

## Book Reviews

Schmidt, Stephen R. (2012). *Extraordinary Memories for Exceptional Events: Essays in Cognitive Psychology*. Psychology Press

# Extraordinary Memories for Exceptional Events: Essays in Cognitive Psychology

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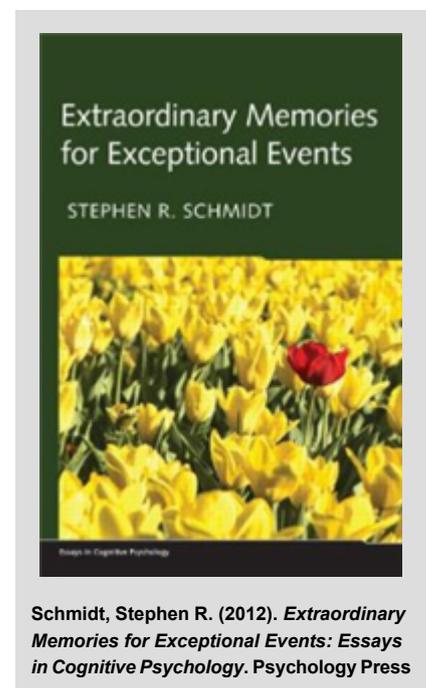
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The Apollo 11 moon landings. The Challenger space shuttle disaster. The 9/11 World Trade Centre attacks. Depending on your age, there's a good chance you have a particularly vivid and highly detailed memory of at least one of these events. At the same time, your memory for the days immediately preceding, and following, these events is probably poor. Why is it that we are able to remember momentous events better than mundane events? And just how accurate are these exceptional memories that we create? These are the central questions addressed in 'Extraordinary Memories for Exceptional Events', by Stephen R. Schmidt, a timely consideration of the vast body of theoretical and empirical evidence that underpins our understanding of memory for exceptional events.

The purpose of Schmidt's book is to draw together key theories and empirical evidence in order to present a comprehensive overview of memory for extraordinary events. In doing so, it necessarily makes some consideration of the nature of memory itself and, from the outset, Schmidt takes the position that memory is a complex, multi-faceted process that is influenced by a range of factors. As such, a great strength of this book is that it adopts a broad view of memory and does not confine itself exclusively to cognitive considerations. Although Schmidt clearly positions memory processes within the cognitive domain, the interface between memory and non-cognitive processes - such as emotion - is extensively developed in Chapter 4. Furthermore, the wider importance of autobiographical memory for exceptional events to the individual,



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to society and to culture at large, is also considered in Chapter 2. Such a broad view enables the reader to place the empirical evidence presented by Schmidt into both theoretical and real-life perspective.

A common theme throughout the book is that of *distinctiveness*. Chapter 1 poses the question of whether we remember exceptional events more easily simply because they are so distinct from our everyday experiences. In seeking to address this question, Schmidt draws the distinction between *primary* and *secondary* distinctiveness – a dichotomy generally in line with William James' concept of primary (short-term) and secondary (long-term) memory. An event has primary distinctiveness if it stands out of a set – so, for example, if we see a row of ten shapes and nine of the shapes are squares, a circle stands out as being distinctive. By contrast, an event has secondary distinctiveness if there is no similar existing representation in long-term memory – so, your first time visiting a new country would hold secondary distinctiveness for you. Whilst an account of exceptional memory based purely on distinctiveness is intuitively appealing – after all, aren't things that stand out easiest to remember? – this chapter effectively highlights the problems involved in assuming extraordinary memories are simply a function of the distinctiveness of an event. Many exceptional events, while undoubtedly distinctive, may have other qualities that might make them particularly memorable. For example, many highly distinctive events also arouse extreme emotion in witnesses. In general, Chapter 1 serves as a concise and useful introduction to the role of distinctiveness in memory for exceptional events.

Even in the age of cognitive neuroscience, psychologists are essentially engaged in studying the processes of an eternally unseeable entity – the human mind. As a consequence of this, those involved in studying the processes of the mind such as memory often rely on metaphors to describe and explain abstract concepts and processes. In Chapter 2, Schmidt classifies key memory models into one of four different types of metaphor – spatial, computational, biological and sociological – and outlines how each metaphor seeks to account for exceptional memory. This Chapter is useful in thinking about memory as a high-level process and whilst many involved in cognitive memory research may be familiar with explanations that fall under the computational and biological models, the inclusion of the sociological metaphor places an emphasis on the personal importance of memory for everyday events, a facet of memory that is frequently overlooked in memory research. Exceptional events can often have huge personal consequences – Schmidt gives the example of people who witnessed the awful events of 9/11 and subsequently enlisted in the military.

It is an unfortunate – although understandable – fact that much research on flashbulb memory revolves around tragic events in history. Indeed, even in his preface, Schmidt traces the origins of this 2012 book to January 28, 1986, the day of the Challenger Space Shuttle disaster. In Chapter 3, Schmidt reviews much of the literature on flashbulb memories and begins by asking what exactly we mean by 'flashbulb memory' – is it a particular type of memory, a hypothetical construct or a research methodology? The real strength of Chapter 3 lies in the fact that Schmidt draws on much of his own research as a means of illustrating the theories that have been proposed to account for the flashbulb memory phenomena. In particular, sub-sections that consider the research on Challenger disaster flashbulb memories and 9/11 flashbulb memories particularly illustrate how vivid, detailed and highly emotional people's recollections of such events can be, yet, in many cases, highly prone to inaccuracy. In one study into 9/11 flashbulb memories, Schmidt recruited participants who had witnessed the 9/11 attacks live on TV and interviewed them on two separate occasions - the day after the attacks (September 12<sup>th</sup> 2001) and again six months later. Only 47% of those interviewed gave the same answers at both interviews; however, the truly staggering finding of this study is that for the 53% of participants who gave different accounts across the two interviews, these differences were not attributable to either forgetting or generalisation – instead, key details across

the two accounts had changed from one recollection to the next. Overall, this Chapter serves as an excellent introduction to flashbulb memory and the difficulties involved in studying the phenomena.

We have already noted that many exceptional events can also be emotionally arousing and, in keeping with this, Chapter 4 considers laboratory research into the role of emotional significance on exceptional memory. The question at the heart of the chapter is whether emotional responses inhibit or facilitate memory performance for exceptional events. The chapter extensively reviews studies that have sought to manipulate emotional responses by presenting participants with emotionally significant stimuli such as emotional or taboo words and pictures. The body of literature reviewed points to the finding that memory for exceptional events occurs at the expense of memories for surrounding information. For example, Schmidt cites a key study by Detterman and Ellis (1972), in which participants were presented with line drawings of everyday objects. In the control condition, participants saw line drawings of twenty items. In the experimental condition, a line drawing in the middle of the list was replaced by a critical item - a photograph of a full-frontal nude model. Participants in the control condition demonstrated a pattern of results in line with the standard serial position curve – that is, a U-shaped function with improved performance for items falling either early or late in the list, relative to those in the middle of the list. By contrast, participants who saw the critical item showed a markedly different serial position curve. Firstly, it was noted that recall for the target item was 100%, compared to just 60% accuracy for a line drawing of an everyday object in the same serial position in the control condition. Secondly, in the experimental condition, recall of the items immediately preceding, and following, the nude photograph was significantly poorer than in the control condition. This suggests that an exceptional event can impair memory for surrounding events, a finding which has important implications for many theoretical and practical applications of memory. Overall, Chapter 4 presents compelling evidence for the role of emotion on memory for exceptional events.

One of the biggest strengths of this book is that critical consideration of methodological issues is woven into each chapter. This is of particular importance as the empirical evidence base upon which Schmidt draws is highly diverse, including as it does findings drawn from behavioural, neuroscience, neuroimaging, observational and correlation research. Lab-based memory research is often criticised for lacking ecological validity and the ability to generalise findings to real-life, and, in the same vein, Schmidt rightly criticises laboratory experiments that seek to manipulate distinctiveness using list-learning paradigms. By the same token, studies exploring participants' real-life memories of real-life exceptional events can also be problematic and Schmidt is careful to consider these issues as the evidence is discussed. Of particular note is that distinctiveness effects are closely tied to experimental design. In Chapter 6, Schmidt describes a set of studies exploring distinctiveness – involving words, sentences and images – in which distinctiveness effects are consistently found in within-subjects designs but not in between-subjects designs, highlighting the role of context in determining distinctiveness.

In 'Extraordinary Memories for Exceptional Events', Stephen Schmidt draws on evidence from a range of perspectives and approaches to develop a unified framework for thinking about memory for exceptional events. The book's well-developed arguments, critical analysis of empirical evidence and consideration of research methodology mean it is invaluable for those involved in memory research, especially those interested in autobiographical memory for exceptional events. It is also likely to be of interest to under- and post-graduate students who are interested in taking a broad perspective of how memory operates on biological, cognitive, personal, social and cultural levels. Moreover, Schmidt's engaging, entertaining and accessible written style, often featuring personal insights, means this book will also appeal to non-subject specialists who might be interested in topics such as flashbulb memory. As humans, we are often all too aware of the fragile, fallible and forgetful

nature of our memory; however, 'Extraordinary Memories for Exceptional Events' is a reminder of just how complex and robust our memories can be, and how some memories can last a lifetime.