Boomtimes

E VEN THOUGH THE MANSFIELD AMENDMENT AND THE LIGHTHILL REPORT CAUSED difficulties for basic AI research during the 1970s, the promise of important applications sustained overall funding levels from both government and industry. Excitement, especially about expert systems, reached a peak during the mid-1980s.

I think of the decade of roughly 1975–1985 as "boomtimes" for AI. Even though the boom was followed by a period of retrenchment, its accomplishments were many and important. It saw the founding in 1980 of the American Association for Artificial Intelligence (AAAI – now called the Association for the Advancement of Artificial Intelligence), with annual conferences, workshops, and symposia. (Figure 21.1 shows a scene from one of the many trade shows during this era.) Several other national and regional AI organizations were also formed. The Arpanet, which had its beginnings at a few research sites in the late 1960s, gradually evolved into the Internet, linking computers worldwide.

Various versions of the LISP programming language coalesced into INTERLISP, which continued as the predominant language for both AI research and applications (although PROLOG was a popular competitor in Europe, Canada, and Japan). Researchers and students at MIT designed work-station-style computers, called Lisp machines, that ran LISP programs efficiently. Lisp Machines, Inc., and Symbolics were two companies that built and sold these machines. They enjoyed initial success but gradually lost out to other providers of workstations.[1]

Many other AI companies joined the expert systems companies and the Lisp machine companies. For example, in 1978 Earl Sacerdoti and Charles Rosen founded Machine Intelligence Company to market robot vision systems. In 1984, Cuthbert Hurd (1911–1996), who had earlier helped IBM develop its first computer, and David Warren founded Quintus, Inc., to market PROLOG systems. In 1984, Fritz Kunze, a graduate student at UC Berkeley, founded Franz, Inc., to market FranzLISP, a version of the LISP programming language.[2] Lavish exhibits at trade shows associated with AI conferences charged the whole field with excitement. Membership in the AAAI rose from around 5,000 shortly after the society's founding to a peak of 16,421 in 1987. (AAAI membership has since leveled off, after the boom, back to around 5,000.) Most of these new members – curious about what AI could do for them – came from industry and government agencies. Tutorials about various AI topics at both AAAI and IJCAI conferences were very well attended by people from industry wanting to learn about this newly important field.

During the early 1980s, my colleagues in several departments at SRI, especially those working on Defense Department projects, were eager to get help from the SRI

Figure 21.1. Scene from one of the AAAI trade shows during the 1980s. (Photograph from Bruce B. Buchanan, "Some Recollections about the Early Days of AAAI," *AI Magazine*, Vol. 26, No. 4, p. 14, © 2005 Association for the Advancement of Artificial Intelligence. Used with permission.)

AI Center – of which I was the director at the time. Mainly, I thought, they wanted us to "sprinkle a little AI" on their proposed projects to make them more enticing to government sponsors.

Reporting on this increasing interest in 1984, the science writer George Johnson wrote[3]

"We've built a better brain," exclaimed a brochure for [an expert system called] TIMM, The Intelligent Machine Model: "Expert systems reduce waiting time, staffing requirements and bottlenecks caused by the limited availability of experts. Also, expert systems don't get sick, resign, or take early retirement." Other companies, such as IBM, Xerox, Texas Instruments, and Digital Equipment Corporation, were more conservative in their pronouncements. But the amplified voices of their salesmen, demonstrating various wares [in the 1984 AAAI exhibit hall], sounded at times like carnival barkers, or prophets proclaiming a new age.

The boom continued with Japan's "Fifth Generation Computer Systems" project. That project in turn helped DARPA justify its "Strategic Computing Initiative." It also helped to provoke the formation of similar research efforts in Europe (such as the ALVEY Project in the United Kingdom and the European ESPRIT programme) as well as the formation of American industrial consortia for furthering advances in computer hardware. Assessments of some of AI's difficulties and achievements, compared to some of its promises, led to the end of the boom in the late 1980s – causing what some called an "AI winter." I'll be describing all of these topics in subsequent chapters.

Notes

1. By the way, the "iwhois" Web site (http://www.iwhois.com/oldest/) lists Symbolics as having the oldest registered ".com" domain name (registered on March 15, 1985.) [271]
2. See http://www.franz.com/about/company.history.lhtml. [271]
3. George Johnson, "Thinking about Thinking," *APF Reporter*, Vol. 8, No. 1, 1984. Available online at http://www.aliciapatterson.org/APF0801/Johnson/Johnson.html. [272]