What is an encyclopedia? The term is derived from two Greek words: *enkuklios*, which means cyclical, and *paideia*, which means education. In the early sixteenth century, copyists of Latin manuscripts combined the two words into a Latin designation which comes to us in English with the same spelling and with the meaning ‘general course of instruction’ (The American Heritage Dictionary, 2000, Boston: Houghton Mifflin, p. 589). The original Greek provides a dynamic connotation, an effort to approach knowledge in a probing, integrated fashion. In Latin and then English, the term has generally been applied to reference volumes addressing broad areas of knowledge.

The Greek emphasis on creative approaches to information is particularly apt for the neurosciences. The term ‘neuroscience’ is of remarkably young vintage. Francis Schmitt, in his foreword to the first edition of this encyclopedia, related his process of concatenating scientists from disparate fields into an invisible college whose workshops attacked the brain’s most recalcitrant puzzles. He dubbed the organization the Neuroscience Research Program (NRP). The early NRP ‘associates’ included giants such as Melvin Calvin, whose Nobel Prize honored his work on photosynthesis; the Nobel laureate physical chemist Manfred Eigen; the biochemist Albert Lehninger; and Marshall Nirenberg, then a young molecular biologist in the throes of breaking the genetic code.

When Schmitt established the NRP, neuroscience as an integrated endeavor hardly existed. The invention of the microelectrode was permitting neurophysiologists to record from single cells, but characterizing them biochemically was impossible. A major step forward was the emergence in the mid-1960s of the Falck-Hillarp fluorescence microscopic techniques, which permitted selective visualization of catecholamine and serotonin neurons. Mapping the aminergic pathways soon led to collaborative efforts of behaviorists, who could examine the consequences of selective lesions, and biochemists, who no longer were relegated to monitoring neurotransmitters in homogenates of the whole brain. Advances in the 1970s in receptor biochemistry, their localization by autoradiography, and neuropeptide immunohistochemistry further enhanced discourse among neurophysiologists, neuroanatomists, neurochemists, and neuropharmacologists. In the past two decades, the tools of molecular biology have furthered the dialogue.

The explosion of the neurosciences can also be documented through the chronicles of the Society for Neuroscience (SFN). The SFN was founded in 1970 with Vernon Mountcastle as the first elected president, and its inaugural annual meeting in Washington, DC hosted a few hundred researchers. When I served as president in 1980, SFN numbered 7000 members. One of my key tasks was to combat attacks on the *raison d’être* of the society. Some argued, “We have too many scientists in this organization. Let’s split into two societies, the ‘Wets’ and the ‘Drys.’” Instead, to emphasize the integrated nature of the field, we launched the *Journal of Neuroscience*. Also, we argued that growth might plateau and that careful meeting organization would prevent individuals from getting ‘lost in a crowd.’ My prediction about a plateau was off the mark. As of this writing, May 2007, SFN numbers about 38 000 active members, with up to 35 000 people attending each annual meeting, dwarfing any other biomedical research society.

Most would agree that neuroscience is the most integrated scientific discipline. As such, the concept of an encyclopedia, in the original Greek sense of a circle of learning, is notably appropriate yet immensely challenging. The current edition, like earlier ones, succeeds by careful attention to organization and, most importantly, to the selection of the finest researchers as Associate Editors for individual topics. The Associate Editors are all seasoned veterans yet active researchers...
whose vision remains at the forefront of their field. All areas of importance are covered, from ‘soup to nuts.’ Emphasis is elegantly balanced between molecular and systems neuroscience.

In this era of rapid advances, one can question whether an encyclopedia, comprising a snapshot in time, serves a meaningful function. Might not all the information in such an enterprise be obsolete soon after publication? An effective encyclopedia, exemplified in these volumes, integrates disparate areas in a lucid, reader-friendly format. Such a publication can be provocative and invigorating to the most sophisticated professionals. At the same time, the entries are presented in such an inviting fashion that the encyclopedia serves for novices as the ideal entrée into the world of the nervous system.

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