

other side has anything beneficial to offer. He dismisses PTSD as a diagnosis contrived by anti-war psychiatrists and then taken over by the therapists who had been involved in diagnosing and treating dissociative identity disorder. Unfortunately, I have seen too many patients with PTSD whose causal events are all too real, and whose subsequent suffering is too chronic, for me to believe that memories of these causal events were manufactured by therapists.

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**THE OVERFLOWING BRAIN:
INFORMATION OVERLOAD AND THE
LIMITS OF WORKING MEMORY**

By Torkel Klingberg. Translated by Neil Betteridge. 202 pp.,
illustrated. New York, Oxford University Press, 2009. \$21.95.
ISBN 978-0-19-537288-5.

ASTORKEL KLINGBERG POINTS OUT IN THIS book, the current milieu — in which there is an endless flow of cell phone messages and e-mails — is quite different from the environment in which the brains of homo sapiens evolved. Instead of bemoaning this mismatch, he examines how we attempt to deal with the flood of information and suggests that there may even be positive effects.

The book begins with a statement of the problem: Our brains largely stopped evolving in the Stone Age, and yet the demands on them have greatly increased since then. The second section of the book is a review of research from the fields of psychology and cognitive neuroscience, with an emphasis on the taxonomy of attention and the capacity limits of working memory. The final chapters are discussions of a selection of “hot topics” — attention deficit-hyperactivity disorder, medical interventions (drugs and genetics) for the enhancement of cognition, meditation, the effects of computer games, and programs of cognitive training.

Klingberg writes in an engaging, conversational style, frequently using the first-person perspective. He generally does a straightforward job of explaining the background science without be-

ing overly simplistic. “Linda,” a fictional office worker, is used to illustrate situations that many readers will relate to. She deals with the competing simultaneous demands of a cell phone, a BlackBerry, e-mail, and visiting colleagues while trying to meet a deadline. Her situation is then analyzed in cognitive terms — for example, how these different sources compete for her stimulus-driven attention, and how she must use controlled attention to stay focused on her goal. The figures in the book are clear and informative, with a few cartoons interspersed for comic relief. Although the author is the founder of a commercial program for cognitive training, he does not give it a hard sell here. Instead he focuses on the process of scientific discovery. The description of his initial pilot studies, his larger validation experiments, and his extension to neuroimaging studies makes for an interesting narrative that will help the lay reader to understand how an idea progresses from an initial hypothesis to a full-fledged research program.

The strongest part of the book is the overview of research on attention and working memory. The explanations are interesting and accessible, with easy-to-follow connections among everyday experiences, controlled psychological experiments, and related neuroscience studies. The chapters on attention deficit-hyperactivity disorder and computer and video games are less unified. In these chapters, Klingberg jumps from point to point in an attempt to squeeze all the information into a limited amount of space, and he relies too much on gimmickry. The section on computer and video games includes a lengthy anecdote that lacks obvious relevance to the topic at hand. However, even these chapters benefit from the extensive section of notes and references at the end of the book, which includes citations of the original research. This final section is the hidden treasure of the book, especially for those who are looking for teaching ideas or who want to pursue a given topic in greater detail.

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Library of Congress Cataloging-in-Publication Data Klingberg, Torkel, 1967[Å-versvÅmmade hjÅrnan] The overflowing brain: information overload and the limits of working memory / Torkel Klingberg. p. ; cm. Includes bibliographical references and index. ISBN: 978-0-19-537288-5 1. Human information processingâPhysiological aspects. 2. Short-term memoryâPhysiological aspects.Â Our brains have limited capacity for processing information. This book is an attempt to understand why this is so, what effect it has on our everyday lives, and how we can stretch these limits with mental exercise. As advances in information technology and communication supply us with information at an ever accelerating rate, the limitations of our brains become all the more obvious. In *The Overflowing Brain*, cognitive scientist Torkel Klingberg takes us on a journey into the limits and possibilities of the brain. He suggests that we should acknowledge and embrace our desire for information and mental challenges, but try to find a balance between demand and capacity. Klingberg explores the cognitive demands, or "complexity," of everyday life and how the brain tries to meet them.Â The book ends with a discussion of the future of brain development and how we can best handle information overload in our everyday lives. Klingberg suggests how we might find a balance between demand and capacity and move from feeling overwhelmed to deeply engaged. Show more. *The Overflowing Brain. Information Overload and the Limits of Working Memory.* "How to measure, train and enhance working memory is the subject of *The Overflowing Brain*, an absorbing first book by neuroscientist and physician, Torkel Klingberg, who is well known for his studies of young people with attention deficit hyperactivity disorder...Klingberg's brief book packs a considerable punch."--*The Lancet.*Â This is a digest of information about the capacity and limits of the human brain. Our brains were designed for an environment where demands of information retrieval and manipulation were much more limited than today. We are using these "stone age brains" to deal with an incredible flood of information.