

Kluwe, R.H., Lüer, G., Rösler, F. (ed.): **Principles of Learning and Memory**. – Birkhäuser-Verlag, Basel – Boston – Berlin 2003. ISBN 3-7643-6699-0. 358 pp., € 56.00, CHF 88.00.

Science is based on learning and learning is based on memory. Therefore knowing the principals of learning and memory is of general importance for teachers, students, and scientists. Twenty-six scientists from Germany (15) and the U.S. (11) prepared this textbook for researchers and advanced students in biology, psychology, and medicine. Fifteen chapters are grouped into five sections, dealing with formation, organisation, consolidation, control, and adaptive specialisation of memories.

Interesting questions such as the old Law of Contiguity, unconditioned and conditioned stimuli, contiguity of memory traces, significance for contiguity for learning, brain plasticity and diversity of brain structures concerned with learning, spatial and object working memory, memory systems and types (working, activated, long-term, episodic *versus* semantic, verbal *versus* spatial, procedural, global, declarative, *etc.*), memory, and emotion, colour and motor associations, mathematical models of memory, memory consolidation, pharmacological modulation of memory, pro-cholinergic and anti-cholinergic drugs, nicotine, mecamylamine), types and syndromes of amnesia, principles of inhibition of unwanted

stimuli, animal species independent learning phenomena and their evolutionary importance, adaptive specialisation, relation to animal behaviour, neurological mechanisms of memory, problem-specific computational mechanisms, learning a language, and many others are explained. The text is based on research in different fields and at different levels of analysis (cellular, neural network, behaviour).

The text is understandable even to non-specialists in the field. The chapters are supplemented with a collective list of references (ca. 1 100 items), name and subject indexes, and a list of contributors (with postal and e-mail addresses). That I did not find in the name index the name of Czech scientist J.E. Purkyně (usually misspelt Purkinje as in Fig. 2 on p. 19), the discoverer of one type of brain cells, demonstrates how people are forgotten during the flow of time and development of science. The text is accompanied by appropriate number of explanatory figures (some of them showing results of experiments) and a few tables.

The book will certainly be welcome by everybody interested in learning and memory.

Z. ŠESTÁK (*Praha*)

Hindák, F.: **Mikroskopické sinice a riasy**. [Microscopic Cyanobacteria and Algae.] – Veda, Bratislava 2001. 24 postcards in cover with brief explanation in Slovak.

Teachers at high schools and universities often do not have at hand a good material for showing students the main types of microscopic inhabitants of freshwater reservoirs, peat bogs, soils, and rocks. Also people that are only interested in nature not always know how algae and cyanobacteria (formerly called blue-green algae) look like. This collection of 24 colour postcards is very useful for such popularisation of science. The cover contains brief information in Slovak what algae and cyanobacteria are, and lists the species presented on individual post cards, with a brief information on their taxonomical position, how they look, and where they live. Author of the text and of the photographs is František Hindák, a well-known Slovak algologist. The collection was edited by the Slovak Botanical Society.

The species presented on cards are as follows: Cyanobacteria *Chroococcus giganteus*, *Woronichinia naegeliana*, *Oscillatoria princeps*, *Aphanizomenon flos-aquae*, *Richelia siamensis*, *Cylindrospermum maius*,

Tolyphothrix tenuis, *Petalonema alatum*, and *Stigonema mirabile*. Red alga *Batrachospermum* sp. Diatoms *Tabellaria flocculosa* and *Fragilaria crotonensis*. Green algae *Volvox aureus*, *Hydrodictyon reticulatum*, *Botryococcus braunii*, and *Scenedesmus acuminatus*. Conjugatophyceae *Closterium venus*, *Cosmarium holmense* var. *integrum*, *Netrium oblongum*, *Micrasterias crux-melitensis*, *Hyalotheca dissiliens*, and *Mougeotia* sp. And, finally, the flagellates *Euglena oblonga*, *Phacus curvicauda*, and *Ph. longicauda*. Three of them (*Tabellaria*, *Woronichinia*, and *Mougeotia*) are presented also as a decoration of the cover. The selection shows algae and cyanobacteria that live as single cells, form filaments or colonies, whose cells have an interesting colour, are symmetrical, show clearly formed chloroplasts, or look like art objects.

I think that publication of this collection of postcards with texts in English might bring them popularity everywhere in the world. They are so nice that I shall never use them as post cards.

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