

tholeiitic basalts that erupted under a continental environment with early passive and subsequent violent phases. A comprehensive review of the granite-greenstone belt of Bundelkhand is presented by Soni and Jain, tracing its Archaean parentage (3.0 - 3.2 Ga) to subsequent emplacements of granites (2.3 - 2.4 Ga) and dyke swarms and quartz reefs (1.5 - 1.8 Ga). Base metal, precious metal and pyrophyllite-diaspore mineralisation have received some attention.

Eastern India

Singh suggests that the Chotanagpur Gneissic Complex (CGC) bears close resemblance to the Bastar and Bundelkhand crystalline massifs and the three together may have been a single Archaean block. He recognizes three successive sequences of decreasing antiquity, namely, the CGC, the Kodarma and Rajgir Groups. Three papers present fresh stratigraphic data on the Semri and Kaimur Groups of the Vindhyan basin extending into Bihar (Singh, Singh et al. and Tiwari & Dube).

Geochemistry and Petrology

New geochemical and petrological data are presented on the banded iron formation of Sandur basin (Desai and Gokhale); aluminous and Fe-tholeiite magmatism in the Dharwar-Eastern Ghat transition in Andhra Pradesh (H. Sarvothaman); anorthosites of Bengal (D. Mukherjee); biotites of the CGC (N.C. Ghose and Srivastava); anorthosite-gabbro complex of Jorikalan, Chatra District, Jharkhand (Sukla et al.); the Proterozoic volcanics of the Singhbhum region (Basu); REE granites around Gumla (Bhattacharya et al.) and acid agglomerates of the Dalma volcanic belt (S.P. Singh et al.). Structural setting of the high-grade rocks of Angul in the Eastern Ghats is briefly described (Basak and Sengupta).

Metallogeny

Papers on metallogeny in Eastern Indian Precambrian

cover polymetallic mineralisation in the Hesatu-Belbathan belt (R.N. Singh et al.), andalusite deposit of Nagar Untari (Om Prakash), both of the CGC; gold in the Jaikan area (Kishore et al.) and uranium in the Singhbhum shear zone (Kolte and Sarangi) bordering the Singhbhum craton, auriferous gold veins in the Dalma volcanic belt (U.P. Singh et al.), REE enrichment in the Dhanjori quartz-pebble conglomerates (Haque et al.) and limestone deposits of Jhalda, Purulia District (P.C. Ghose). Two papers describe the potential sources of granite as dimensional stones in CGC (Mitra and R.N. Singh; R.N. Singh et al.). An exhaustive account of the geothermal sources in the Bihar and Jharkhand States is presented (J.M. Prasad). Metallogeny in central and eastern India is related to Precambrian crustal evolution (Raj). Polymetallic mineralisation in central India is traced to early exhalative volcanic centers and subsequent epigenetic processes related to the late plutonism (Bhoskar and Saha).

The volume has maintained a good standard in the reproduction of figures, tables and the geological maps that enhance its value. The editor deserves to be congratulated for bringing out this volume within a short time after the seminar. However, organization of papers could have more schematic and the operation of the inevitable "printer's devil" (or is it the author's myopia ?) could have been minimized.

The volume will indeed be a useful reference book and is recommended to all those interested in Indian Precambrian, and mineralisation, especially in the NW, Central and NE regions. It will be a useful accession to earth science libraries and the personal collections of researchers. For its size and the large number of illustrations and maps, the book is moderately priced.

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PRECAMBRIAN CRUST IN EASTERN AND CENTRAL INDIA.

Geological Survey of India Spec. Publ. no.57 (2000), Price: Rs.540/-

This publication is a necessary follow-up of the well-attended seminar held at Bhubaneshwar in October, 1998, which was organized by the Geological Survey of India and the Gondwana Research Group under the auspices of the UNESCO-IGCP Project 368, although publication is

somewhat delayed. The areas covered under the volume and the seminar are the rapidly emerging and challenging areas of earth sciences, which has led to considerable revision of the thought process, with new incoming data and observation. There are 24 papers in the volume

including a paper on Mozambique belt of Central Kenya which provides a comparison with Indian settings.

The introductory paper by S.K. Acharyya is an overview of the Archaean cratonic nuclei, Proterozoic mobile belts and Gondwana basin-belts of the Indian continent. The Eastern Ghats belt has attracted a lot of attention (9 papers). The papers by Yoshida et al. and Aftalion et al. are related to Pan African events, while Sarkar et al. provide isotopic data on the late Archaean history of the northern marginal zone. The papers by Aftalion et al. and Sarkar et al. present new interesting geochronological data. Yoshida et al. review the existing database and synthesize the isotopic data to provide a coherent picture of the Gondwana tectonics (using geochronology and petrology) during the Pan African, Grenvillian and pre-Grenvillian times. The boundary relations between the Eastern Ghats and the cratons are problematic, and Gupta and Bhattacharya question the placement of the so-called Transition Zone between the EGB and the Bastar craton from structural and petrological data. Neogi and Das put forward a somewhat different view on similar grounds, and the area will be the focus of intensive research in future. Roy and Devarajan present a new synthesis of existing knowledge on one of the least-studied, but very significant, belts in Central India viz. the Mahakoshal belt. They have revised the lithostratigraphy of the Mahakoshal belt, which is interesting. Saha et al. present new structural data on the Sonakhan belt in Central India to discuss granite-greenstone relationships. The last two papers highlight the gaps in knowledge about these two belts, which certainly will draw huge attention. The recent discovery of high grade rocks bordering the Sausar belt is very significant in the context of crustal evolution in Central India. Bhowmik et al. present new petrological data on cordierite gneiss of the Ramakona belt and deduce P-T trajectory of evolution of the rocks. Sengupta and Mukhopadhyay and Jena and Behera concentrate on the East Indian craton and its geologic history. Dobmeier has contradicted previously held views on the timing of arrested

charnockite formation in the Chilka Lake area from detailed structural studies. Tsuchiya et al. describe and interpret the significance of large-scale sheath folds from the EGB. Petrogenesis of magmatic rocks is covered in several papers. Nanda et al. describe alkaline and ultramafic rocks at the craton-mobile belt contact. Halder and Ghosh describe basaltic lavas (Bijawar Lava) that erupted within the Bundelkhand craton due to Mesoproterozoic rifting. Pattanaik and Mishra present new data on a suite of silica-oversaturated alkaline rocks occurring at the margins of the Bastar craton. Both from geologic setting and petrology, this suite is different from the typical alkaline complexes occurring near the craton-EGB interface. Sahu et al. present new geochemical data on the volcanic rocks of the East Indian craton. Papers on economic geology cover gold deposits (Sharma et al. and Mangala Prasad et al. on deposits occurring in MP and UP), uranium (Bhairam et al. from Chhattisgarh) and manganese from the EGB (Bhattacharya et al.). Ravi Shanker et al. review available information on lithofacies and biotic assemblages and propose that all the major Purana basins of India formed a single platformal domain around 1600 Ma. They discuss the geological evolution of the basins upto the Neoproterozoic.

Although many papers in the volume are reviews of the existing data, their importance cannot be minimized in view of the changing concepts. Some new geochronological, petrological, structural and geochemical data are presented in the volume, which will be of use to other geoscientists. This volume has very poor quality of figure reproduction, but text printing is of reasonable quality.

Overall, this volume will be of considerable help to the future geoscientists as a complete work of reference. The price of the volume is also reasonable.

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