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Comprehension: A Paradigm for Cognition. Walter Kintsch. 461 pp. Cambridge University Press, 1998. \$27.95 (paper).

Construction-integration is the mental activity of first constructing approximate mental representations, then integrating those mental representations into a coherent whole. Therefore, it is only fitting that Walter Kintsch, the father of construction-integration theory, has produced a monograph that emulates the mental processes of construction and integration. Kintsch begins his book by constructing representations, actually re-presentations, of a myriad of empirical data, computational simulations and theoretical assumptions. Kintsch proceeds by integrating those heretofore distributed discoveries into a coherent story. His final product is a seductive treatise on how we do one of the most complex of mental feats: understand.

Just as the construction phase of the construction-integration theory is crucial for comprehensive understanding, the construction chapters of this monograph are essential for understanding the theory's underpinnings. As Kintsch admits, before the publication of this book the construction-integration theory "was nowhere stated explicitly and in detail," and "worse, the applications that had been done [of the model] were often published in inaccessible places, making it difficult for a reader to gain an understanding of the scope of the model and to evaluate its effectiveness." Now Kintsch has constructed our workplace.

Similarly, just as the integration phase of the construction-integration theory is crucial for arriving at a coherent representation, the integration that Kintsch provides enables his coherent account. Again, as Kintsch confesses, "even if a reader [had previously] studied all the available publications, it would not have been easy to arrive at a coherent picture, because in the published papers each application of the model stood by itself, and the allimportant links between them were rarely made explicit." Now Kintsch has provided explicit links.

Indeed, a majority of the book successfully demonstrates the mechanism that drives construction and integration—namely, constraint satisfaction. Representations that satisfy the constraints of the construction process are integrated; those that do not are not. This can be considered a theoretical paradigm for many arenas of cognition. Some arenas are the domains we already associate with Kintsch's career, such as word identification, anaphora, text and discourse comprehension, learning from text, reading skill and arithmetic word-problem solving. Other applications of the model take Kintsch into previously uncharted domains, such as action planning, problem solving, decision making and judgment. His final chapters venture into the realm of self-appraisal and cognition and emotion.

Thus, the book is ambitious, but that shouldn't surprise us. Kintsch has always held lofty goals, epitomized by Representation of Meaning in Memory (his 1974 comprehensive theory of meaning), Strategies of Discourse Comprehension (his 1983 monograph with Tuen van Dijk, which laid out the fundamentals of discourse processing) and a 1988 Psychological Review article that introduced construction-integration theory. With this recent monograph, Kintsch retains his status as a visionary who constructs and a leader who integrates.

The argument that cognition is comprehension succeeds, and more than anything, the book bridges and embraces, rather than distinguishes and critiques, current approaches. Thus, for only a few topics of discussion do we learn what the alternative hypotheses are. This is not the combative approach that we often see in cognitive science. Rather Kintsch allows his theoretical persuasions (such as his choice of propositional networks as a representational medium) to remain if they meld with the theory, much like his constraint-satisfaction mechanism allows the products of comprehension to remain if they meld with the ongoing processes.

More than 25 years ago, Kintsch promised us that what was presented in his first monograph was just the beginning. Readers of his most recent monograph will surely feel that the promise has been honored.-Morton Ann Gernsbacher and Vanesa M. McKinney, University of Wisconsin-Madison

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