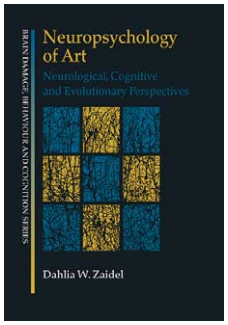
Book

Arts and minds



Neuropsychology of Art: Neurological, Cognitive, and Evolutionary Perspectives
By Dahlia W Zaidel
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In a stimulating and thoughtful synthesis of ideas and scientific evidence, Dahlia Zaidel's book *Neuropsychology of Art* is a refreshing addition to the neuropsychological stage.

In a modest 216 pages of text, Zaidel provides reader-friendly, yet sophisticated descriptions of the psychological and neurological processes necessary for artistic skill, based on findings from over 500 scientific papers. This synthesis involves a courageous attempt to analyse, within a neurological framework, a wide range of case studies on artistic people, many of whom have displayed remarkable talents in the face of serious neurological challenges. Both the people themselves, and the quality and essence of their art works, are scrutinised. Zaidel also takes some liberty with her own artistic license, speculating in clever ways about the phenomenology of the artist and proposing the kernels of an evolutionary theory that might capture human being's profound abilities to both appreciate and produce aesthetically pleasing art forms; but she is careful not to lead the reader too astray from the scientific framework she begins with. In the end, the reader might be left with more questions than answers, which, in my view, is a compliment to a very skilled scientist and author who plants the seeds for a whole host of scientific studies that eventually might unveil some of the mysteries of a uniquely human experience—our intimate relation with aesthetics and our extraordinary ability to persevere in creative skills.

Woven through the book is the theme of whether parallels exist between the grammar of language and its cognitive architecture, and the grammar of art. The argument is made in the first two chapters that, unlike in language, the primitives that underlie certain types of visual art do not have ready interpretations in presently available scientific models, making the endeavour to systematically study art even more of a challenge. In some ways, this issue reminds me of a long-standing debate in the motor and speech domains, concerning what constitutes an analysable "unit". Another theme concerns the apparent elusiveness in our understanding of the aesthetic factor, despite the ubiquitous impingement of this factor on our myriad perceptual and cognitive activities. Chapter 12 offers some possible avenues of inquiry that might be considered when contemplating how a scientific approach might proceed. Perhaps Zaidel could have emphasised to the reader-scientist-student the importance of a lesson that commonly is not spoken of loudly enough in neuropsychology—the specific question of interest must be imminently clear as should be the soundness of the methods used to test it.

Perhaps most novel in her approach, Zaidel's search for the cause of aesthetic creation and appreciation involves a careful dissection of case studies of artists and their artistic works on the basis of neurological accounts of brain damage, effects of disease, and the consequences of unhealthy habits. Several fascinating examples are elaborated in detail with respect to visual (chapters 3, 4, 7, and 8) and musical (chapters 5 and 6) domains. Experiments on normal and abnormal perception, cognition, and memory are also discussed to shed further light on basic processes that underlie artistic ability, including classic findings based on global-local distinctions, hemispheric contributions, hemineglect, and attention, to name but a few (chapter 8). Insightful initial studies by Zaidel and her colleagues (chapter 9) provide fertile ideas for additional study on the link between the brain and art. Building on the multidisciplinary framework that the author strongly recommends, later chapters present views on the biological underpinnings of artistic expression (chapters 10 and 11) and raise possible problems in interpretation of anthropological evidence within the context of biology and evolution. Towards the end of the book, the issue of whether artistic ability and appreciation are uniquely human is once again raised. Parallels between human abilities and those of other animals are cited, perhaps challenging this basic idea (chapter 11). The powerful influence animals have had on human developments such as mimicry, deception, and communication through music add fuel to this stimulating debate. Zaidel then presents her own resolution, suggesting that the emergence of uniquely human forms of complex symbolic language involving syntax might also underlie art production and appreciation, therefore setting humans beings apart from the rest.

At a time when we are witnessing a revolution in our understanding of the associations between brain and behaviour due to the advent of sophisticated technologies and methods for study, the opportunity is ripe for systematic scientific research on topics that have previously been regarded as elusive. As someone who has been fortunate enough to have been a student during the rapid proliferation of technologies (eg, functional MRI, electroencephalography, magnetoencephalography, transcranial magnetic stimulation) and has enjoyed its explosion of applications in the brain sciences, I found Zaidel's book both timely and stimulating. I recommend this book, particularly for its digestible lessons and interesting examples, to anyone who is filled with innovative ideas and curiosity.

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