

Education: Ph.D. in psychology, Stanford, 1973; B.A. in psychology, Amherst College, 1966

Employment

Professor of Psychology, School of Cognitive Science, Hampshire College, 1987–present
Dean of Cognitive Science, Hampshire College, 2005–2011, (Also three previous terms)
Assistant & Associate Professor of Psychology, Hampshire College, 1971–1987

Professional History

I joined the Hampshire faculty in 1971, the second year of the college's operation, and am a co-founder of the cognitive science program. I served as Dean of the School of CS four times, most recently from 2005 through 2011. During the early 1970's everyone on the faculty worked intensely on fleshing out a college that was founded on visionary but untested ideas. Six of us on the early faculty also devoted our energies to a proposal for a School of "Language and Communication," which later became Cognitive Science. We taught experimental interdisciplinary courses, wrote a 35-page proposal, and lobbied it through a surprisingly resistant faculty. The other five faculty members left Hampshire long ago. I am still here and only dimly remember how, as a 27-28-year-old straight out of graduate school, I was entrusted to, and managed to, organize and edit the proposal for the School and then Chair it in its second year of operation.

In the 1980's and 90's I was able to participate in a growing national movement for undergraduate cognitive science. As first author and editor, I worked with colleagues at Hampshire and the University of Massachusetts to write *Cognitive Science: An Introduction* (MIT press, 1st edition 1987, 2nd edition 1995), the first comprehensive textbook in cognitive science. I also organized and ran national workshops on teaching cognitive science for the Sloan Foundation, the National Science Foundation, and the Cognitive Science Society. These activities led in the late 1990's and early 2000's to invited memberships on NSF panels that reviewed the Foundation's priorities in undergraduate education (1996), educational research (1996), and instructional technology (2002), to frequent work on NSF proposal-review panels, and to frequent invitations to review or consult with undergraduate cognitive science programs.

During this period, I became heavily involved with the learning science movement, that is, with the application of cognitive science to education. I was PI or co-PI on more than \$3.5M in federal grants and served as a co-organizer, consultant, or evaluator on a number of other projects. The projects included research on conceptual change in science undergraduates, the development of inquiry-oriented software, direct interventions in public K-12 schools, and collaborations with chemists, biologists, and geoscientists on undergraduate curriculum reform.

From 2005-2011 I devoted myself to a final term as Dean of Cognitive Science. Since then, I have returned to teaching straight cognitive science, spending a good deal of time rethinking issues that I had drifted away from during years of involvement with applied cognitive science and with administration.

Selected Publications

Stillings, N. (2012). Complex systems in the geosciences and in geoscience learning. In K. A. Kastens and C. A. Manduca eds., *Earth and Mind II: A Synthesis of Research on Thinking and Learning in the Geosciences*, Geological Society of America Special Paper 486, 97-111. doi: 10.1130/2012.2486(17).

Jones, L. L., Jordan, K. D. and Stillings, N. (2005). Molecular visualization in chemistry

education: The role of multidisciplinary collaboration. *Chemistry Education Research and Practice*, 6(3), 146-49.

Stillings, N. A. (1995). Cognitive Science in the Undergraduate Curriculum. Final report of the National Workshop On Undergraduate Cognitive Science Education, Washington, D.C., May 1993. Washington, D.C.: National Science Foundation. Available on the World Wide Web at <http://helios.hampshire.edu/~nasCCS/nsfreport.html>

Stillings, N. A., et al. (1995). *Cognitive science: An introduction (2nd ed.)*. Cambridge, MA: MIT Press. [First author, editor, and author of four chapters.]

Stillings, N. A. (1987). Modularity and naturalism in theories of vision. In Garfield, J. L., Ed., *Modularity in knowledge representation and natural-language understanding*. Cambridge, MA: MIT Press

Rosenbaum, D. A., Gordon, A. M., Stillings, N. A., and Feinstein, M. (1987). Stimulus response compatibility in the programming of speech. *Memory & Cognition*, 15(3), 217-224.

Bonanno, G. & Stillings, N. A. (1986). Preference, familiarity, and recognition after repeated brief exposures to random geometric shapes. *American Journal of Psychology*, 99(3), 403-415.

Selected Grant-supported Activities

- PI: Hampshire College Center for Science Education. Dept. of Energy Grants DE-FG02-02ER63397 (\$241,000, 2002-2005) and DE-FG02-06ER64256 (\$481,000, 2005-2009).
- Co-PI: Assessment of Model-Based Reasoning in Biology (NSF Grant No. DUE-0512725, \$325,015).
- PI: The Development of Scientific Thinking and Conceptions of Science in College Science Students (NSF Grant No. 9980519, \$997,612).
- Co-PI: An Inquiry-Based Simulation Learning Environment for the Ecology of Forest Growth (NSF Grant No. 9972486, \$240,406).
- PI: Inquiry-Based Science Education: Cognitive Measures and Systems Support (NSF Grant No. 9720363, \$1,092,499).

Teaching and advising

Over the course of a career I have taught in a number of areas. Currently, I teach intermediate-level introductions to cognitive science (*Minds, Brains, & Machines*) and to music perception (*Music, Mind, & Brain*), and two advanced seminars that are organized around student interests and that are structured to teach students to write advanced literature reviews. I serve on Division II and III committees in any area of cognitive science or psychology.

Recent Division II concentrations (Individualized major, required of all Hampshire students)

Language and the brain: Perception, processing, and mental representations

Understanding the Brain and Mind with Reference to Music

Matter and Mind (*Cognitive science & physics*)

Recent Division III projects (Undergraduate thesis project, required of all Hampshire students)

Distributed Cognition: its Aim and Prospects (*Theory*)

Teaching Girls to Like Math: Educating for Equality in a Mathematics Classroom (*Lit review & teaching internship for licensure*)

The Nature of Pragmatic Violations (*Experimental cognitive development*)

The Influence of Race and Urban Clothing on Implicit Stereotyping (*Experimental social psych*)

Music as a Rehabilitative Tool for Cochlear Implant Users (*Empirical case study*)