BOOK REVIEWS

THE OTHER SIDE OF SCIENCE, (1994), by K.A.V. Pandalai, DRDO, Monograph Series, New Delhi, 56 pp.

The above book written by a former Director of the IIT, Madras and an Aeronautical Engineer, attempts to take a balanced view of the legacy of science. Science has been responsible for both spectacular advances and horrifying destruction.

Dr. Abdul Kalam in his Preface to the book points out that "it is very difficult to see science in isolation from cultural ethos and without ideological contamination". Scientists do not work in a vacuum - their work does impinge on the society around them, sometimes blatantly, and sometimes less directly.

Prof. Pandalai traces the changes wrought by Science and Technology in this country. Relativity, Quantum Mechanics, Artificial Intelligence and Biotechnology are some of the areas focused on. Dr Pandalai also laments about "man's tribal and selfish nature to exploit, to abuse and to misuse any body of knowledge that he acquires".

The role of Science in developing weapons of mass destruction is highlighted by Dr. Pandalai. The book ends with the hope that mankind will eventually emerge from the tunnel of darkness to establish a more humane world with Science and Technology playing a vital role. The book is heartily recommended to all those interested in the wider ramifications of Science and Technology and the future of mankind. It is hoped that the Defence Research and Development Organisation (DRDO) which has brought out this volume will continue to bring out thought provoking reflections by distinguished men of Science and Engineering for the benefit of the wider public.

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GEOLOGY, SEDIMENTATION AND ECONOMIC MINERAL POTENTIAL OF THE SOUTH-CENTRAL PART OF CHATTISGARH BASIN (1996) by K.S. Murti, Memoirs of the Geological Survey of India, v.125, 139 pp; Price Rs.87/-, $ 31.30.

Good reports by professional geologists generally contain detailed information on the field relations and features that are observable on the ground. Research papers by academicians on the same area will deal with a variety of laboratory studies made on samples collected, with an analysis of the results using the latest concepts. The publication under review, however, is a welcome blend of detailed field data and laboratory studies that could be made on the different samples collected, within the limitations of the facilities available to the author.

Chattisgarh basin is one of the larger Proterozoic sedimentary basins not much affected by tectonism, except along the fringes. The author successively deals with stratigraphy (with a good geological map of the south-central part of the basin), sedimentary structures (including stromatolites), paleocurrents, sedimentation, chemical and isotopic studies, and economic mineral potential (building materials and limestone). Both the data collected in the field and obtained by the laboratory analyses are presented on conventional lines and the inferences drawn seem to be quite justifiable. As there will always be scope for further research on any area, the detailed field data presented (on maps as well as tables)

should be of considerable help in future investigations in this area, particularly in the field of sedimentation. The paleogeographic maps are rather sketchy, though relevant, and the photographs could be of better quality. The text is very well written. On page 1, line 5 from the bottom in the first column, the toposheet number should be 64 K/7 and not K/8.

The Geological Survey of India should encourage and promote facilities to its officers, not only to conduct field surveys, but also the much needed assistance to supplement their observations in the field with laboratory studies so that a much better picture of the geological history of the area emerges. It is hoped that more publications of this kind will be forthcoming from the Survey.

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HYDROGEOLOGY (1994), By K.R. Karanth, Tata McGraw-Hill Publishing Company Limited, New Delhi; 458 pp. Price Rs.399.

The study of water resources, more especially the part which lie hidden from our view and stored underground, is a much neglected subject. There are myriad problems related to the wise utilization of this precious resource which can only be understood through a scientific study of all aspects of its occurrence and availability. We, therefore, welcome this present contribution brought out by Tata McGraw-Hill Publishing Company Limited. It is gratifying to note that this book originally issued in 1989 has been twice reprinted testifying to its popularity.

The first two chapters provide essential background information on rainfall, runoff, infiltration, water balance, recharge and discharge areas. Mathematical basis for groundwater flow is explained in Chapters three and four. Hazards due to land subsidence as a result of abstraction of groundwater are detailed in chapter five. Dissolved constituents which are a reflection of groundwater-quality, and quality criteria for different uses are discussed in chapter six. Chapter seven deals with groundwater temperature.

Chapter eight on groundwater exploration is of special interest as it discusses, in addition to geological methods, utility of aerial photographs and geographical methods for identifying favourable structures. The Chapter also furnishes details relating to exploratory drilling, testing and well-logging. Crystalline rocks by which term is meant non-volcanic, igneous and metamorphic rocks, are rightly singled out for special treatment in Chapter nine. We wish there was a more elaborative discussion on groundwater conditions in hard rock areas with specific examples, as a good part of Peninsular India is covered by hard rocks, and these areas also happen to be drought-prone. Chapter 10 is devoted to description of groundwater conditions in volcanic rocks. The following seven Chapters (10 to 17) deal with lithified clastic sediments (Chapter 11), carbonate rocks (Chapter 12), fluvial deposits (Chapter 13), coastal deposits (Chapter 14), glacial deposits (Chapter 15), lacustrine deposits (Chapter 16) and aeolian deposits (Chapter 17). The last Chapter (Chapter 18) lists legands to be used in Hydrogeological maps. The inclusion of a few illustrative hydrogeological maps would have greatly added to the usefulness of the book.

General books on hydrogeology, lavishly produced with numerous illustrations in colour are available for reference, although their cost is prohibitive. But books dealing specifically with hydrogeological conditions existing in India are badly needed. The coverage in the book under review from this point of view, is considered inadequate. A more comprehensive account of hydrogeological conditions in the Indian context, summ-