

the incorrect alternatives in a GKT question are genuine controls in that the mean response that they produce predicts how this suspect should respond to the correct alternative if he or she does *not* recognize it. If there are five scored alternatives in each of 10 questions, then about 96 percent of innocent suspects will "hit" on four or fewer questions and thus be exonerated.

Makoto Nakayama, psychology section chief in the Forensic Science Laboratory of the Shizuoka Prefecture in Japan, reveals in Chapter 2 that most Japanese examiners have undergraduate or graduate degrees in psychology followed by extensive training in forensic science. This may, in part, explain why, in the 5,000 polygraph examinations conducted each year, "Japanese police polygraph examiners use the concealed information test (their name for the GKT) exclusively" (p. 49). Nakayama then presents fascinating case examples and some of the important results of the Japanese research and of their

experience with the GKT in real-life applications. The GKT is also used, although not exclusively, by the Israeli police and Ben Shakhar and Eitan Elaad (an Israeli forensic scientist), also present their lucid analyses of the strengths of the GKT as well as its limitations. In this one-volume competition, the lie detectors dominate in pages but the guilt detectors win. □

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the mind has a limited capacity for attention and memory and that the correct information must be recalled from memory for processing to occur. As outlined in the first chapter by Foddy and Kashima, this has led to the view of the self as an unitary construct, with a central executive (a totalitarian ego; Greenwald, 1980) that is relatively fixed over time. Recent research on identities and the rise of postmodern theories within psychology have led psychologists to question this description of the self, however.

More recently, an alternative processing metaphor known as connectionism or parallel distributed processing has been gaining proponents. This model assumes that cognition emerges from the interactions of a very large number of simple processing units working simultaneously (in parallel). Assuming that humans process information in parallel may lead to a very different sense of self than has been previously considered by social psychologists. The second chapter, by Humphreys and Kashima, starts with a rigorous mathematical description of how parallel processing operates. This mathematical model can help the reader unfamiliar with the tenets of parallel processing understand some of the implications of that model. The authors then suggest what a self based on parallel processing might look like. The next two sections of the book take up that challenge and review how various theories conform to the parallel processing view of the self.

Advantages of Parallel Model

One benefit of the parallel processing approach is that it allows for multiple identities. Nearly three de-

Thoughts About Who We Are: Cognitive Processing and the Self

Self and Identity: Personal, Social, and Symbolic

by Yoshihisa Kashima, Margaret Foddy, and Michael Platow (Eds.)
Mahwah, NJ: Erlbaum, 2002. 263 pp. ISBN 0-8058-3684-5. \$59.95

Review by Mark Muraven

Researchers from the social cognition tradition have theorized that how humans behave depends on how they think. That is, these researchers suggest that if we can understand the cognitive processes underlying a social situation, then we should have a fairly good grasp of how individuals will act in that situation. More recently, it has been argued that who we are is largely a result of these cognitive pro-

cesses: Our sense of self and identity arises from how we process social information.

One of the central themes in the book *Self and Identity: Personal, Social, and Symbolic* by Kashima, Foddy, and Platow is the relationship between cognition and identity. In particular, for the past two decades, the serial computer metaphor within cognitive and social psychology has been dominant. This metaphor suggests that

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comes ago, Ned Jones adopted the term *phenomenal self* (Jones & Gerard, 1967; see also Markus & Kunda, 1986; McGuire, McGuire, & Winton, 1979), to explain how a youth can be demure enough before his parents and teachers, but swear and swagger like a pirate among his "tough" young friends (to paraphrase William James). However, it has long puzzled psychologists how individuals can keep a stable sense of identity if indeed they change dramatically across situations. The parallel distributed metaphor of cognitive processing may help explain these findings.

For example, in the chapter by Hermans, he argues that the self actually consists of many independent actors that combine to create a complete person. Using a narrative approach, he suggests that the self is polyphonic construction, where many different selves (positions) are integrated to create a complete (but ever changing) identity. He discusses a woman undergoing therapy whose self as a child dominated her self as an independent woman. Once these two selves became more in balance, her moods became more positive. This example most clearly illustrates how the self can consist of many different identities, which are integrated together to create the illusion of a complete and seamless self. How this seamless self comes about is unclear, however, which is one of the primary issues facing advocates of multiple simultaneous selves. For example, in the therapy case Hermans discusses, the self as child must be suppressed for the self as an independent woman to gain ascendancy. However, it is never made clear who (or what) is doing the suppressing. Thus, this parallel model seems to presume a central executive after all.

Using a sociological point of view, Smith-Lovin makes a case for multiple identities in her chapter. Sociologists have long recognized that individuals' identities shift based on the social setting (e.g., father, employee) and have had some success explaining how individuals maintain a consistent self despite these changing roles. In particular, as outlined by

Smith-Lovin, sociologists have moved toward cybernetic self-regulation models (Heise, 1979) to explain how individuals typically behave consistently, but yet also change across situations. These cybernetic models imply that identity is a product of cognitive processing. The parallel distributed processing model may better explain how individuals can exist in two conflicting roles simultaneously (e.g., doctor and female; West, 1984) than serial processing models. Smith-Lovin also brings up the existence of mixed emotions, which the serial processing approach would have difficulty explaining. The book would have benefited from a whole chapter exploring that topic.

Finally, Onorato and Turner discuss how identity is depersonalized (that is, one sees oneself as interchangeable with others) when attention is directed away from the self and toward an identity that is shared with others. For example, individuals may stereotype themselves based on group membership, ignoring personal identity. This suggests that identity is much more malleable than initially thought and individual identity can even disappear in certain social circumstance. According to their self-categorization analysis, one's sense of social identity can change based on the situation. These findings seem to go against the fixed sense of self assumed by the serial processing approach.

The next section argues that changes in society across time and place lead to a different sense of self. Using a historical perspective, Kashima and Foddy suggest that historical changes in Western society have led to the modern self. In the next chapter, Kashima outlines how culture affects the self using an analogous argument. Although these two chapters, along with Onorato and Turner's chapter are less well connected to the central theme of the book, it becomes clear that identity is quite changeable and is shaped not only by the individual, but also by interpersonal and societal demands. Thus, assuming a fixed central processing unit may not be valid in all

times and all places. This section would have been strengthened by a chapter on the developmental perspective on self and identity, as there may be relationship between cognitive processing and self across the life span.

The authors (and others) have made the case that changes in time and place may lead to different forms of identity. However, human beings are not merely passive information (symbol) processors (regardless of whether the symbols are being processed serially or in parallel). Instead, humans are active shapers of their time and place. Therefore, social psychologists may also want to consider how the self shapes interpersonal, historical, and cultural differences as well. For example, although changes in Western society lead to changes in the self, the equally important question of how the Medieval Western self led to modernization remains largely unanswered. Kashima took a positive step in that direction with the introduction of the cultural dynamics approach in his chapter, but much work remains to be done.

Problems With All Computing Metaphors

The fact that humans are active shapers of their environment, as well as passive information processors suggest that there may be problems endemic to cognition-based metaphors, regardless of whether they are serial or parallel. These problems are highlighted in the chapters by Twenge and Baumeister and Sedikides, Campbell, Reeder, Elliot, and Gregg. Twenge and Baumeister discuss a model of self-control as a limited resource. Evidence from this model suggests that exerting self-control depletes a limited resource that is required for self-control. Individuals who are lower in this resource perform more poorly on subsequent self-control task. Thus, prior self-control activities influence subsequent attempts at self-control. However, cognition has little to do with this effect. In other words, the self may lose control over itself for reasons unrelated to information pro-

cessing. Instead, motivation for exerting self-control combined with self-control strength (Muraven & Slessareva, 2003) plays a large part in determining the success of self-control. Who we are and how we act depends on motivation and our level of self-control resources, as well as what information we process.

Similarly, Sedikides, Campbell, Reeder, Elliot, and Gregg discuss how narcissists process social information in ways that reinforce their self-centeredness. In particular, they suggest narcissists have an "Others Exist for Me" illusion that involves the perception of others as inferior, the narcissist as worthy of admiration, and the belief that others should admire the narcissist as much as does the narcissist. This is a major advance in our understanding of narcissistic behavior and helps integrate diverse findings, such as why narcissists do not self-enhance all the time, but instead self-enhance only when there is a chance of gaining an advantage over someone else. In other words, social behavior depends less on the cognitive processes underlying it, but rather on the individuals' motivation. Also, as the authors note, this research illustrates how self-views influence the social context just as much as the social context influence self-views.

In short, humans are not mere processors, but instead are active parts of their social world. M. Brewster Smith has made that point in the past (e.g., Smith, 1978), and makes it again in the final chapter of the book. He summarizes the past two decades work on self and identity and concludes that what is needed is the system/process view of the self that considers the person as embedded in his or her time, culture, and social relationships. The self cannot be studied outside of the dynamic interaction with others and any cognitive approach to the self has to keep this in focus.

In conclusion, the parallel distributed processing model has certain advantages for understanding the self. However, as illustrated by the chapters in this book, the parallel ap-

proach needs more theoretical development, especially in explaining how multiple identity are integrated into a seamless whole. More important, any cognitive model (either parallel or serial) needs to consider emotions and motivation in developing a model of self and identity. Future models of self and identity may be more systems oriented, considering how cognition affects and is affected by the social situation. A complete model of the self will be transactive, to give a more complete picture of identity across time, cultures, and social settings. □

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Techniques for Dealing With Difficult Students Without Losing Your Cool (or Your Mind)

Students Who Drive You Crazy: Succeeding With Resistant, Unmotivated, and Otherwise Difficult Young People

by Jeffrey A. Kottler

Thousand Oaks, CA: Corwin Press, 2002. 123 pp. ISBN 0-7619-7875-5. \$24.95 paperback

Review by Gail H. Illman

As someone who has worked with "at-risk" student populations for many years, I have often been amazed to see that I have actually managed to survive so long in my profession. Not only have I had to deal with difficult and resistant students, I have found dealing with parents, colleagues, and administrators to be equally as challenging.

It was refreshing to read Kottler's book because it addresses these very

issues. I found it to be well worth reading not only for educators, but also for anyone who has had to deal with difficult populations. This book should be required reading for teachers, counselors, school psychologists,

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