

## General Systems Thinking

"It is difficult to . . . give this book the credit it deserves in such a limited review. Suffice it to say this is one of the classics of systems or science of computing. I recommend it to all; it will cause both scientists and non-scientists to examine their world and their thinking. This book will appear on my reading table at regular intervals, and one day I hope to update to the golden anniversary edition."

—John D. Richards  
*Software Quality Professional*

" . . . truly an extraordinary piece of work . . .

" . . . the best collection of thought experiments and points of contention that I have ever seen gathered together in one location. . . .

"This book will still be worth reading for a long time to come and it is on my list of top ten computing books of the year."

—Charles Ashbacher, posted on Amazon.com

"The positioning of the observer as the constructor of the system is very interesting, as is the discussion of stability and change.

" . . . thought provoking and evocative. . . . an important read."

—Terry Plum  
*Journal of Academic Librarianship*

"When I set out to write *An Introduction to General Systems Thinking*, I had already written a half-dozen books on thinking—but all in the context of thinking about computer programming. . . . I decided to leave the programming language business to others and to concentrate on more general principles of thinking. As a result, I first published *The Psychology of Computer Programming* and then this book. Now, more than a generation later, both books are still around, quietly doing their work."

—from the preface to the Silver Anniversary Edition

### About the Author



Gerald M. Weinberg has programmed, researched, managed, and taught both in industry and academia for more than four decades. As a principal of Weinberg and Weinberg, based in Lincoln, Nebraska, he teaches and consults in ways for people to become more productive.

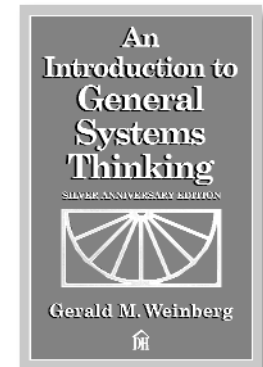
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# An Introduction to General Systems Thinking

Silver Anniversary Edition

by Gerald M. Weinberg



ISBN: 978-0-932633-49-1  
©2001 304 pages softcover  
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*Sharpen Your Thinking with  
Weinberg's Systems Thinking Classic*

For more than twenty-five years, *An Introduction to General Systems Thinking* has been hailed as an innovative introduction to systems theory, with applications in computer science and beyond. Used in university courses and professional seminars all over the world, the text has proven its ability to open minds and sharpen thinking.

Originally published in 1975 and reprinted more than twenty times over a quarter century—and now available for the first time from Dorset House Publishing—the text uses clear writing and basic algebraic principles to explore new approaches to projects, products, organizations, and virtually any kind of system.

Scientists, engineers, organization leaders, managers, doctors, students, and thinkers of all disciplines can use this book to dispel the mental fog that clouds problem-solving.

As author Gerald M. Weinberg writes in the new preface to the *Silver Anniversary Edition*, "I haven't changed my conviction that most people don't think nearly as well as they could had they been taught some principles of thinking."

Now an award-winning author of nearly forty books spanning the entire software development life cycle, Weinberg had already acquired extensive experience as a programmer, manager, university professor, and consultant when this book was originally published.

With helpful illustrations, numerous end-of-chapter exercises, and an appendix on a mathematical notation used in problem-solving, *An Introduction to General Systems Thinking* may be your most powerful tool in working with problems, systems, and solutions.

Read more about this book at  
[www.dorsethouse.com/books/gst.html](http://www.dorsethouse.com/books/gst.html)

Well, most thinking, even general systems thinking, can sometimes use a little luck. I took a break to download my e-mail, and as luck would have it, I got one of those flattering letters, which read, in part: My name is Wayne Johnson, and I am a veterinarian working as a technical consultant in South China. ...Â When I set out to write An Introduction to General Systems Thinking, I had already written a half-dozen books on thinkingâ€”but all in the context of thinking about computer programming. I had been doing this long enough to realize that computer languages changed a whole lot faster than people changed, so I decided to leave the programming language business to others and to concentrate on more general principles of thinking. For more than twenty-five years, An Introduction to General Systems Thinking has been hailed as an innovative introduction to systems theory, with applications in computer science and beyond. Used in university courses and professional seminars all over the world, the text has proven its ability to open minds and sharpen thinking. Originally published in 1975 and reprinted more than twenty times over a quarter century -- and now available for the first time from Dorset House Publishing -- the text uses clear writing and basic algebraic principles to explore new approaches to projects, products

Contribute to lorin/systems-thinking development by creating an account on GitHub.Â Of particular interest to students of systems thinking, there are various mathematical tools for studying feedback and stability of systems. These include root locus plots, the Nyquist stability criterion, and gain/phase margin using Bode plots. Notably: Claude Shannon, Harry Nyquist, and Hendrik Wade Bode all worked at Bell Labs.Â W. Ross Ashby. [An introduction to cybernetics] ([http://documents.irevues.inist.fr/bitstream/handle/2042/30159/XX\\_CNE-LIPSOR\\_000704.pdf?sequence=1](http://documents.irevues.inist.fr/bitstream/handle/2042/30159/XX_CNE-LIPSOR_000704.pdf?sequence=1)\*\*). This book introduces Ashby's law of requisite variety. Other links. LOOPY: a tool for thinking in systems.

I recently completed reading *An Introduction to General Systems Thinking* by Gerald M. Weinberg. Since it was mind-blowingly fantastic, I thought I should probably write a brief review of it so you-all can check it out! **The Subject.** This book is about science, philosophy, behavior, organizations, organisms, problems, solutions, faith, reason, and everything in between. Specifically, it is about a general approach to dealing with systems given the limitations of our human abilities. **The Ideas.** One of the strongest ideas in the whole book is that there is a class of systems for which we have only