such crucial resources, innovation faces obstacles in getting off the ground.

In *The Venturesome Economy*, Bhidé provides a thorough discussion of the relationship between venture-backed business and globalization. Asserting the global influence of the United States, he explores the complex synthesis of innovation in an increasingly open international market. He also emphasizes the importance of embracing the ever-changing market and not fearing the false alarms and paranoia that strike an unpredictable economy. Fortune can be invited only by discourse with other countries and by encouraging their advancement and development. The venturesome economy will establish itself on such frankness to innovation in a constantly changing world. ■

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India's scientific legacy

Technology at the Core: Science and Technology with Indira Gandhi
by Ashok Parthasarathi
Addison-Wesley Professional: 2008.
348 pp. $29.99

The end of the Second World War saw the beginning of decolonization in many countries. Among the nations that became free, India is unique in having a firm science and technology base. This exists because the nation was led by a visionary prime minister, Jawaharlal Nehru, who strongly believed in directing science and technology for the development of the emerging nation. Nehru's dialogue with high-ranking scientists, such as Shanti Swarup Bhatnagar, Homi Bhabha and Daulat Singh Kothari, led to practical solutions for how to achieve it. Another fortunate circumstance was that Nehru had a long tenure of 17 years at the helm, during which India enjoyed political stability.

It is against this background that one should read *Technology at the Core*. The author's father, the late G. Parthasarathi, was a senior diplomat and close confidant of prime minister Indira Gandhi, Nehru's daughter. And author Ashok Parthasarathi worked for several years in her secretariat, making him eminently qualified to write an account of how she handled issues relating to science and technology. Indeed, in several places he cites instances showing the informality of her interaction with him.

Mrs Gandhi, as she was widely known, succeeded her father two years after his demise, and like him, she had a soft spot for science and technology. "It was Indira Gandhi who brought scientists, engineers and technocrats into policy-making and managerial positions," explains Parthasarathi. Nehru, by contrast, saw them more as laboratory workers and thinkers.

This book focuses on the years 1967 to 1977 and 1980 to 1984, when Mrs Gandhi was in power and when Parthasarathi was able to observe, report on and somewhat influence the events that were important enough for the prime minister's intervention. Since Nehru's time, major science and technology issues in India, such as space and atomic energy, have been handled by the prime minister. Parthasarathi was initially appointed special assistant to Vikram Sarabhai, the Chairman of the Atomic Energy Commission. In 1970 he was moved to the prime minister's secretariat, where his job was administrative in nature but required good scientific knowledge. His varied roles included briefing the prime minister, preparing drafts of her speeches, acquainting her with the progress of meetings — including complaints about bureaucratic delay — and reminding her of previous enabling decisions of the cabinet.

One might imagine that science-related decisions would be taken rationally. That image receives a knock if one reads the accounts in this book. One learns that Sarabhai gave an unrealistic future estimate of nuclear power generation without consulting his second-in-command at the Atomic Energy Commission, Homi Sethna, who had the engineering experience. The Department of Atomic Energy continued to have internal quarrels between engineers and scientists. The book also describes controversies from the Council of Scientific and Industrial Research, with one director-general reportedly victimizing the favoured staff of his predecessor.

There are hints of bigger controversies. When the Indian National Satellite System was being constructed, Mrs Gandhi insisted on finding out who was involved in the tendering procedure. She suspected that one of her senior ministerial colleagues was trying to influence the bids. Advance payments were reportedly sent to suppliers of defence equipment in the United States shortly before the US government was

INNOVATIVE READING

Gary Hall argues for the importance of free, worldwide and perpetual access to scientific research results in *Digitize this Book!* (Univ. Minnesota Press, 2008). He focuses on the benefits and problems of open access for academic and research purposes, discusses the global effects of new media and asks to what extent increasing Internet use has changed political decision-making.

Two new books discuss the effects of technology on society. *Beyond: Business and Society in Transformation* (Palgrave Macmillan, 2008) looks at how it is influencing areas such as science, religion, art and politics — and what we can expect in the future. Studying how technologies have altered education has led Mario Raich and Simon L. Dolan to predict the rise of a 'virtual culture' in business and society, in which physically distant individuals are linked by shared purposes online.

William E. Halal's *Technology's Promise* (Palgrave Macmillan, 2008) uses data gathered by the TechCast Project at George Washington University in Washington DC to predict how current problems, such as food shortages or the energy crisis, could lead to future opportunities. Assessing developments in genetics, energy and space travel, Halal speculates on how greater access to global information will provide opportunities for developing nations.

Innovative India Rises (Medialand, 2008), edited by veteran science writer and political journalist L. K. Sharma, presents a broad view of India's innovation. Scientists, policy makers and businessmen, justifiably proud of what India has achieved, assess the problems it faces and the future it may attain. Authors discuss India's aspirations in space and the potential benefits of space technology on the ground. Energy, defence and biotechnology also get an in-depth look. The volume updates a previous version written a decade ago.

Jenny Meyer