

motion of local veterinary practices through home herbal gardens, local herbal veterinary enterprises, conservation of local breeds and pastoral rights. An interesting article titled 'Punyakoti test' describes an Egyptian method of diagnosing pregnancy in cattle through urine analysis. All these papers although present preliminary results, they offer new and promising leads for innovations in veterinary science.

In the traditional healthcare section there are articles on topics like documentation of traditional food practices, assessment of traditional bone setting practices, revitalization of Dai (traditional midwives) and poison healers' tradition. An interesting article in this section by sociologist Harish Naraindas challenges the notion of 'innovation' in the field of traditional medicine and highlights contemporary challenges for trans-disciplinary work.

Though lone, the article on weather forecast provides significant information about weather forecasting traditions in Gujarat. Yet another solo article on water management delivers the key message that traditional methods of tanks and anicuts and their diversity has had a significant impact on food security. One article on vastu (traditional architecture) examines concepts and principles used in traditional houses and their modern adaptations in Sri Lanka.

There are seven papers on methodology of knowing and research, which provide a preliminary perspective for intercultural or trans-disciplinary research. However methodologically it is clear that there is still a long way to go in order to develop a comprehensive operational framework for trans-disciplinary research. Balasubramanian's article 'Is there an Indian way of doing science?' suggests that although there is a revival of interest in TK today, the comprehension of the epistemology of TK continues to be an area marked by ignorance. Ananda Wood's article 'New physics and old sciences' makes a deep distinction between modern and traditional sciences and points out that the methods of enquiry in modern sciences are restricted to investigating the objective sensory world in a way that excludes several dimensions of our mental faculties and their expressions of underlying consciousness. On the contrary, older sciences conceive nature in a way to include both the sensory world and an inner mental world by using deeper fac-

ulties of the mind giving rise to impersonal knowledge based on a subjective scheme of standardization.

There is a section on policy directions. Though loosely structured, this section puts forth many points for future action. Pushpa Bhargava's paper titled 'How to make India a knowledge based society?' discusses the government's strategy for traditional knowledge and its employment and income generating potential.

This book reminds us that we do have two parallel knowledge systems that inform social affairs in our subcontinent. The knowledge systems based on the western cultural and intellectual tradition are mainstream and they are adequately reflected in the formal education system at the school and university level. The TK systems exist without any institutional support except in the field of medicine. They are transmitted through an oral tradition kept alive by the commitments of individual knowledge holders.

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The Vedic People: Their History and Geography. Rajesh Kochhar. Orient Longman, 2000. xiv + 259. pp. Price: Rs 300.

Every Indian or Indophile or perhaps even Indologist is exposed traditionally in one form or another to *Vedas, Upanishads, Puranas, Ramayana, Mahabharata, Panchatantra*, and so on. MeghaNad Saha and N. C. Lahiri in 1955 gave India its official solar calendar after examining the history of the calendar in different countries through the ages, although this calendar is little known to the average Indian, let alone used by any sufficiently large group of people. There have been few studies since then on similar topics by people or agencies other than vested interests with their own axes to grind. The study reported in the book under review is a rare example of such an unbiased, objective work. (Another example

is Amartya Sen's *The Argumentative Indian* – see especially the essay 'India through its Calendars'.) The book grew out of the author's Kosambi Memorial Lecture delivered in Delhi on 16 October 1992, and, as it happens, refutes (p. 77) Damodar Dharmanand Kosambi's 1956 argument that the invading Aryans shattered the Harappan dam system, ruining the agriculture and hence the cities. Astrophysicist-turned-Indologist Rajesh Kochhar 'seeks to interpret the historical and geographical content of the *Vedas, Puranas, Ramayana, Mahabharata* and [*Zend Avesta* (the Zoroastrian book)] 'in a global context' using data from 'archaeology, natural history, metallurgy, astronomy, geology and even genetics', plus linguistics, history of technology, hydrology and other disciplines. He does this, eschewing any vested interest, and examines the available evidence in each discipline independently, and only then correlates very fruitfully across disciplines. Similar studies of other ancient texts of the world should benefit hermeneutics, the contextual study of their contents in a holistic, comparative manner.

In a nutshell, the book argues that a major part of *Rigveda* was composed in south Afghanistan from 1700 to 900 BC, before its nomadic composers entered the Punjab plain and well before they moved east of Ganga. During their migrations, these Indo-Aryans not only carried with them their rituals and hymns but also place and river names which they selectively reused. In particular, the Rigvedic description of Sarasvati and Sarayu fits the Afghan rivers Helmand and Hari-rud better than any river in India. Hydrological studies (including meander) of the various river systems over the millennia are needed to fully interpret these pieces of literary evidence. Two other constraints imposed by natural history are: the proto-Indo-Europeans domesticated the horse; and the Rigvedic and Avestan Aryans, but not other Indo-Europeans, built a cult around the Soma/Haoma plant, identified with Ephedra, as the author clearly shows, removing the confusion created by modern European studies, which indiscriminately multiplied the possibilities for Soma/Haoma, rather than eliminating those that did not fit the available evidence.

Apart from the preface, list of figures (totalling 6), maps (13) and tables (15) at the beginning, and notes, references and index at the end, the book is divided into

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11 chapters entitled (1) arrow of time, (2) the problem, (3) literary sources of ancient history, (4) puranic history, (5) archaeological setting, (6) Indo-Iranian habitat, (7) Rigvedic rivers, (8) Indo-Europeans and Indo-Iranians, (9) Rigvedic speakers and other indic speakers, (10) *Ramayana* and *Mahabharata*, and (11) concluding remarks. Each chapter is preceded by an apt quotation. The frontispiece pictorially indicates the interdisciplinary nature of the study by showing five different disciplines (archaeology, natural history, geomorphology, history of technology

and astronomy) that bear on the interpretation of Rigvedic evidence, along with Zoroastrian (*Zend Avesta*) giving the two-way linguistic similarity. The five disciplines + *Avesta*/linguistics are shown in six boxes surrounding the central box *Rigveda*, with Robert Frost's couplet: *We dance round in a ring and suppose. But the secret sits in the middle and knows:* quoted below. I am reminded of the same quote at the beginning of a colleague's Ph D thesis of about 30 years ago on the structure of extragalactic radio sources!

For a quick appraisal of the findings of the study reported at length in this book, a reading of the preface and chapters 1, 2 and 11 along with perusal of the figures, maps and tables is recommended. The book is recommended to the well-informed, numerate, general reader.

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