

# Turning Numbers into Knowledge

**MASTERING THE ART OF PROBLEM SOLVING**

Second Edition

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## FOREWORD

by John P. Holdren

From the late 1970s to the early 1990s, I taught a course originally entitled “Tricks of the Trade” for graduate students in UC Berkeley’s interdisciplinary graduate program in Energy and Resources. The course conveyed lessons that I wished someone had taught me during my own university education—but which I mainly learned in “the real world” afterwards—about how to function effectively in a professional life at the intersection of research, analysis, and public affairs.

Berkeley’s guardians of academic respectability eventually made me change what they regarded as too frivolous a title for the course to “Professional Methods for Interdisciplinary Careers”, but the focus remained the same for the 15+ years that I taught it. It covered ways of thinking through complex problems; how to find and manage information; how to function in a committee; how to identify and avoid common pitfalls in the interpretation of data; how to present results clearly in words, graphs, and tables; how to manage one’s time; and even how to avoid jet lag.

Many students over the years suggested that I should write a book teaching the “Tricks of the Trade”. Notwithstanding my advice to others about time management, however, I never found the time to write it.

With the 2001 publication of the first edition of Jonathan Koomey’s remarkable book, *Turning Numbers into Knowledge*, I realized that I no longer needed to try. Dr. Koomey, who had taken my course in the 1980s as a Berkeley graduate student, had plenty of ideas of his own about the need and how to fill it. And the book that he wrote surpassed what I would have done, if I had found the time, in every important respect.

Now Dr. Koomey has produced a second edition of *Turning Numbers Into Knowledge*, and it is even better than the original. His collection of illustrative

examples, already splendidly germane and instructive, has been expanded and updated, as have his references. His excellent material on the intelligent use of the Web has been augmented with a new chapter on data-sharing websites—their pitfalls as well as their promise. Other useful additions grace nearly every chapter.

In light of all the updates and improvements, even owners of the first edition should want the second. And those who missed the pleasure of the first have the opportunity to start with this still better guide to managing data, time, and people in a problem-solving context. There is nothing else like this book out there. Nobody who deals with problems where numbers matter—and everybody in today's world really needs to—should be without it.

*John P. Holdren\**

*Woods Hole, MA, October 2007*

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