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## Memory from A to Z

Yadin Dudai

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**WHEN**, back in the 1970s, Yadin Dudai began researching the mechanisms of memory formation - not so long after I did myself - it was a deeply unpromising subject for a molecular biologist to be working on, deemed far too difficult. Today it is one of the hottest topics in neuroscience - and he has been at the forefront of the field throughout.

With geneticist Seymour Benzer, Dudai explored mutations in the fruit fly *Drosophila* that impaired its ability to learn and remember; more recently he has studied the cellular and biochemical mechanisms underlying the peculiar phenomenon of taste aversion in rats, in which the animals learn to avoid novel foods that make them sick.

But Dudai is not only an ingenious experimenter: he is also that rare bird, an intellectual who is fascinated not just by the methodology of research but by its philosophical underpinnings. A robust defender of reductionism as the best experimental method for approaching the complexities of the brain, he nonetheless shows proper respect for the "higher level" work of psychologists and brain imagers.

In 1989 Dudai wrote what immediately became the classic textbook in the field. Now, resisting all cajoling to merely update it, he has attempted something far more ambitious: an encyclopaedia of concepts and models in memory research, *Memory from A to Z: Keywords, concepts and beyond*.

The 140 topics ranging from acetylcholine (a neurotransmitter), confabulation and enigma, persistence and priming to *zeitgeist* ("the spirit of the times") get about a page and a half of the Dudai treatment. Each entry is informative, accessibly and often wittily presented. Like that earlier dictionary creator Dr Johnson, he occasionally enlivens the text entries by inventing terms of his own: "scoopophobia" is defined as the fear that researchers in this highly competitive field have of being pre-empted, which leads him into a brief essay on the sociology and ethics of scientific research.

And the result? A work of highly enjoyable scholarship. Students, used to more conventional textbooks and formal scientific dictionaries, may well be puzzled by it, more so than they would have been by Dudai's earlier book, *The Neurobiology of Memory* (Oxford University Press, 1993). But they will discover a lot. That is, they will learn not merely from the entries themselves, but about what distinguishes really creative researchers, capable of both the tight focus that day to day research requires and of lifting their heads to survey the wider ranges of their chosen field.

Steven Rose is director of the brain and behaviour research group at the Open University, Milton Keynes. A new edition of his prizewinning book *The Making of Memory* will be published later this year

**Steven Rose**