

# Publication List

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## Books

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1. *Operating Systems Theory* (with E. G. Coffman, Jr.), Prentice-Hall (1973).
2. *Machines, Languages, and Computation* (with J. Dennis and J. Qualitz), Prentice-Hall (1978).
3. *Computers Under Attack: Intruders, Worms, and Viruses*. ACM Press and Addison-Wesley (1990).
4. *Beyond Calculation: The Next 50 Years of Computing* (Peter J. Denning and Robert M. Metcalfe, eds.). Copernicus Books (1997). (A collection of essays by the leaders of computing.)
5. *Internet Besieged* (Dorothy E. Denning and Peter J. Denning, eds.) Addison-Wesley and ACM Press Books (1997). (A new collection of essays about vulnerabilities of computers and telecommunications.)
6. *Talking Back to the Machine* (Peter J. Denning, ed.). Copernicus Books (1999). An edited collection of essays from speakers at ACM97 conference.
7. *The Invisible Future: The Seamless Integration of Technology in Everyday Life*. (Peter J. Denning, editor). McGraw-Hill (2001).
8. *The Art of Operating Systems*. Simple, elegant models of operating system components tame the complexities of operating systems. Slide version online at <cs.gmu.edu/cne/pjd/ArtOS>. 2002.
9. *The Innovator's Way: Essential Practices for Successful Innovation* (With Robert Dunham) MIT Press, 2010. (Eight personal practices for achieving success at innovation.)
10. *Great Principles of Computing*. (with Craig Martell) A guide on the fundamental science and engineering principles of the computing field. In progress.

## Journals and Major Conferences (refereed)

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11. "Effects of scheduling on file memory operations," *Proc. AFIPS Conf. 30* (1967 SJCC), 9-22.
12. "The working set model for program behavior," *Comm. ACM* 11, 5 (May 1968), 323-333. (**ACM Best System Paper award.**)

13. "A statistical model for console behavior in multiuser computers," *Comm. ACM* 11, 9 (September 1968), 605-612.
14. "Thrashing: Its causes and prevention," *Proc. AFIPS Conf. 32* (1968 FJCC), 915-922.
15. "Equipment configuration in balanced computer systems," *IEEE Transactions Computers C-18*, 11 (November 1969), 1008-1012.
16. "Operating systems: present and future," *Digest IEEE Int'l Convention* (1970), 116-117.
17. "On the determinacy of schemata," *Record Project MAC Conference on Concurrent Systems and Parallel Computation* (June 1970), 143-148. Published by ACM.
18. "Virtual memory," *Computing Surveys* 2, 3 (September 1970), 153-189.
19. "Principles of computer system organization," *Proc. ACM SIGCSE Symposium* (November 1970), 45-55.
20. "Principles of optimal page replacement" (A. Aho, P. Denning, and J. Ullman), *J. ACM* 18, 1 (January 1971), 80-93.
21. "Statistical methods in performance evaluation" (P. Denning and B. Eisenstein), *Proc. ACM Symposium on System Performance Evaluation* (April 1971).
22. "Third generation computer systems," *Computing Surveys* 3, 4 (December 1971), 175-216.
23. "Protection: principles and practice" (P. Denning and G. S. Graham), *Proc. AFIPS Conf. 40* (1972 SJCC), 417-429.
24. "Operating systems principles and undergraduate computer science curricula," *Proc. AFIPS Conf. 40* (1972 SJCC), 849-855. **(AFIPS Best Paper Award.)**
25. "On modelling the behavior of programs," *Proc. AFIPS Conf. 40* (1972 SJCC), 937-944.
26. "Applications of program modelling to hierarchies," *Digest IEEE Int'l Convention* (March 1972), 22-23.
27. "Properties of the working set model" (P. Denning and S. C. Schwartz), *Comm. ACM* 15, 3 (March 1972), 191-198. Corrigendum: *Comm. ACM* 16, 2 (February 1973), 122.
28. "A note on paging drum efficiency," *Computing Surveys* 4, 1 (March 1972), 1-3.
29. "Weak and mixed strategy precedence parsing" (A. Aho, P. Denning, and J. Ullman), *J. ACM* 19, 2 (April 1972), 225-243.
30. "Some thoughts on locality in program behavior" (P. Denning, J. Spirn, and J. Savage), *Proc. Symposium on Computer Communications Networks and Teletraffic*, Polytechnic Institute of Brooklyn (1972), 101-112.

31. "The impact of theory on systems design," *Proc. 10th Allerton Conference*, University of Illinois (October 1972).
32. "Experiments with program locality" (P. Denning and J. Spirn), *Proc. AFIPS Conf. 41* (1972 FJCC), 611-621.
33. "The use of models in systems evaluation" (P. Denning and R. Muntz), in *Record of ACM/NBS Workshop on Performance Evaluation*, National Bureau of Standards (1972).
34. "Dynamic storage partitioning" (P. Denning and J. Spirn), *Proc. 4th ACM Symposium on Operating Systems Principles*, (October 1973), 73-79.
35. "A note on subexpression ordering in the evaluation of arithmetic expressions" (with G. S. Graham), *Comm. ACM* 16, 11 (November 1973), 700-702. Erratum: *Comm. ACM* 17, 8 (August 1974), 455.
36. "Selectively confined subsystems" (P. Denning, D. Denning, and G. S. Graham), *Proc. IRIA Workshop on Protection in Operating Systems* (August 1974), 55-61.
37. "Multiprogramming and program behavior" (P. Denning and G. S. Graham), *Proc. ACM SIGMETRICS Symposium* (October 1974), 1-8.
38. "Comments on a linear paging model," *Proc. ACM SIGMETRICS Symposium* (October 1974), 34-38.
39. "Multiprogrammed memory management" (P. Denning and G. S. Graham), *Proc. IEEE* 63, 6 (June 1975), 924-937. Reprinted in *Infotech State of the Art Report: Virtual Storage* (1976).
40. "On being one's own programming self," *Proc. AFIPS NCC Conf.* (1975), 283.
41. "Two misconceptions about structured programming," *Proc. ACM Annual Conf.* (1975).
42. "A study of program locality and lifetime functions" (P. Denning and K. Kahn), *Proc. 5th ACM Symposium on Operating Systems Principles* (November 1975), 207-216.
43. "An L=S criterion for optimal multiprogramming" (P. Denning and K. Kahn), *Proc. ACM/IFIP Int'l Symposium on Computer Performance Modelling, Measurement, and Evaluation* (March 1976), 219-229.
44. "Sacrificing the calf of flexibility on the altar of reliability," *Proc. 2nd ACM/IEEE Int'l Conf. on Software Engineering* (October 1976).
45. "Optimal multiprogramming" (P. Denning, K. Kahn, J. Leroudier, D. Potier, and R. Suri), *Acta Informatica* 7, 2 (1976), 197-216.
46. "Fault tolerant operating systems," *Computing Surveys* 8, 4 (December 1976), 359-390.
47. "Program certification for secure information flow" (D. Denning and P. Denning), *Comm. ACM* 20, 7 (July 1977), 504-513.

48. "On the relative controllability of memory policies" (P. Denning and G. S. Graham), *Computer Performance* (M. Chandy and M. Reiser, Eds.), North-Holland Publishing Co. (1977), 411-428.
49. "Operational analysis of queueing networks" (J. Buzen and P. Denning), *Proc. 3rd Int'l Symposium on Modelling and Performance Evaluation of Computer Systems*, North-Holland Publishing Co. (1977), 151-172.
50. "The limits of data security" (P. Denning and D. Denning), *AFIPS Abacus* 0, 0 (June 1977).
51. "Operating systems principles for data flow networks," *IEEE Computer* 11, 7 (July 1978), 86-96.
52. "The operational analysis of queueing network models" (P. Denning and J. Buzen), *Computing Surveys* 10, 3 (September 1978), 225-261. Reprinted in *CMG Transactions*, Summer 1994, 29-60.
53. "Generalized working sets for segment reference strings" (P. Denning and D. Slutz), *Comm. ACM* 21, 9 (September 1978), 705-759.
54. "Working sets then and now," *Proc. 2nd Int'l Conf. on Operating Systems*, North-Holland Publishing Co. (1978), at IRIA Laboria, Rocquencourt, France.
55. "Approximations for load distributions in time sharing systems" (P. Denning and G. Balbo), *Ibid.*
56. "Working sets today," *Proc. IEEE COMPSAC* (November 1978).
57. "The tracker: A threat to statistical data base security" (D. Denning, P. Denning, and M. Schwartz), *ACM Transactions on Database Systems* 4, 1 (March 1979), 76-96.
58. "Homogeneous approximations of general queueing networks" (G. Balbo and P. Denning), *Proc. Int'l Symposium on Computer Performance Measurement, Modelling, and Evaluation*, North-Holland Publishing Co. (1979), in Vienna, Austria.
59. "Linear queries in statistical data bases" (D. Denning, P. Denning, and M. Schwartz), *ACM Transactions on Database Systems* 4, 2 (June 1979), 476-482.
60. "Data security" (D. Denning and P. Denning), *Computing Surveys* 11, 3 (September 1979), 227-249. [Executive summary published in *Data Processing Management*, Note 1-03-09 (1980), by Auerbach Publishers, Inc.]
61. "Working sets past and present," *IEEE Transactions on Software Engineering* SE-6, 1 (January 1980), 64-84.
62. "Measuring and calculating queue length distributions" (J. Buzen and P. Denning), *IEEE Computer* 13, 4 (April 1980), 33-44.
63. "Operational treatment of queue distributions and mean value analysis" (J. Buzen and P. Denning), *Computer Performance* 1, 1 (June 1980), 6-15.
64. "On learning how to predict," *IEEE Proc.* 68, (September 1980).

65. "A discipline in crisis: The Snowbird Report," (Peter Denning, Edward Feigenbaum, Paul Gilmore, Anthony Hearn, Robert Ritchie, Joseph Traub). *Comm. ACM* 24, 6 (June 1981), 370-374.
66. "Performance Evaluation: Experimental Computer Science at its Best," *Proc. ACM/SIGMETRICS Conference on Measurement and Modeling of Computer Systems* (September 1981), 106-109.
67. "Low contention semaphores and ready lists" (P. Denning, T. D. Dennis and J. Brumfield), *Comm. ACM* 24, 10 (October 1981), 687-699.
68. "Error Analysis of the Mean Busy Period of a Queue," (P. Denning and W. Kowalk), in *Proc. 10th IMACS*, Vol. 5, North-Holland (1982).
69. "Error Analysis of Homogeneous Mean Response Time and Queue Length Estimators," (Jeff Brumfield and P. Denning), in *Proc. ACM SIGMETRICS Symposium* (August 1982), 215-221.
70. "History and overview of CSNET" (P. Denning, A. Hearn, and C. W. Kern), *Proc. ACM SIGCOMM Symposium* (March 1983), 138-145.
71. "Should distributed systems be hidden?" (P. Denning and R. L. Brown), *Proc. IEEE Int'l Wkshp on Computer Systems Organization* (March 1983), 49-61.
72. "Operational state sequence analysis" (P. Denning and J. Brumfield), *Proc. 9th Int'l Symposium on Computer Performance Modeling, Measurement, and Evaluation*, IFIP Working Group 7.3 (May 1983).
73. "Operating Systems," (P. Denning and R. Brown), *IEEE Computer* special issue for 100th Anniversary IEEE (October 1984), 173-190.
74. "Operating Systems," *Scientific American* special issue on computer software (1984), 94-106.
75. "Supercomputers for engineering design," (G. Adams and P. Denning), *Aerospace America* (January 1985), 122-124.
76. "Software for parallel architectures," *Proc. AIAA Conference: Computers in Aerospace* (October 1987).
77. "Computing as a discipline" (P. Denning, D. Comer, D. Gries, M. Mulder, A. Tucker, J. Turner, P. Young), *Communications of ACM* 32, 1 (January 1989), 9-23. A condensed version was published in *IEEE Computer*, February 1989.
78. "Highly Parallel Computation" (P. Denning and W. Tichy), *Science* 250, 1217-1222 (30 November 1990).
79. "Information technology in earth and space sciences," *AIP Conf. Proc. Earth and Space Science Information Systems*. AIP New York (1993), xxvii-xliii. Presented at JPL Symposium for International Space Year (February 1992).
80. "Educating a new engineer", *Communications of ACM* 35, 12 (December 1992), 83-97.
81. "Designing new principles for sustaining research in our universities," *Communications of ACM* 36, 7 (July 1993), 99-104.

82. "A Discipline of Software Architecture" (P. Denning and P. A. Dargan), *ACM Interactions* 1, 1 (January 1994), 55-65. Republished in *Transactions of the South African Institute of Electrical Engineers* 87, 3 (Sept 1996), special issue on software engineering.
83. "Completing the Loops," (P. Denning and R. Medina-Mora), *ORSA/TIMS Interfaces* 25, 3 (May-June 1995), 42-57.
84. "A short theory of multiprogramming," in *Proc. MASCOTS'95*, IEEE Press (January 1995), 2-7.
85. "Re-engineering the engineering school" (P. Denning, D. Menascé, and J. Gerstner). In *Proc. ASEE Conf.* (June 1995), 1037-1042.
86. "Can there be a science of information?" *ACM Computing Surveys* 27 (June 1995), 23-25.
87. "Virtual memory." *ACM Computing Surveys* 28, 1 (1996), 213-216.
88. "Professional software engineering education," *Annals of Software Engineering Education* 6, 1998, 145-166.
89. "Origin of virtual machines and other virtualities." *Annals of the History of Computing* 23 (July-Sept 2001), 73.
90. "Designing an IT College." (with R. Athale, N. Dabbagh, D. Menascé, J. Offutt, M. Pullen, S. Ruth, R. Sandhu). 2001. *Networking the Learner* (Proceedings of the IFIP World Congress on Computers in Education). Kluwer Academic Publishers. 541-550.
91. "Innovation as Language Action." (with Robert Dunham) *ACM Communications* 49 (May 2006), 47-52. (Special section on language-action)
92. "Transformational Events." (with John Hiles). *Computer Science Education* 16, 2 (June 2006), 77-85.
93. "The Great Principles of Computing." *American Scientist* 98 (Sep-Oct 2010), 369-372. **(Selected for *Best Writings on Mathematics 2010* (Mircea Pitici, Ed.), Princeton University Press.)**
94. "What is computation?". *ACM Ubiquity* (October 2010). DOI: 10.1145/1880066.1880067. [ubiquity.acm.org/article.cfm?id=1880067]
95. "What is computation? Closing Statement." *ACM Ubiquity* (March 2011). DOI: 10.1145/1967045.1967046. [ubiquity.acm.org/article.cfm?id=1967046]

### Invited Papers (reviewed)

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96. "A Scientist's View of Government Control over Scientific Publication," *Comm. ACM* 25, 2 (February 1982), 95-93. Reprinted in *IEEE Trans. on Computers and Society*, (September 1982), together with an article by Admiral B. R. Inman and additional comments by both authors.
97. "The ACM Electronic Publishing Plan," (P. Denning and B. Rous), *Communications of ACM* 38, 4 (April 1995), 97-103. Condensed version in *The Serials Librarian* (NASIG Conf. Proc.), ISSN 0361-526X, Haworth Press,

- Inc., New York (June 1995), 57-62. Republished in *Astrophysics and Space Science* 247 (1997), 69-82.
98. "The ACM Interim Copyright Policies for Cyberspace," *Communications of ACM* 38, 4 (April 1995), 104-107.
  99. "Author's Guide to the ACM Copyright Policies," *Communications of ACM* 38, 4 (April 1995), 107-109.
  100. "Business designs for the new university." *Educom Review* (Nov-Dec 1996), 20-33.
  101. "A new social contract for research." *Communications ACM* 40(Feb 1997).
  102. "The new university." *The Leading Edge*, published by the Society of Exploration of Geophysics (July 1997), 1013-1016.
  103. "Skewer the Stereotype." *Educom Review* 33, 3 (May-June 1998), 30-34.
  104. "Computing the profession." *Educom Review* 33 (Nov-Dec 1998), 26-30, 46-59.
  105. "Teaching as a social process." *Educom Review* 34 (May-June 1999), 18-22.
  106. "The professional teacher." *GMU Inventio* (Spring 1999), on the web <http://www.doiit.gmu.edu/inventio>.
  107. "Our seed corn is growing in the commons." In *Information Impacts* (iMP), an electronic magazine of opinion, <<http://www.cisp.org/imp/>>, (March 1999).
  108. "A model curriculum for an IT College at University of United Arab Emirates." (with R. Athale, N. Dabbagh, D. Menascé, J. Offutt, M. Pullen, S. Ruth, R. Sandhu). Published as web report <[cne.gmu.edu/pjd/UAE](http://cne.gmu.edu/pjd/UAE)>. 2001
  109. "Getting Your Ideas Adopted." *Tau Beta Pi Bent* (Spring 2011), 21-24.
  110. "Computer Science: An Interview" (with Neville Holmes). *IEEE Computer* (March 2011), 94-96.

### **ACM Communications Columns (reviewed)**

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111. "Who are we?" *ACM Communications* 44, 2 (February 2001), 15-19. Republished in the journal for the present and future of the informatics profession, *Informatik* 4 (Aug 2001), 5-8.
112. "Crossing the chasm." *ACM Communications* 44, 4 (April 2001), 21-25.
113. "The IT college movement." *ACM Communications* 44, 7 (Aug 2001), 19-22.
114. "The core of a Third-Wave professional." *ACM Communications* 44, 11 (Nov 2001), 21-25.
115. "Internet Time", *ACM Communications* 45, 2 (March 2002), 15-18.
116. "Flatlined." *ACM Communications* 45, 6 (June 2002), 15-19.
117. "Career Redux." *ACM Communications* 45, 6 (Sept 2002), 21-26.

118. "The Missing Customer." *ACM Communications* 46, 3 (Mar 2003), 19-23.
119. "Accomplishment." *ACM Communications* 46, 7 (Jul 2003), 19-23.
120. "Great Principles of Computing." *ACM Communications* 46, 11 (Nov 2003), 15-20.
121. "The Social Life of Innovation." *ACM Communications* 47, 4 (Apr 2004), 15-19.
122. "The Field of Programmers Myth." *ACM Communications* 47, 7 (Jul 2004), 15-20.
123. "Network Laws." *ACM Communications* 47, 11 (Nov 2004), 15-20.
124. "Is Computer Science Science?" *ACM Communications* 48, 4 (Apr 2005), 27-31.
125. "The Principle of Locality." *ACM Communications* 48, 7 (Jul 2005), 19-24.
126. "Recentering Computer Science". (with Andrew McGettrick). *ACM Communications* 48, 11 (Nov 2005), in process.
127. "Hastily Formed Networks." *ACM Communications* 49, 4 (Apr 2006), 15-20.
128. "Infoglut." *ACM Communications* 49, 7 (July 2006), 15-19.
129. "Decision Making in Very Large Networks" (with Rick Hayes-Roth). *ACM Communications* 49, 11 (November 2006), 19-23.
130. "Mastering the Mess." *ACM Communications* 50, 4 (April 2007), 21-25.
131. "Computing is a Natural Science." *ACM Communications* 50, 7 (July 2007), 13-18.
132. "The Choice Uncertainty Principle." *ACM Communications* 50, 11 (November 2007), 9-14.
133. "Getting to we." (with Peter Yaholkovsky). *ACM Communications* 51, 4 (April 2008), 19-24.
134. "Voices of Computing." *ACM Communications* 51, 8 (August 2008), 19-21.
135. "Evolutionary System Development." (with Chris Gunderson and Rick Hayes-Roth). *ACM Communications* 51, 12 (December 2008), 29-31.
136. "Is Software Engineering Engineering?" (with Richard Riehle). *ACM Communications* 52, 3 (March 2009), 1-3.
137. "Beyond Computational Thinking." *ACM Communications* 52, 6 (June 2009), 28-30.
138. "Computing: The Fourth Great Domain of Science" (with Paul Rosenbloom). *ACM Communications* 52, 9 (Sep 2009), 27-29.
139. "Computing's Paradigm." (with Peter Freeman). *ACM Communications* 52, 12 (Dec 2009), 28-30.
140. "Orchestrating Coordination in Pluralistic Networks." (with Fernando Flores and Peter Luzmore), *ACM Communications* 53, 3 (March 2010), 30-32. DOI: 10.1145/1666420.16666434.

141. "The Resurgence of Parallelism" (with Jack Dennis), *ACM Communications* 53, 6 (June 2010), 30-33. DOI: 10.1145/1743546.1743560.
142. "Discussing Cyber Attack." (with Dorothy Denning). *ACM Communications* 53, 9 (Sept 2010), 29-31. DOI: 10.1145/1810891.1810904.
143. "The Long Quest for Universal Information Access." (with Robert Kahn). *ACM Communications* 53, 12 (Dec 2010), 34-36. DOI: 10.1145/1859204.1859218.
144. "Managing Time." *ACM Communications* 54, 3 (Mar 2011), 32-34.
145. "Who are we -- now?" (with Dennis Frailey). *ACM Communications* 54, 6 (June 2011), to appear.
146. "Managing Time Part 2" (with Ritu Raj). *ACM Communications* 54, 9 (Sept 2011), to appear.

### **American Scientist Columns (reviewed)**

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147. "Computer Science," *American Scientist* 73, 1 (January-February 1985), 16-19.
148. "Computer Networks," *American Scientist* 73, 2 (March-April 1985), 127-129.
149. "Supernetworks," *American Scientist* 73, 3 (May-June 1985), 225-227.
150. "Parallel computation," *American Scientist* 73, 4 (July-August 1985), 322-323.
151. "The evolution of parallel processing," *American Scientist* 73, 5 (September-October 1985), 414-416.
152. "The arbitration problem," *American Scientist* 73, 6 (November-December 1985), 516-518.
153. "Expert systems," *American Scientist* 74, 1 (January-February 1986), 18-20. Reprinted as "Toward a Science of Expert Systems," *IEEE Expert* 1, 2 (Summer 1986), 80-83.
154. "Is Random Access Memory Random?" *American Scientist* 74, 2 (March-April 1986), 126-127.
155. "Virtual Memory," *American Scientist* 74, 3 (May-June 1986), 227-229.
156. "Will Machines Ever Think?" *American Scientist* 74, 4 (July-August 1986), 344-346.
157. "Electronic Publishing," *American Scientist* 74, 6 (November-December 1986), 582-585.
158. "Security of Data in Networks," *American Scientist* 75, 1 (January-February 1987), 12-14.
159. "Evaluating Supercomputers," *American Scientist* 75, 2 (March-April 1987), 130-132.
160. "Multigrids and Hypercubes," *American Scientist* 75, 3 (May-June 1987), 234-238.

161. "Computer Modeling of AIDS Epidemiology," *American Scientist* 75, 4 (July-August 1987), 347-352.
162. "Baffling Big Brother," *American Scientist* 75, 5 (September-October 1987), 464-466.
163. "A New Paradigm for Science," *American Scientist* 75, 5 (November-December 1987), 572-573.
164. "Deadlocks," *American Scientist* 76, 1 (January-February 1988), 11-12.
165. "Blindness in the Design of Intelligent Systems," *American Scientist* 76, 2 (March-April 1988), 118-120.
166. "Computer Viruses," *American Scientist* 76, 3 (May-June 1988), 236-238.
167. "Speeding up Parallel Processing," *American Scientist* 76, 4 (July-August 1988), 347-349.
168. "Memory Protection," *American Scientist* 76, 5 (September-October 1988), 436-438.
169. "Modeling the AIDS Epidemic," *American Scientist* 76, 6 (November-December 1988), 552-555.
170. "Massive Parallelism in the Future of Science," *American Scientist* 77, 1 (January-February 1989), 16-18.
171. "The Internet Worm," *American Scientist* 77, 2 (March-April 1989), 126-128.
172. "Bayesian Learning," *American Scientist* 77, 3 (May-June 1989), 216-218.
173. "Sparse Distributed Memory," *American Scientist* 77, 4 (July-August 1989), 333-335.
174. "Worldnet" *American Scientist* 77, 5 (September-October 1989), 432-434.
175. "The ARPANET After Twenty Years" *American Scientist* 77, 6 (November-December 1989), 530-534.
176. "Stopping Computer Crimes" *American Scientist* 78, 1 (January-February 1990), 10-12.
177. "Is Thinking Computable?" *American Scientist* 78, 2 (March-April 1990), 100-102.
178. "Changing the Guard" *American Scientist* 78, 3 (May-June 1990).
179. "About time" *American Scientist* 78, 4 (July-August 1990), 303-306.
180. "Saving all the bits" *American Scientist* 78, 5 (September-October 1990), 402-405.
181. "Modeling reality" *American Scientist* 78, 6 (November-December 1990), 495-498
182. "Beyond formalism" *American Scientist* 79, 1 (January-February 1991), 8-10.
183. "Mutual Exclusion" *American Scientist* 79, 2 (March-April 1991), 111-114.

184. "Queueing in networks of computers" *American Scientist* 79, 3 (May-June 1991), 206-209.
185. "In the Queue: Mean Values" *American Scientist* 79, 5 (September-October 1991), 402-403.
186. "Genetic Algorithms", *American Scientist* 80, 1 (January-February 1992), 12-14.
187. "Passwords", *American Scientist* 80, 2 (March-April 1992), 117-120.
188. "Work is a closed loop process", *American Scientist* 80, 4 (July-August 1992), 314-317.
189. "Neural networks", *American Scientist* 80, 5 (September-October 1992), 426-429.
190. "RISC architecture", *American Scientist* 81, 1 (January-February 1993), 7-10.
191. "Computational grids", *American Scientist* 81, 3 (May-June 1993), 212-215.
192. "The Clipper Encryption System" (D. Denning and P. Denning), *American Scientist* 81, 3 (July-August 1993), 319-323.
193. "An End and a Beginning", *American Scientist* 81, 5 (September-October 1993), 416-418.

### **Other Columns (reviewed)**

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194. "Predictive documentation by computer," *Journal of Irreproducible Results* (November 1978).
195. "Moral clarity in the computer age," *Comm. ACM* 26, 10 (October 1983), 709-710.
196. "Educational ruminations," *Comm. ACM* 27, 10 (October 1984), 979-983. Also in *IEEE Computer* (July 1985).
197. "Review of Hofstadter's "Metamagical Themas," *American Scientist* 74, 4 (July-August 1986), 422-423.
198. "Parallel Computation and its evolution," *ACM Communications* 29, 12 (December 1986), 1163-1167.
199. "The Lost Art of Self Defense," *ACM Communications* 30, 2 (February 1987), 110-111.
200. "Paradigms Crossed," *ACM Communications* 30, 10 (October 1987), 808-809.
201. "Selling Science," *ACM Communications* 31, 2 (February 1988), 100. Also in *American Scientist* 76, 3 (May-June 1988).
202. "Awakening," *ACM Communications* 31, 11 (November 1988), 1254-1255.
203. "Fallen or Guided?" *ACM Communications* 31, 12 (December 1988), 1372.

204. "Whats Next? Partners in Thought," *ACM Communications* 32, 1 (January 1989), 7-8.
205. "Human Error and the Search for Blame," *ACM Communications* 33, 1 (January 1990), 6-7.
206. "Sending a signal," *ACM Communications* 33, 8 (August 1990), 11, 13.
207. "Patent or perish," *ACM Communications* 33, 9 (September 1990), 15-16.
208. "Short Citedness," *ACM Communications* 34, 5 (May 1991), 17-19.
209. "Computing, Applications, and Computational Science," *ACM Communications* 34, 10 (October 1991), 129-131.
210. "What is Software Quality," *ACM Communications* 35, 1 (January 1992), 13-15.
211. "Halting the unstoppable," *ACM Communications* 35, 7 (July 1992), 11ff.
212. "A World Lit by Flame," Inside Risks Guest Column, *ACM Communications* 36, 12 (December 1993), 170.
213. "Information Superhighway 2015," Inside Risks Guest Column, *ACM Communications* 38, 4 (April 1995), 138.
214. "W(h)ither Education and Research," (with Peter Neumann), Inside Risks Column, *ACM Communications* 39, 1 (February 1996), 154.
215. "State of Computer Science and Engineering Undergraduate Education," *ACM Communications* 39, 4 (May 1996), 27-31. Condensation in *Computing Research News* (January 1996).
216. "Undergraduate education in computer science and engineering." *AMS Notices* (June 1996), 677-680.
217. "The rift between computer science and software engineering: Filing for divorce?" Inside Risks, *ACM Communications* 41 (August 1998), 128.
218. "Risks of linear thinking." Inside Risks, *ACM Communications* 45, 3 (March 2002), 120.
219. "Artificial Stupidity". Inside Risks, *ACM Communications* 47, 5 (May 2004), 112.
220. "Wikipedia Risks" (with J. Horning, D. Parnas, and L. Weinstein). Inside Risks Column, *ACM Communications* 48, 12 (Dec 2005).

### **Invited Book Chapters (reviewed)**

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