived from the embryologic mesencephalon, metencephalon (pons) and myelencephalon (medulla oblongata). From these structures, the brainstem and cerebellum are formed. The brainstem is a relatively small structure that contains many different structures packed into a small volume: cranial nerve nuclei, reticular and raphe nuclei, ascending and descending fibers, and transverse crossing fibers. In an attempt to label as many clinically important structures as possible, labels on axial images may look crowded. Sagittal and coronal anatomy was avoided for the same reason. Most structures are very hard to identify on these planes and we think knowledge of their positioning on the axial slices is sufficient to correlate lesions and the constellation of symptoms presented. The cerebellum is presented in three planes, using both common cerebellar nomenclatures.

As in Part I, the anatomical chapters show labeled clinical 3T (Chaps. 7 and 8) and high resolution 7T (Chap. 10) MRI images. Vascular anatomy is illustrated using digital subtraction angiography technique (Chap. 9). The functional significance of most of the clinically relevant structures has been detailed (Chap. 11), including major syndromes related to the brainstem and cerebellar pathology. However, the details of the cranial nerves are presented separately in Part III.