no other reason than that this is the number of students that other schools that started before them put into groups. That does not make it optimal, only actual. As another example, Jimbo and Lin's chapter on strategy development is a good study comparing SDL practices in a PBL and a traditional school, using written explanations of problems administered by the experimenter. Perhaps the most useful components of the book, with the exception of the two review chapters already cited, are the synthesis chapters by Beret and Scardamalia on PBL and Zimmerman and Lebeau on SDL. Both pairs of chapter authors were faced with the unenviable task of drawing the disparate threads of the previous half of the book together; both do it in masterful fashion. In summary, like the nursery rhyme, when the book is good, it is very, very good, and when it is bad, it is horrid. Perhaps this judgment is nothing more than a reflection of my prejudices. I confess that as I read it, I began to recognize some latent biases I bring to the reading of a scholarly book. Two biases must be already reckoned with anyone who reads this far. First, although I do not think I harbor any general suspicion of qualitative research, the examples I found in this volume left me wondering just what was the point. I am not reading the book for entertainment; whereas the detailed analysis of the student psyches was as good as many popular biographies, it was not evident to me what information I should draw from a historical analysis of two students in one year of one program. Second, I have a deep distrust of original studies that appear in books. A tradition in the review of academic progress is that a journal article always counts more than a book. I cannot quite expel the suspicion that these studies are in the book simply because they were not good enough to find their way into a journal. 

Although theoretical and empirical work on intrinsic motivation appeared sporadically throughout the past couple of decades, many noteworthy contributions emerged in recent years (e.g., Allport, 1937; Berkley, 1960; Danisch, 1925; McDougall, 1916; White, 1959; Woolworth, 1918). It was not until the 1970s that extensive research on intrinsic motivation commenced. The impetus for the growth in research on intrinsic motivation was the foundational work by Deci (1971); Kruglanski, Friedman, and Zevei (1971); and Lepper, Gershon, and Nisbett (1973) demonstrating that the imposition of extrinsic incentives could have deleterious effects on intrinsic motivation. This foundational work, as well as related research, was later overviewed and discussed in an edited volume by Lepper and Greene (1978). The Hidden Costs of Rewards. Many consider Lepper and Greene's contribution to be a landmark contribution to the intrinsic motivation literature.

Sanzone and Harackiewcicz's volume represents an important and timely sequel to that of Lepper and Greene, discussing much of the research conducted in the intervening years. They provide a comprehensive overview of the current state of research on intrinsic motivation and its impact on social contexts and evaluative constraints on behavior. Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance, edited by Carol Sanzone and Judith M. Harackiewcicz, is a valuable addition to the extrinsic motivation literature that clearly enhances our understanding of this important construct. 

25 years. Importantly, the central figures in the seminal 1970s work—Deci, Kruglanski, and Lepper—all make a return appearance in the current book. The authors have gone on to make many other important contributions to the social-personality literature, and their chapters in this volume are an interesting read. The reader is treated (in varying degrees) to a reprise and retrospective of some of the early work, as well as an overview of subsequent research on motivation and related developmental aspects. The other chapters are in the equally capable hands of other scholars who have made significant contributions between 1978 and 2000. The editors have succeeded in gathering an impressive array of scholars conducting research on intrinsic motivation, interest, achievement goals, and related issues. The chapters are well written and engaging, and the editors have assembled them in a coherent and thoughtful fashion.

The edited volume is composed of three primary sections (in addition to introductory and concluding chapters by the editors). The first section is titled "The Costs of Reward: Still Hidden? A New Look at Old Debates." It focuses, to a large degree, on the recent controversy over the effects of rewards on achievement. This controversy began with the publication of meta-analyses by Cameron and Pierce (1994) and Eisenberger and Cameron (1996) that challenged the traditional wisdom that rewards can undermine intrinsic motivation, and it attracted several rebuttals from authors in this volume (Brehm, 1998; Sanzone & Harackiewicz, 1998; Sanzone, 1998; and Elliot, 2000). Some do not perform-behavior goals (Elliot & Church, 1997) and some do not perform-thinking goals (Elliot & Church, 1997) and some do not perform-thinking goals (Elliot & Church, 1997). The chapters by Cameron and Harackiewicz; Butler; Linnenbrink and Pintrich; and Molden and Dweck nicely encapsulate these issues in a succinct and detailed discussion of the controversy and associated issues, the only downside being that the Cameron, Eisenberger, and Pierce camp is not represented (they did not accept the editors' invitation to contribute to the volume). From the chapters by Harackiewicz and Sanzone, Hennessey, Ryan, and Deci; and Shah and Kruglanski, it can be seen that the controversy has clearly benefited the intrinsic motivation literature. This contemporary volume provides a significant attention to the theoretical and pragmatic importance of understanding the reward-intrinsic motivation relationship, and it has energy and focus to systematically analyze and review the now considerable literature in a clear and productive manner.

Section two is titled "A New Debate: Hidden Costs and Benefits of Achievement Goals," and it focuses on the link between achievement goals and intrinsic motivation. As the section title implies, one may draw a conceptual parallel between the earlier research on the negative impact of rewards on intrinsic motivation and contemporary research on the negative impact of performance goals on intrinsic motivation. In the reward research, investigators initially suggested that rewards in general may undermine intrinsic motivation but as the literature developed, it became clear that some types of rewards have negative effects (e.g., Ryan, 1982; Koestner, 1983) and some do not (e.g., Ryan & Deci, 1997; see Deci et al., 1999, for a review). Likewise, in the achievement goal research, investigators initially suggested that performance goals in general may undermine intrinsic motivation, but as the literature developed, it became clear that some types of performance goals underlie intrinsic motivation (e.g., achievement-avoidance goals; Elliot & Church, 1997) and some do not perform-thinking goals (Elliot & Church, 1997). The chapters by Cameron and Harackiewicz; Butler; Linnenbrink and Pintrich; and Molden and Dweck nicely encapsulate these issues in a succinct and detailed discussion of the controversy and associated issues, the only downside being that the Cameron, Eisenberger, and Pierce camp is not represented (they did not accept the editors' invitation to contribute to the volume). From the chapters by Harackiewicz and Sanzone, Hennessey, Ryan, and Deci; and Shah and Kruglanski, it can be seen that the controversy has clearly benefited the intrinsic motivation literature. This contemporary volume provides a significant attention to the theoretical and pragmatic importance of understanding the reward-intrinsic motivation relationship, and it has energy and focus to systematically analyze and review the now considerable literature in a clear and productive manner.

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Enhancing the Yield

Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance
Carol Sanzone and Judith M. Harackiewicz (Eds.)

Review by Andrew J. Elliot and Rachel R. Mapes

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he study of intrinsic motivation has been, and undoubtably will continue to be, a central and important area of inquiry in the field of personality psychology. Intrinsic motivation is a psychological construct that is not only applicable to conceptions of the self and personality, but also to the impact of social contexts and evaluative constraints on behavior. Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance, edited by Carol Sanzone and Judith M. Harackiewicz, is a valuable addition to the intrinsic motivation literature that clearly enhances our understanding of this important construct.
Discourse Analysis and Catch-22

Negation, Text Worlds, and Discourse: The Pragmatics of Fiction by Laura Hidalgo Downing

Review by Richard J. Gerrig

One of the easiest critiques of most research on text process is that it concerns itself only with brief researcher-invented texts. In that context, it is quite refreshing to read a book whose author has as her goal to provide a coherent account of a novel in its entirety. Although this volume provides a general account of the pragmatic functions of negation in discourse, its unique contribution lies in Laura Hidalgo Downing's application of that account to Joseph Heller's (1961) novel Catch-22. To see why Heller's novel provides an excellent venue to assess a discourse theory of negation, one need go no farther than the passage that defines "Catch-22":

LAURA HIDALGO DOWNING, Department of English Studies, Universidad Autónoma de Madrid, Madrid. Spain.

RICHARD J. GERRIG, Department of Psychology, State University of New York, Stony Brook. New York 11794-5000. E-mail: gerrig@suny.sunysb.edu

There was only one catch and that was Catch-22, which specified that a concern for others' safety in the face of dangers that were real and immediate was the process of a rational mind. Or was crazy and could be grounded. And what I would do as soon as he died, he would no longer be crazy and would have to fly more missions. Or would be the one to fly his plane, and same if he didn't die, but if he was sane he had to fly them. If the few whom he was crazy and didn't have to fly, he was sane and had to. In short: he was sane and had to fly. (pg. 180)

"Catch-22" is, quite clearly, built on a contradiction—a type of negation. Over the course of her study, Hidalgo Downing assembles the set of theoretical tools she needs to provide an explanation for the difficulties readers face in processing, representing, and resolving the varieties of negation Heller and his peers use.

To set her agenda, Hidalgo Downing reviews the prior approaches to negation that have accumulated across disciplines to illustrate the consequences of Catch-22. She also examines how Hidalgo Downing's book is devoted to defining this cognitive approach and using it to explicate readers' experiences of Catch-22. The first component of Hidalgo Downing's cognitive approach considers how instances of negation affect the ways in which readers structure their text worlds (Wert, 1999). Text worlds are dynamic representations that emerge from the language of a text in interaction with readers' real-world knowledge: "The development of the text world can be compared to the succession of frames in a movie film, an analogy that follows from the theory of how readers structure their text worlds" (pp. 85). Hidalgo Downing suggests that "negation distance functions to create new layers, subworlds, within the experience of the text world. As an example, Hidalgo Downing discusses a passage from Catch-22 that reports the results that result in a character discovered, as a child, that he had been deceived as to his name:

On major Major Nissel the consequences were only slightly less severe. It was a harsh and stunning realization that was forced upon him at a tender age in the manner that he was not, as he had been led to believe, Catch-22. Major Nissel instead was some other stragglers named Major Major Nissel, about whom he knew absolutely nothing and about whom nobody else had ever heard before. (pg. 97)

The negative connotations in this passage (e.g., the realization that he was not) create a subworld that contrasts with the actual world. However, Hidalgo Downing's account of text worlds also includes notions of how conflict arises within fictional worlds (Ryan, 1991). Conflict, in this analysis, involves dramatic opposition between different subworlds. For example, Major Major believes that he is one person (i.e., Caleb Major) when, in fact, he is two (i.e., Major Major). Hidalgo Downing notes that Major Major's crisis befits the principle of formal logic that any entity can have many names without changing its identity. Hence, Hidalgo Downing puts these theories of text worlds to elegant use in her analyses of Catch-22.

The second component of Hidalgo Downing's cognitive approach is an analysis of the role of schemata and other memory structures in readers' experience of negation. As Hidalgo Downing effectively argues, "schemata are standardly defined as expectations; if negation is understood as the defeat of an expectation, we can understand the relation between a negative and a positive term in terms of the schema system evoked by each term" (p. 116). What is particularly interesting about Hidalgo Downing's recapitulation of schemata is that it is the focus of the ways in which negation disrupts discourse to lead to what Hidalgo Downing calls schema refreshment. In such circumstances, "when the schema system destroys old schemata, constructs new ones, or establishes new connections between already existing schemata" (p. 134). The discussion of schema refreshment is particularly relevant to the understanding of Catch-22, which, Hidalgo Downing suggests, has many components that are directed toward challenging readers' assumptions (as encoded in memory structures) of how the world works. Again, a real strength of this book is

1 The Catch-22 quotations used in this review and throughout the book make the reviewers familiar with the overall world of Negation, Text Worlds, and Discourse: The Pragmatics of Fiction.