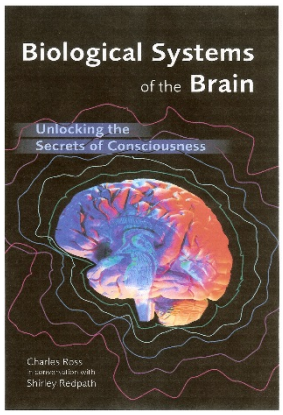
UNLOCKING
CONSCIOUSNESS

BRIAN MIND FORUM

Appendix 052



Biological Systems of the Brain
Unlocking the Secrets of Consciousness

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REVIEWS, COMMENTS & ENDORSEMENTS

The problem of consciousness has been facing - and defeating - scientists for generations now. What happens in our brains when we wake up? It seems such a simple question, but no one has ever come up with a plausible and coherent answer. In a paradigm where everyone is stuck, a fresh set of ideas is always a step forward, wherever they come from and wherever they lead. The ideas presented here are the result of decades of enthusiastic thought and discussion, and will surely provoke further thought and discussion wherever they are heard. Who knows whether they will lead us to the secret of consciousness? What is certain is that they provide another fascinating path to explore.
Michael Brooks, *New Scientist* consultant and author of *13 Things That Don't Make Sense* www.michaelbrooks.org

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These ideas are interesting and provocative.
Dr. R. Douglas Fields. Chief, Nervous System Development & Plasticity Section, National Institutes of Health, NICHD, Bethesda, Maryland, USA.

Member, Editorial Board, *Scientific American*.

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I think this is an interesting contribution with the potential to spark a debate on these exciting topics. I think the important role of glial cells had been largely overlooked by neuroscience society and is likely to require our rethinking of the way in which our brains perform computations and store memories. **Dr Vladislav Volman PhD. Center for Theoretical Biological Physics, University of California at San Diego, Computational Neurobiology Lab, The Salk Institute for Biological Studies, California, USA.**

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"*Biological Systems of the Brain*" is a fertile piece of work which contains many thought-provoking ideas. The idea of describing the brain from a systems analysis perspective is brilliant – it makes clear many things that are obscure when described in traditional biological terms. In the part of the book on the formation of memory, I do not necessarily go along with all the conclusions, but I can see that the theory would fill gaps. The role of glial cells in modulating neuronal activity is an exciting new field of discovery and may well throw up something akin to the book's suggestion of glial bridges. Epigenetics is a [further] area where very little is known. The authors' speculations show a degree of insight, which is often lacking in text books on the subject. They are very interesting; as, indeed, are the thoughts on … the possibility of pro-active evolution. Looking at the brain as a system is a wonderfully revealing device which makes clear many aspects of brain function that otherwise may seem quite mysterious. "*Biological Systems of the Brain*" is well structured, and deeply informative….**Rita Carter is a science writer, lecturer and broadcaster who specialises in the human brain. Author of '*Mapping the Mind', 'Exploring Consciousness', 'Mapping the Memory'* and *Multiplicity'*. www.ritacarter.co.uk.**

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Congratulations for a really stimulating, thought provoking and lateral book. It's the sort of book I'll have to go back to time and again as it brings together a lot of ideas from disparate disciplines and thinking.
Among many questions and hypotheses you've thrown up, I find the idea of a research project to compare DNA makeup in individuals over time is particularly fascinating.
John Riley, Managing Editor *Computer Weekly* 1966 – 2006

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For something so familiar, the brain has always proved surprisingly difficult to study. To dream, to laugh, to learn a language, to count, is relatively simple; but to think about our own thoughts is the most forbidding puzzle of all. *Biological Systems of the Brain* is the first product of a startling partnership between Charles Ross, a computer scientist, and Shirley Redpath, a journalist and consultant. Presented as a series of conversations on memory, language, and consciousness, the book provides a perfect introduction to neuroscience.
But it is more than just a starter: the authors neatly digest recent developments and provide endless genuine, stimulating, and novel insight. By using generous analogy and drawing from experience in computer systems in particular, Ross and Redpath successfully help us understand the processes inside our own heads. The non-

technical style, refreshingly grounded whilst similar books are choked by detail, makes this complex field accessible to anyone.
Most memorably, the authors explain many of those everyday mental quirks – the noises that wake us, the things we remember and those we forget – which most do not notice in a lifetime. Finally, the book's many threads are gathered into one as the authors propose a future path for research in neurology, undoubtedly one of science's most exciting frontiers.
For now, our brains come without instruction manuals; until then, *Biological Systems of the Brain* is a good guide to the workings of 'the most complex machine known to man'.
Max Jamilly *The Cholmeleian:*

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I found the section on memory, intelligence, thinking and creativity very interesting. As you state clearly, while these subjects have provoked reverie for millennia, there has been no cogent presentation of how they form and work. I particularly like the concept that DNA changes over a lifetime, which accounts for cognitive growth within families (and communities) over generations. **Terry Peteete, *Kansas City USA.***

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I am most impressed with *Biological Systems of the Brain*. It is written at just the right academic level for the layman. **Malcolm McMinn. *Stoke on Trent UK.***

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Fascinating. I assume that Synaptic Tension is degraded more readily and frequently with age!! Why? Electricity doesn't wear out. Perhaps our ability to produce sufficient chemical nutrients for the refreshment and nourishment of the neurons or neurotransmitters is diminished with age? **Alan Roebuck, *Worcestershire UK.***

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I have just read your book - some of it twice and, even, some three times. I don't think I've done this to a book before. I think it is a cleverly devised book and written so that we, the uninitiated, can understand it, if we concentrate sufficiently - it was well worth the effort! I found "conversations" 2 and 3 the crux of it all, with the new thinking about the continuous creation of temporary and permanent links - very interesting. Anyway I think it is a great book, and I intend to get another copy, if I can, for distribution to the family. **John Leigh, *Torquay UK.***

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I have to say that "Biological Systems of the Brain", is the best book I have read on the interactions of the physical, intellectual and spiritual aspects of the brain. **Mike Evans,**
Managing Partner, Knowledge Management, Yorkshire UK.

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I enjoyed your book enormously, especially the sections where you argue for non-digital storage and transmission of information in biological systems, and the way you argue for analogue mechanisms. My own background is in medicine, after a degree in physiology, with most of my career spent in learning, teaching and doing General Practice. Like you, I marvel at the primacy of *language* in communicating symptoms

as feelings of distress, and of the value of *metaphor* in matching and mirroring concepts. I am fascinated by poetry
as an especially valuable and economic medium for this.
Dr Raymond Hume. *Chairman, Society of Medical Writers.*