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common pathway for all motor systems-the motor neuron
Command and control of the viscera-the autonomic nervous system
Command and control of the neuroendocrine system; Chapter 6: Gathering information-the sensory systems; Receptors; Keeping sensory maps intact; Interpretation and understanding; Sensory areas in the cerebral cortex; Vision; Hearing; Vestibular system; Taste; Smell; Sensory processing outside the cortex; An example: rolling an ankle; Chapter 7: The human cerebral cortex; The cerebral cortex-anatomy and histology; Guiding principles of cortical structure and function; The functional layout of the human cerebral cortex
The cerebral cortex and behavior Chapter 8: Higher level functions-consciousness, learning, memory, and emotions; Consciousness; Memory; Sleep; Emotions and the amygdala; Chapter 9: When things go wrong-brain disease and injury; Infections of the brain and spinal cord; Multiple sclerosis; Parkinson's disease; Stroke (cerebrovascular accident); Alzheimer's disease and dementia; Epilepsy; Brain trauma and brain death; Mental illness; The tragic history of the treatment of severe mental illness; Chapter 10: The development of the brain and spinal cord; Genes and brain development
Early development of the brain and spinal cord Regional development of the nervous system-segmentation and organizing centers; Formation of synapses; Environmental influences on gene expression; Critical periods; Later processes that refine the structure of the brain; Chapter 11: Techniques for studying the brain; Cutting thin sections of the brain; Staining brain sections; Cell culture; Histology: using tracers to map connections; Molecular genetics; Non-invasive imaging techniques; Functional imaging; Electrophysiology; Appendix A: Voltages, potentials, and cell membranes; Appendix B; Appendix C
Supplementary reading

Sommario/riassunto

The authors of the most cited neuroscience publication, The Rat Brain in Stereotaxic Coordinates, have written this introductory textbook for neuroscience students. The text is clear and concise, and offers an excellent introduction to the essential concepts of neuroscience. Based on contemporary neuroscience research rather than old-style medical school neuroanatomy Thorough treatment of motor and sensory systems A detailed chapter on human cerebral cortex The neuroscience of consciousness, memory, emotion, brain injury, and mental
