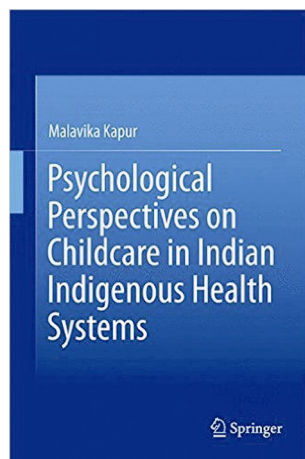


category, Cerling discusses the use of stable isotopes in forensic studies to answer questions related to the provenance of illicit materials. Kemp explores the usefulness of environmental sensing of nuclear activities, which is important in the verification processes of nuclear treaties. The evolving methodologies are now assuming greater relevance in detecting covert nuclear activities.

In summary, this volume has done an excellent job of showcasing the best of earth sciences research. In my last review of the 43rd volume published in *Current Science* (2016, **110**, 919–921), there was a mention on the lack of articles from Indian researchers. This time that quibble is compensated with Kaushik Datta's excellent article. The editors have also made a categorization of articles under various themes at least in their introductory article, which helps the readers to focus their attention according to their individual choice and interest (see my review of the 42nd volume (*Curr. Sci.*, 2015, **108**, 283–285)). This practice can also be extended to the contents page, where titles can be brought under various categories as done this time in the introductory article. The prefatory article in the latest volume ('Tektites, Apollo, the crust, and planets: a life with trace elements') is written by Stuart Ross Taylor, a planetary geochemist. With 10 books and 240 papers, he has made foundational contributions to the understanding of composition and evolution of the moon. His other interests include baroque and classical music (Mozart, Beethoven, Schubert and others) composed before 1820, previous to the Romantic Period. When I read about his interest in music, one question that came to my mind was the link between scientific success and art. There is enough proof to show that the firing of imaginative powers of scientists can also be correlated with their abiding interests in various non-scientific creative activities. Lives of many scientists give credence to this proposal, and Taylor is no exception.

C. P. RAJENDRAN

*Geodynamics Unit,
Jawaharlal Nehru Centre for Advanced
Scientific Research, Jakkur,
Bengaluru 560 064, India
e-mail: cprajendran@gmail.com*



Psychological Perspectives on Childcare in Indian Indigenous Health Systems. Kapur Malavika. Springer, Barakhamba Road, Fire Brigade Lane, Barakhamba, New Delhi 110 001, India. 2016. xx + 264 pp. Price: Euro 99.99.

Traditionally health and illness were interpreted in a cosmological and anthropological perspective, and were dominated by magical and religious beliefs. Given the limited knowledge on health and medicine, and low advancement of science, the archaic man attributed diseases, human sufferings and calamities to the wrath of Gods, invasion of the body by evil spirits and even malevolent influence of stars and planets. Subsequently, both Siddha and Ayurveda healthcare systems of medicine evolved in ancient India, which supported sustainable medical practices and disease control in the country. Hygiene was given importance in ancient Indian medicinal practices and played a significant role in many parts of Asia. However, in contemporary times, when medicinal practices and disease control mechanisms are being led by scientific knowledge and technological innovations, the erstwhile traditional medicinal practices such as Ayurveda, Siddha, Unani and Tibetan system have proved their relevance and presence. The book under review provides a comprehensive, yet focused account of indigenous health system from psychological perspective in the context of childcare. The book has 22 chapters classified under five major parts. Ayurveda, Siddha, Unani and Tibetan systems of medicine have been discussed at length in the first four parts. Basic principles, developments with particular significance to childcare, disorders in the newborn and

common childhood disorders and treatments are described. The final part of the book brings together the four indigenous healthcare systems from a developmental perspective and underlines implications for theory, practice and research.

The author argues that childhood begins from the time of conception and has a lifelong impact on the human body, mind and personality. Ayurveda represents many indigenous healing traditions of great antiquity that include the folk healing traditions. The basic principle of Ayurveda is the 'science of life'; it deals with creation as a whole, and follows a holistic approach of Samakhya tradition with special emphasis on the biological living being. The major Ayurvedic treatises were compiled by sages such as Charaka, Sushruta, Vagabhata and Kashyapa during 400–200 BC to AD 600, especially for children's diseases. The author argues that sadhya (curable) and asadhya (incurable) are two types of diseases in Ayurveda, and proposes chikista (treatment of disorder) using fast-acting drugs in Ayurveda which consist of natural elements having no negative effects on the body. Emphasizing the relevance of *Sushruta Samhita*, the author goes on to elaborate the developmental approaches in the field of childcare (p. 31). She argues that children should be produced not by accident, but by conscious effort, which means that parents as well as the whole family should be physically and psychologically ready for the newborn.

The author also highlights how both physical (such as reproductive elements) and psychological states of the parents through food habits and temperament of the mother influence the formulation of prakriti (personality) of the child. The constitution of the child is determined during the formation of the foetus, and inadequate growth of the embryo is attributed to imbalance in the dosa (constitutional traits) or guna (temperamental traits). By referring to Kashyapa, an Ayurvedic scholar, the author highlights the importance of clinical observation for young children who cannot report their symptoms. Hence, treatment of infants was considered a highly specialized subject in ancient India.

The word 'Unani' owes its origin to the Greek word 'Ionia'. This system of medicine dates back to 1000 BC. Fundamentals of Unani medicine are material (Maadi) substances and energies on

BOOK REVIEWS

which health and diseases are based. In Unani, disease are divided into simple and complex, and diagnosis is based on examination of the pulse, urine and stools. Treatment is based on the temperament and balance of the elements, and influence of the environment on the body is well understood in the Unani system. According to classical Unani literature, the process of ageing starts at birth and ends with death. In Unani healthcare there is considerable discussion on care of pregnant and nursing mothers. It provides detailed description of prenatal and postnatal care.

The author provides a description of diseases and modes of treatment of children in the Unani system of medicine, and suggests that in the treatment of infants, the first consideration should be the management of wet nurse. In Unani healthcare system, constipation, diarrhoea, ascent of vapours to the heart, disturbances of the respiratory system and abnormalities of temperament are corrected by regulating the food and drinks of the women seeking baby.

In explaining the basic principles of Siddha medicine and its developmental approach for childcare, the author highlights the importance of humour and yoga as two prominent medical and meditational practices. She argues that *Charaka Samhita* and *Sushruta Samhita* are the fundament texts in Siddha healthcare system. Siddha medicine comprises alchemy, philosophy, yoga, tantra and astrology along with medicine. It believes that disease is caused when normal equilibrium of humans is disturbed when the humour system is affected. Use of metals and minerals predominates in Siddha medicine and drugs are categorized as thevaram (herbal production), thathu (inorganic substances), and jangamam (animal products). According to the author, balavagadam is a branch of Siddha medicine that deals with diseases of children; it believes on healthy seeds for the entire life that yield healthy generation.

Tibetan medicine, also known as Buddhist medicine, is a healthy mix of three systems of medicine, namely Bon religion, Ayurveda and Chinese. The fundamental medicinal traits of Tibetan medicine are Tantra and oral instruction Tantra which includes dietary guidance, lifestyle, behavioural counselling, medications and therapies. With regard to childcare, in Tibetan medicine, the author beginning with the development of the

foetus, followed by care of infants and children, and finally deals with minor and major childhood disorders. In Tibetan medicine, there are three parts in child care; the first is care of children up to one year, the second covers general pediatric disorders, and the third part deals with disorders caused by evil spirits.

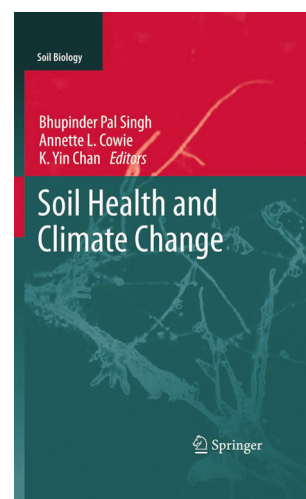
In the concluding part of the book, the author provides a comparative account of four traditional, indigenous healthcare systems and their application in the field of child healthcare, and also some illuminating observations having substantial implications for theory, practice and research on child healthcare system. She argues that gender discrimination in healthcare seems to be a part of the numerous cultural practices. However, extraordinary status given to the expectant mother and nursing mother in Ayurveda forms the core of the very advanced healthcare system provided to infants way ahead of our times. On the other hand, Unani healthcare system is distinct from other systems, partly due to its Greek origin and partly because of the adoption of healing practices from Ayurveda. Historically, Siddha medicine has been considered as the oldest; yet it has a strong link with Ayurveda and Tantric practices on the one hand, and Chinese medicine on the other. Its uniqueness lies in its search for immortality and alchemy. Finally, despite the treacherous landscape, high altitude and extremes of climatic conditions, Tibetans have been hospitable hosts to physicians, scholars and spiritual leaders from the West, India and China. Their system of medicine is a mix of many systems of medicine. The basic principles are the same as in the other systems for treatment of adults, but for the treatment of children, the principles differ vastly. To conclude, as the author argues, child care is the most indigenous health system that has to draw strength from folk culture beliefs and health practices. Thus, our future exploration should examine child care from multiple perspectives of sociology, anthropology, developmental psychology and preferred healthy practices.

This book succinctly captures the debates and discussions on four indigenous healthcare systems and provides some illuminating explanations of their applications in child healthcare practices from a comparative perspective. The comparative methodological explorations at the

end further demonstrate the strength and depth of this book and authors' serious preoccupation from a methodological standpoint. However, the book lacks a subject index which would have been useful for the reader. Undoubtedly, the book will be an asset to child psychologists, clinical psychologists, child-care specialists, medical practitioners, practitioners of indigenous medicine and others who are interested in making sense of India's indigenous health care system and its modern-day applications.

BHARAT CHANDRA ROUT

*School of Social Sciences,
National Institute of Advanced Studies,
Indian Institute of Science Campus,
Bengaluru 560 012, India
e-mail: bharatroutcu@gmail.com*



Soil Health and Climate Change. Bhupinder Pal Singh, Annette L. Cowie and K. Yin Chan (eds). Springer, Berlin. 2011, 414 pp. ISBN 978-3-642-20255-1, doi:10.1007/978-3-642-20256-8. e-Book Price: 202.29€; Hardcover: 239.00€; Softcover 239.00€.

The book under review covers various aspects of soil health and climate change. Soil health is strongly linked with human health and environment, but the relationship between soil health, food quality and human health is less understood¹. A great variety of microorganisms of different sizes, behaviour and physiology are found in healthy soil². The health of the soil is highly influenced by soil degradation and climate change. Healthy soil