Preface

Neuroscience is a rapidly expanding endeavor devoted to unraveling the structure and function of the nervous system. It relies on, and keeps close relations to, a number of other disciplines, such as mathematics, physics, chemistry, engineering, computer science, genetics, molecular biology, biochemistry, medicine and philosophy. Indeed, many of its recent successes result from the application of ideas, concepts and methods borrowed from these fields. Thus, neuroscience has become the archetype for interdisciplinary undertakings. This convergence of influences accounts for part of its enormous attractiveness and fascination to students, researchers and lay persons from various walks of life or science. Many of neuroscience’s most creative and productive investigators have been lured into the field not only by the excitement inherent in the possibility of uncovering the secrets of the human mind, but by the appeal of venturing into a vast unknown land, requiring the development of new tools for its effective cultivation. Far from simply satisfying our intellectual curiosity, however, neuroscience has become ever more important as a theoretical ground for practical applications in medicine, in particular neurology, and other disciplines.

The explosion of neuroscience has made it virtually impossible for individuals to follow all the ramifications and fast developments in the many corners and branches of this science. This *Encyclopedia* has therefore been designed for a wide variety of readers, from members of the lay public to students, practitioners and researchers in biology, medicine, psychology, sociology, philosophy and their associated auxiliary fields. Moreover, it should also prove useful to advanced researchers of biology and neuroscience who wish to stay abreast of current developments outside their immediate areas of expertise.

In the interest of rapid and convenient access to information, this *Encyclopedia* has adopted a new format. The entire complex of neuroscience has been divided into 38 subject fields organized and surveyed by associated Field Editors. Entries, which are in alphabetical order for rapid localization, are of three type: (1) simple and relatively brief definitions and explanations (glossary entries), (2) structured “essays” of a few pages to provide coherent treatments of particularly important topics, and (3) synopses written by the Field Editors as larger overviews of their fields with links to the essays in their field. Extensive cross-references to definitions and essays serve to lead the reader to additional sources of information.

This *Encyclopedia* is available as a print version (5 volumes, more than 4,500 pages, 6,500 entries and 1,000 illustrations), an eReference version (online version), and as a bundle (print plus online) version.

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