FOREWORD

Theoretical, experimental and field studies over the past three decades have progressively honed the cutting edge of research in structural geology. Almost simultaneously, our new understanding of global tectonics opened up new windows to the perennially reorganizing architecture of the earth’s crust. These new conceptual frameworks naturally influenced the approaches of Indian geologists too, to the study of the structure of the Indian land mass and its tectonic evolution.

A considerable body of work has thus emerged, contributed by a number of groups, describing the structural features of various scales both in peninsular India and the Himalaya. A critical and incisive interpretation of these results would, it was felt, create an illuminating ground for testing new hypotheses as well as provide a reference volume for scholars in general. This theme issue on “Structure and Tectonics: The Indian Scene”, was designed to fulfil this objective.

A number of attempts have been made to apply plate tectonic models in interpreting the structures of the Himalaya. In this volume V C Thakur discusses the tectonics of the Indus-Tsangpo suture zone in Ladakh, Western Himalaya, whereas S K Acharyya and others provide a comparative study of the tectonics of ophiolite belts of the Naga Hills and the Andaman Islands.

The volume also presents a selection from the extensive work carried out in the three Precambrian terrains of Peninsular India: the Southern Indian Province; the Eastern Indian Province; and the Western Indian Province. D K Mukhopadhyay synthesizes recent studies on the deformational history of the Kolar schist belt and its environs in Southern India, and suggests important constraints on the tectonic evolution of the belt. D C Srivastava traces the deformational style in the granulite-charnockite rocks from an area in Tamilnadu.

Three topics are of paramount significance for our understanding of Precambrian geology of the Eastern Indian shield. These are: the nature and significance of the Singhbhum shear zone and its relationship with the fold belt to the north; the stratigraphic-structural relations of the Iron ore group and the Singhbhum group, and the relationship between the Chhotanagpur Granite Gneiss and the adjacent metasedimentary rocks. S K Ghosh and S Sengupta provide a thorough kinematic analysis of the Singhbhum shear zone in relation to the northern fold belt. D Mukhopadhyay and others present a detailed study of a key area in the western part of Northern Singhbhum, where the Singhbhum shear zone disappears and the rocks of the Iron ore group and the Singhbhum group are juxtaposed. D S Bhattacharyya and others discuss the nature of the relation between the Chhotanagpur Granite Gneiss and the metasediments in North Singhbhum.

The structure of the Pre-Vindhyan metamorphic terrain of Rajasthan has also been the subject of a number of studies. Indeed, superposed folds of different scales were documented from this terrain as early as in the sixties. K Naha and S Mohanty summarize the work on structural styles of the rocks of different groups in Rajasthan.
and emphasize certain aspects of the mechanics of superposed folding. A B Roy and
D K Nagori discuss the influence of the basement on the deformation of the Aravalli
cover rocks near Udaipur. P K Gangopadhyay and A Lahiri record the nature of
superposed folding in the rocks of the Delhi Group.

From a comparatively less known area in Madhya Pradesh P P Roday,
G Maheshwari and N H Vaghmarey present strain analyses of some conglomeratic
rocks of precambrian age.

Lastly, a paper by D Saha presents the geometry of thrust faults in the almost
unmetamorphozed Pakhal rocks of younger proterozoic age. It is a particularly
welcome contribution because this study deals with structures of a much shallower
level in contrast to those discussed in other papers.

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