and Ungar, the two celebrated experiments that 'proved' Einstein's theory of relativity (Michaelson – Morley experiment to show that light travelled at the same speed in all directions, and Sir Arthur Eddington's observation of deflection of a light beam due to a strong gravitational field), the recent well-publicised story of cold fusion research, the Pasteur-Pouchet debate on the doctrine of 'spontaneous generation of life' in 19th century France, Joseph Weber's idea of gravitational radiation, David Crews' claims on the sexual behaviour of the whiptail lizard and the solar neutrino problem. To understand how science works we must understand science which fails as well as science which succeeds. By placing these stories in their historical and sociological contexts, Collins and Pinch convert each one of these encounters with the natural world into a self-contained sociological experiment in its own right. It is almost like a conducted tour and the authors make you see what they want you to see!

In short, their message is simple and clear. Knowledge is not all cognitive, there is much social construction.

Some of the profound 'truths' of science, Collins and Pinch would have us believe, are not truths forced on us by the inexorable logic of a set of crucial experiments but were brought about by agreements to agree about new things – a kind of concensus as in politics. 'What people are prepared to believe is not just a function of what a scientist discovers but of the image of the work that he or she presents'. The manner of presentation is just as important as the content in the competition between conflicting claims in science.

Often, in scientific controversies proponents and critics question not only one another's 'content' but also one another's quality of work, skill and competence. This struggle for credibility leads to the experimenter's regress – for fear of revealing one's own experimental incompetence researchers refrain from reporting their results in a controversial area, point out Collins and Pinch.

The authors admit that the most important purpose of the book is to change the public understanding of the political role of science and technology. This they have achieved in ample measure.

This book should be read widely in India. The point of view presented here is rarely debated by Indian scholars. It is a pity that despite so much science being done in this country there is not a single school of science studies worth the name.

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Research Directions in Computer Science: An MIT Perspective. Albert R. Meyer, John V. Guttag, Ronald L. Rivest and Peter Szolovits, eds. The MIT Press, Massachusetts Institute of Technology, Cambridge, Massachusetts 02142, USA. 491 pp. $40.00. 1991.

'Could computers really be made to work?' an important question which worried computer scientists during the late 1940s and early 1950s. The answer suggested at that time was 'barely' since most of the vacuum tube machines, while showing tantalizing potential, had failure intervals of a few minutes.

MIT was fortunate to have one of those pioneering machines, 'WHIRLWIND I', which had failure intervals of about 20 minutes on a good working day. Out of the experience and work done on Whirlwind I, emerged what we now accept as giant corporations such as Digital Equipment Corporation and labs such as Lincoln Laboratories, the Sage Air Defense System and the Mitre Corporation.

As time went by and computers showed a little more reliability, there came a stage when programing was thought to be very difficult and highly specialized. The alternative then was to make programing easier and the solution offered was a flurry of programing languages. Literally hundreds of languages surfaced but FORTRAN became the most famous.

In the late 1950s a major shift in computer evolution was suggested by John McCarthy (then at MIT). He proposed 'time sharing' where, instead of processing user jobs serially, they were to be handled in parallel under the online control of each user. A similar proposal was independently suggested by Christopher Strachey in England. The idea of time sharing led Herb Teager at the MIT Computation Center to begin work on IBM 709, which was to involve the completely new development of all software tools and languages. In 1961, CTSS (compatible time sharing system) was able to meet the initial goal of a 4-terminal demonstration.

During the heat of this 'time sharing' concept occurred an outstanding MIT proposal – Project MAC (multi-access computer). This book celebrates the 25th Anniversary of the founding of MIT's Project MAC. It covers the full range of the ongoing computer science research at the MIT Laboratory for Computer Science and the MIT Artificial Intelligence Laboratory, both of which grew out of the original Project MAC.

Each chapter is an excellent contribution of MIT's faculty and staff of laboratories and highlights current research and future trends in multiprocessor and parallel computer architecture in languages and systems for distributed computing, in intelligent systems and robotics, in complexity and learning theory, in software methodology, in programing language theory, in software for engineering research and education and in the relation between computers and economic productivity.

This book will certainly prove to be extremely insightful and inspiring to students and computer scientists at every stage of research.

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