

Table 1 (pp. 237-238) includes megascopic character, field criteria, thickness and range. Relevance of 'Age' in this table under thickness in metres is ambiguous. Lot of basic data on megascopic and micro-petrographic nature of various flows has been documented. But recognition of lava-stratigraphic units based on petrography, major oxide and their correlation would remain suspect and pose major problems. One should recognize that chemically similar lava types in different areas are not necessarily contemporaneous as revealed by contrasting magnetic polarity signals from chemically similar flows. Yedekar and others (op. cit.) have also worked on chemo-magnetostratigraphy of Chhindwara-Jabalpur-Seoni-Mandla sector of Eastern Deccan Province and they too have discussed on such correlation problems.

Workers from Geological Survey of India, independently and also in collaboration with Japanese research group, have carried out chemo-magneto-stratigraphic work on Deccan Lava Flows. The pre-seminar proceeding by the Gondwana Geological Society (1996) has included number of these contributions. Geological Survey of India has also published a number of Quadrangle geological maps of Deccan Trap Area. Apparently these publications have not been consulted or cross-referred, resulting in introduction of a plethora of uncorrelatable names of Deccan lava units.

The section on Structure and Tectonics begins with Auden's (1949) contribution on dykes of Western India, reproduced without abridging. Auden's contribution has been discussed on dykes in clusters, swarms, radial networks in Gujarat and Konkan areas. Most of the dykes cutting the traps are shown to be post-lava. Glennie and Takin emphasized thick mafic intrusives, positive gravity anomaly over Bombay, and have provided insights into evolution of Deccan Province under influence of mantle plume, magma underplating and epirogenic uplift. West (1962) was the first to draw attention to the geological significance of the Narmada-Son lineament. This zone marks a Quaternary Basin along the faulted junction between two major blocks of the Indian continent, and has controlled the development of the Vindhyan and Gondwana Basins on its either side. The complex nature of this mega-lineament has been a subject of later studies. However, it is worthwhile to clarify that West did not

postulate that Narmada-Son lineament represents a 'geosuture'; as commented in the Introduction. The term 'geosuture' has specific tectonic connotation. The Narmada-Son lineament, on the other hand, is an intra-continental zone of crustal weakness that witnessed several reactivations at different geological times. Crustal structure of this zone has been brought out by DSS profiles (Reddy and others). K. S. Mishra expanded the work of Auden on the distribution of dykes in Saurashtra and Kutch based on studies of satellite imagery and aerial photographs. Sant described control of tectonics, relief and climate on geomorphology of the Deccan landscape. Seismogenic aspects of Deccan Province are discussed in three papers. Chadda and co-workers from NGRI reviewed the incidence of reservoir-induced seismicity (RIS) along the western coastal margin, especially the events of Koyna, Warna and Bhatsa in the Deccan Province. Mahadevan and others discussed seismicity of Deccan Province, especially on factors like role of compressive stress, pore pressures, etc. in different crustal blocks, such as Western Pericratonic Belt of Active Rifts, Saurashtra Block, Son-Narmada Belt, and the platforms to the south and north of SONATA Belt. Widdowson and Mitchell have discussed on the role of denudational isostasy. Keszthelyi and others have presented their studies on the morphology and dynamics of the Columbia River Basalt and Hawaiian flows. They have discussed continental flood basalt eruptions and mass extinction, raised certain unresolved questions on Deccan Volcanism, and proposed certain topics for future research.

The Memoir 43(1) by the Geological Society of India, edited by K. V. Subbarao, is thus a useful compilation on Deccan Volcanism dedicated to W. D. West. The volume one has recently been published (Price Rs 750), and volume two would follow soon. However, these volumes would be incomplete reference sets on Deccan so far as contemporary contributions are concerned; and *Deccan Basalt* (Price Rs 800) by Gondwana Geological Society (1996) would compliment this aspect. The *Annals of Deccan Traps Study and Bibliography on Deccan Trap*, Special Publication No. 38 of the Geological Survey of India (Price Rs 260), would provide glimpses into earlier studies, together with the bibliography.

These volumes combined together would provide complete collection of different aspects on Deccan Volcanism. Browsing the contents of the Memoir clearly brings out the extent of lack of communication and co-ordination among different teams working on Deccan Volcanism. It is noticed that different groups, or even same group working in the same or adjacent areas have independently classified the flows, numbered and grouped them into formations which at times have also been named. Thus there is a dire need for co-ordination among the workers on Deccan chemo-magneto-stratigraphy, as well as, in other aspects for arriving at a meaningful synthesis.

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The Life and Works of a Demographer: An Autobiography. Chidambara Chandrasekaran. Tata McGraw-Hill Publishing Company Ltd., New Delhi 110 008. 1999. 327 pp.

This autobiography is topical, as India is in the throes of transition from a Malthusian population to a modern demographic regime of low fertility and mortality. The author narrates in a lucid style, for the lay reader, his trials and triumphs in shaping a professional career in what was colonial India.

C. Chandrasekaran, the author of the book, was born in an illustrious South Indian Brahmin family with high values for scholarship and research. Job migration broke up the joint family which was not spared demographic visitations. The influenza pandemic claimed his mother, and his step-mother died in child birth. His education, both in India and England, was interrupted due to illness caused by bouts of virulent malaria.

Two Nobel laureates came from Chandrasekaran's family and had a profound influence on his career. His uncle, Sir C. V. Raman, won the Nobel prize for physics. Chandrasekaran's cousin and

peer, S. Chandrasekar or 'Chandra', however, was his role model. 'Chandra' had a brilliant career in education, was an outstanding theoretical physicist, and pioneered the discipline of astrophysics. He was belatedly awarded the Nobel Prize for his early work on 'white dwarfs'.

Chandrasekaran left for England just before the Second World War to take the Indian Civil Service Examinations or alternatively to obtain a professional education. Although the cultural shock was not as great as in the days of Srinivasa Ramanujan, the differences in the social milieu and dietary preferences, together with another bout of malaria made his adaptation to the alien culture rather difficult. He chose to become a statistician and obtained a Ph D degree from University College, London, under the able guidance of E. S. Pearson and J. Neyman. While in England, he did research on the then controversial problem of systematic versus random assignment of varieties in agronomic field trials.

On his return to India, Chandrasekaran began his foray into public health and medical statistics at the Hygiene Institute of Calcutta. As a Rockefeller Scholar, he obtained further training in biostatistics at the Johns Hopkins, Baltimore. This led to two important developments in his career. Human ecology – the dynamic adaptation of population and social organization to changes in environment and technology – was then emerging as a

global problem. Chandrasekaran was engaged by the United Nations to start investigations into the determinants and consequences of population trends. This mammoth study was published by the UN.

The second milestone in Chandrasekaran's career was that he was deputed by the UN to India to conduct a population survey for policy formulation. The Mysore Population Study, which he completed, provided important inputs to the Government of India in evolving a population policy for the country and in implementing it through a massive family planning programme. He served as the first Director of the GOI and UN Demographic Training and Research Centre in Bombay. He worked in the UN Population Division, and as an adviser to the World Bank in Indonesia. He was elected President of the International Union for the Scientific Study of Population and took an active part in the World Population Conference at Bucharest.

'Measurement began our might', says Yeats. Any scientific researcher is bound to encounter problems of measurement in his work. Compared to natural sciences, measurements in social sciences are more intricate, as perception and facts mingle. No population policy can be formulated or implemented without reliable measurement of demographic trends. Statutory registration of births and deaths, in countries like India, is far from complete. Chandrasekaran devised a system of dual enumeration of vital events and deve-

loped an appropriate method of estimation that even yielded a magical number of 'events missed' by both the two independent enumerators. The Sample Registration System of India, that provides the most reliable trends in vital rates among the available series, is based on his pioneering work.

After his return to India, Chandrasekaran has been greatly concerned about the need for the wide and rapid dissemination of population research findings on India to enhance the returns on research outlay. He founded the Applied Population Research Trust in Bangalore with this objective and has brought out several periodic and occasional publications.

While laying bare the technical intricacies of Chandrasekaran's research, the book evokes in the lay reader nostalgic memories of a nascent middle class in British India. It is a significant addition to the growing genre of biographies of scientists and professionals who have contributed to the making of modern India.

1. Kameshwar C. Wali (ed.), *Chandra*, Penguin Books, New Delhi, 1987.
2. Robert Kanigel (ed.), *The Man Who Knew Infinity*, Rupa and Co., New Delhi, 1993.

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MEETINGS/SYMPOSIA/SEMINARS

National Symposium on 'Mycology at 2000 and Beyond' & 26th Annual Meeting of the Mycological Society of India

Date: 21–23 December 1999

Place: Vallabh Vidyanagar

The seminar will be of three days comprising invited talks and poster and paper presentations to take a stock of research carried out in Fungal Biology. The themes of the symposium will be *Mycology and Agriculture*, *Mycology and Biotechnology* & *Mycology and Environment*.

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National Symposium on Magnetic Resonance and Biomolecular Structure and Function

Date: 17–20 January 2000

Place: Mumbai

The first two days will be devoted to Biomolecular Structure and Function and the next two days to Magnetic Resonance and its applications.

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