This issue

Painting a broad picture of landscape of the rigid and stable Peninsular Indian shield, B. P. Radhakrishna (**page 787**) reconstructs the history of uplifts, including the rise of the Nilgiri mountain, and resultant geomorphic rejuvenation of the South Indian region. K. B. Powar (**page 793**) demonstrates that episodic cymatogenic movements in western Maharashtra have given rise to high Sahyadri uplands with their spectacular Western-Ghat scarp and the Konkan coast, characterized by its peculiar drainage system. The evolution of the petroliferous Krishna–Godavari Basin in the East Coast is attributed by S. K. Biswas (**page 797**) to rifting and separation in the mid Cretaceous of the continental margin, which has experienced at least five movements along Precambrian lineaments in the Quaternary times as the deltas prograded rapidly. R. Vaidyanadhan and R. N. Ghosh (**page 804**) describe the physiographic layout and stratigraphic correlations of the sedimentary successions in the Bengal-to-Kerala East Coast and demonstrate that the considerable modifications it has undergone are due to progradation of deltas, impacts of glaciation–deglaciation on the continents, and neotectonic movements. On the basis of geomorphic and chronostratigraphic data, S. N. Rajaguru, Vishwas Kale and G. L. Badam (**page 817**) reconstruct the history of changing flow-regimes of rivers in Upland (northwestern) Maharashtra resulting from climatic changes.

S. S. Merh and L. S. Chamyal (**page 823**) describe geomorphic peculiarities of the coastal belt and alluvial plains of Gujarat which, they believe, evolved under control of tectonic framework due to the interplay of eustatic sea-level fluctuations and climatic variations. The Sabarmatic alluvial plain of Gujarat, characterized by flow deviatory trend from the regional slope, is interpreted by B. K. Sareen, S. K. Tandon and A. M. Bhola (**page 827**) as a product of the interaction of fluvial and aeolian conditions and sea-level changes in an environment of reactivation of pre-Neogene faults of the basement. In the Barmer region of western Rajasthan, N. Krishna Brahmam (**page 837**) attributes recent seismicity to reactivation of zones of weakness in the uplifted block of the dense lower crust (or upper mantle) he recognizes on the basis of gravity high. Studies of loess with palaeosols in Rajasthan and Kashmir Basin by R. K. Pant (**page 841**), combined with deep-sea oxygen-isotope record reveal that the Thar desert has resulted from and expanded due to the interaction of neotectonism and climatic changes—primarily the onset of strong north-east monsoon conditions following the Pleistocene Ice Age.

On the basis of magnetovariational studies in NW India, B. R. Arora (**page 848**) interprets the underground NE-SW trending conductive structure as representing a Proterozoic accretion zone between ocean-type crust in western Rajasthan and continent-type crust under the Indo-Gangetic Plain, the accretion zone undergoing movements in response to stresses generated by the locking of the Indian and Asian plates. Charu C. Pant and A. K. Sharma (**page 855**) present a summary of the studies carried out on the nature of the basement, geophysical conditions prevailing, and pattern of sedimentation in the Indo-Gangetic Basin of the North Indian plains, which has experienced neotectonic movements as testified by shifting courses of rivers.

Analysing the magneto-stratigraphy backed up by the testimony of vertebrate fossils of the 5.6 to 0.22 m.y.-old Upper Siwalik in Jammu and Panjab region, A. Ranga Rao (**page 863**) demonstrates that the accelerated rate of sedimentation (varying from 0.27 to 0.71 m/1000 years) was due to foreland-directed migration of depositional centres of the foredeep in front of the rising Himalaya. Pointing to pronounced effects of rejuvenation of the geomorphically very mature terrain of the Lesser Himalaya that must have had very gentle and low relief (< 1000 m high) where Stone-Age people lived and intermigrated freely, K. S. Valdiya (**page 873**) demonstrates very rapid uplift of the mountains along active faults and thrusts. The Himalaya rose to its present formidable height after the middle Holocene and became forbiddingly difficult and locally inaccessible as a consequence of brisk neotectonism, argues Valdiya. K. N. Khattri (**page 885**) identifies three major sectors in the Himalaya where no great earthquakes have occurred for a long time because the active faults there have become locked. According to him these are the likely locales of future great earthquakes. On the basis of the observations that major earthquakes are preceded by precursory swarms of smaller events or periods of quiescence, H. K. Gupta (**page 889**) made a forecast of a great earthquake, which came true in the vicinity of the Indo-Burma border. The palaeontological studies of the lake deposits carried out by Ashok Sahni and B. S. Kotlia (**page 893**) demonstrate that the vertebrate assemblage comprising rodents migrated some 2.5 m.y. ago into the intermontane Karewa Lake in the Kashmir Valley across Afghanishtan from Europe, while the Siwalik fauna came from Africa via Pakistan. The lake basins in the Tethys realm across the Great Himalaya Range were formed as a result of neotectonic movements according to T. N. Bagati and V. C. Thakur

(page 898) The lake sediments bear influence of differential uplift in the past 35,000 years, which was responsible for climatic changes and vegetational variations. According to M. E. Brookfield (page 903), the lacustrine deposits along the courses of major rivers in northwestern extremity of Himalaya comprise a complex of glacial tills and fluvial valley-fills of the Late Pleistocene age, testifying to the events which cannot be disengaged from those of earlier Pleistocene. From the relative abundance of planktonic foraminifers and analysis of isotope records for deep-sea cores from sites in northern Indian Ocean, A. D. Singh and M. S. Srinivasan (page 908) deduce that there were four intervals of cooling of the climate in the past 3 million years, including three in the Pleistocene. P. C. Shrivastava and P. R. Chandra (page 915) have shown that the inner marine shelves of the continental margin are mantled with terrigenous sediments, while the outer shelves are covered with 7,500 to 12,500-year-old ooids, with algal and coralline reefs which must have formed when the sea level was down by about 100 m.

There are eight notes on the findings and opinions on the characteristics and tectonic significance of laterites-bauxites by T. C. Devaraju & S. D. Khanadali (page 919) and by P. K. Banerjee (page 921); the evidence for Quarternary volcanic activity in the Maharashtra plateau by B. M. Karmarkar, S. R. Kulkarni & S. S. Marathe (page 923), the age and mineralogical composition of the miliolite deposits of Gujarat coast by B. L. K. Somayajulu (page 926), the testimony of palynospores from lake deposits on the climatic changes in the Himalayan realm by Chhaya Sharma (page 930), the sedimentogical–geomorphological indication of occurrence of earthquakes in the recent past in Meghalaya by B. K. Rastogi, R. K. Chadha & G. Rajagopalan (page 933), and the changes in monsoon rainfall pattern as borne out by the foraminifers of the ocean shelves by Rajiv Nigam (page 935). V. Subramanian (page 928) writes about the sediment load of Indian rivers.