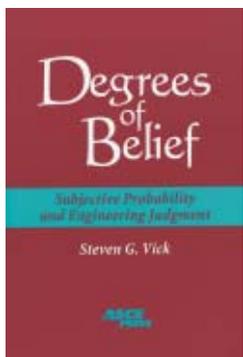




# B O O K S

## Weighing in on good judgment



*Degrees of Belief: Subjective Probability and Engineering Judgment*  
**Steven G. Vick, CDN\$78.51**  
 paperback,  
**ISBN 0-78440598-0, 455 pages,**  
**American Society of Civil Engineers**

**T**his text is an invaluable tool and any reader who lends it to co-workers can anticipate replacing it, as borrowers will

be reluctant to return it. The cognitive modeling up for discussion requires an experienced understanding of the big picture—making the text suitable for established engineers rather than engineering students.

Judgment, the author says, is guided by theory, not displaced by it, producing a conundrum that is compounded by changing definitions and model errors.

The early chapters on the paradox of objective and subjective probability should not be rushed, as every text uses slight language variances. The author shows how observations of nature inspired the Renaissance; however, progress in the past 40 years has more than equaled the learning of the previous 400. Since the 1960s, many engineering educators have taught a simplified curriculum on the science of engineering. Only in the past 10 years has the veil been raised on an engineer's judgmental skills, and the author provides several references for further study.

The author shows how decision analysis enables risk costs to be factored in. Although Failure Mode Effect Analysis (FMEA) is just one available tool, it is understood by most engineers and is appropriate in determining dominant modes in a multi-faceted project, especially when dealing with governing bodies such as the Ministry of the Environment.

Statistical reasoning and clinical diagnosis are fundamental in geotechnology, but the author also warns against overconfidence by experts, using the Challenger shuttle as a prime example. The book is worth reading for this study alone.

Despite intense training, engineers can be discouraged by, or lack confidence in, top-down management systems. In the final chapters, the author reviews engineering experts who overcame bureaucratic management during the Railway Era. More recent geotechnology, such as Pyramid City or Japan's Kansai Airport, would have better demonstrated his point—and convinced readers that engineers are needed, not perhaps as individuals, but strategic team players who manage uncertainty.

*Reviewed by Peter Broad, P.Eng., a London, ON-based consultant for the environmental and resource industry in Canada and overseas.*

ENGINEERING DIMENSIONS REVIEWS BOOKS OF GENERAL INTEREST TO PROFESSIONAL ENGINEERS. COMMENTS MADE ARE THE OPINION OF THE REVIEWER.

# P R O D U C T F I L E

For information on Product File advertising, contact:

*Until June 1*  
 Helen Gallimore or Janet Jeffery  
 Account Managers, Dovetail Communications  
 Telephone: 905-886-6640 Fax: 905-886-6615  
 Email: hgallimore@dvtail.com, jjeffery@dvtail.com  
 Website: www.dvtail.com

*After June 1*  
 Ken Rule  
 Account Executive, Ontario Society of Professional Engineers  
 Telephone: 416-223-9961 Ext. 234 Fax: 416-223-9963  
 Email: krule@ospe.on.ca  
 Website: www.ospe.on.ca

