Moves in Mind: The Psychology of Board Games

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Moves in Mind: The Psychology of Board Games (MIM) is an impressive work that should be a part of the library of anyone interested in the academic study of games. Although it does not provide any discussion of the presently fashionable and highly popular video games such as Call of Duty: Modern Warfare 3 and World of Warcraft, it provides an exposition of the psychological research associated with board games, many of which are played by millions of individuals worldwide. MIM provides that exposition in a manner that deserves emulation by anyone attempting to write a book of the psychology of any other class of games such as video games.

There are numerous strengths to this book. First of all, the authors know what they are discussing. Fernand Gobet is an excellent chess player and a premier scholar of chess cognition. Alex de Voogt is an experienced psychologist and a scholar of the African game of bao. Bao is a mancala game played with seed-like pieces placed in holes in a game board and is popular in locations such as Zanzibar. The third author, Jean Retschitzki, is a veteran psychologist and a researcher of awele, another African board game. Awele is also a mancala game in which a player tries to obtain the pieces of the opponent according to a set of prescribed game rules. The three authors know the terrain of board games well.

In addition to the competency and expertise of the authors, MIM has an excellent design and a comprehensive scope. The chapters deal with many of the topics that would be of concern to scholars of games. Chapter 1 provides a justification of the study of board games in the scientific discipline of psychology. For example, chess allows for the study of a wide array of
cognitive skills and processes in a precisely defined and limited domain. Chapter 2 places board games into the context of mathematics and computer science with a presentation of how board games are formally analyzed and consideration of the complexity of games such as awele, bao, and chess. Although chess is very complex, more complex than many other board games such as Othello, awele, and bao, it is far less complex than the classic East Asian game of Go.

Chapter 3 introduces the reader to the psychological theories of board games. The two primary theorists considered in this chapter are Adrian de Groot who basically inaugurated the field of cognitive science with his seminal work *Thought and Choice in Chess*, and Herbert Simon, the 1978 Recipient of the Nobel Prize in Economics, who continued the pioneering research on chess cognition of de Groot. de Groot's research awakened the psychological community to the importance of knowledge and its organization in the development of expertise.

Chapters 4 and 5 address the issues of perception and memory respectively. As one acquires more knowledge of a game and better organizes the knowledge, one's perception of the game changes, as does how one represents game positions in memory. Chapter 6 continues this investigation of psychological processes as it addresses the issues of problem solving and decision making in board games. Again game knowledge base and its organization play important roles in accounting for superior problem solving and decision making among experts of board games.

Chapter 7 introduces the reader to considering issues of how games are learned and what effect becoming older has on game performance. The authors recognize that there is a paucity of research on the early stages of learning many board games such as chess. Although experts in board games tend to reach their respective peaks in the 30-40 years of age interval, there are many cases of older individuals performing very well in their respective board games. For example, Victor Korchnoi is 81 and continues to play high-level tournament chess!

Chapter 8 addresses the question of whether board games have educational consequences. In their careful review of the empirical research, the authors reported that board games have few if any well-established educational effects. Chapter 9 provides an exposition of board games from the viewpoints of individual differences, personality, and neuropsychology. One finding is that intelligence plays a significant role in attaining lower levels of chess competency but that training plays a more significant role in attaining higher levels of chess competency. Another finding is that there is a shift to the greater utilization of the frontal lobe of the brain, the seat of planning and higher cognitive functioning, as one acquires higher game competency.

Chapter 10 provides a careful examination of the methodology used in psychological game research. Unfortunately the authors find many of the studies to be methodologically weak. However, they recognize the creation of new methodology in game research such as the use of protocol analysis by de Groot in which he asked chess players at different levels of chess competency to report what they are thinking when looking at a chess position. In Chapter 11, the Conclusions chapter of the book, the authors provide some recommendations for the future. One is that more research, especially carefully designed research that combines psychological theory and educational training, should be done to explore the real-world applications of learning and playing games. Another recommendation is that more empirical research should be done on the psychology of board games other than chess in order to discern more general findings in the psychology of board games.

In addition to the expertise of the authors and the range of topics covered in the book, a third strength is the critical analysis of the extensive empirical research reported in the book. The authors performed the Herculean task of studying and carefully evaluating a vast amount of empirical research and then reporting their evaluations in a clear, coherent, well-organized manner. This third strength is the main strength
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