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0521406129 - *Toward a General Theory of Expertise: Prospects and Limits* - Edited by K. Anders

Ericsson and Jacqui Smith

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During the last twenty years our understanding of expertise has dramatically increased. Laboratory analyses of chess masters, experts in physics and medicine, musicians, athletes, writers, and performance artists have included careful examination of the cognitive process mediating outstanding performance in very diverse areas of expertise. These analyses have shown that expert performance is primarily a reflection of acquired skill resulting from the accumulation of domain-specific knowledge and methods during many years of training and practice. The importance of domain-specific knowledge has led researchers on expertise to focus on characteristics of expertise in specific domains.

In *Toward a General Theory of Expertise* many of the world's foremost scientists review the state-of-the-art knowledge about expertise in different domains, with the goal of identifying characteristics of expert performance that are generalizable across many different areas of expertise. These essays provide a comprehensive summary of general methods for studying expertise and of current knowledge about expertise in chess, physics, medicine, sports and performance arts, music, writing, and decision making. Most important, the essays reveal the existence of many general characteristics of expertise.

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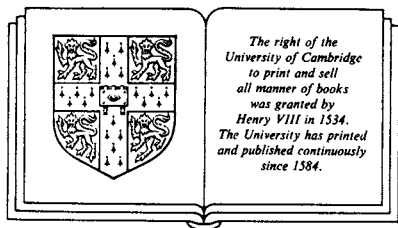
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***Toward a general theory
of expertise
Prospects and limits***

Edited by

K. ANDERS ERICSSON AND JACQUI SMITH

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Berlin, Germany*



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Preface

One of the most exciting challenges in cognitive science today is to understand the mechanisms mediating the superior performance of experts in various domains, such as chess, physics, medicine, sports, dance, and music. Recent advances in describing the structure of expert performance in specific domains naturally raise the issue of whether expert performance in general across domains can be accounted for by a common set of theoretical principles. But major obstacles to uncovering general characteristics of expert performance across different domains are the complexity and the domain-specific nature of expertise. Moreover, extracting general principles of expert performance requires in-depth knowledge of expertise in two or more domains, whereas leading investigators of expertise generally have firsthand knowledge about only one domain.

In response to this challenge, Jacqui Smith and I arranged a conference in West Berlin in June 1989 at the Max Planck Institute for Human Development and Education, with the goal of extracting general theoretical principles of expertise. With financial support from the Max Planck Society, we invited the best representatives of each of the major domains of expertise in which expert performance had been extensively studied empirically. The participants were asked to summarize the state-of-the-art research on expert performance in their respective domains, as well as to suggest theoretical principles that might generalize across domains. The conference presentations were followed by a lively discussion and exchange of ideas and suggestions concerning the presentations. Later, in response to the suggestions, the presentations were converted into chapters, which were circulated among the participants for further comments. The end result of this process is the current book before you.

I thank Paul Baltes, Director at the Max Planck Institute for Human Development and Education, and Julia Hough, our editor at Cambridge University Press, for all their help in completing this project.

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Boulder, Colorado
March 11, 1991

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