

EVIDENCE FOR PAN AFRICAN-CADOMIAN TECTONIC UPHEAVAL
IN HIMAYALA

K.S. Valdiya

Kumaun University, Nainital-263002.

Abstract

The strong diastrophic movements towards the close of the Proterozoic and early Cambrian, which overwhelmed the entire Indian subcontinent, brought about wholesale cessation of sedimentation throughout the Peninsular India and Lesser Himalaya, caused pronounced interruption in basin-filling in the northern Tethyan belt, and resulted in widespread emplacement of granitic bodies in the northern part. The termination of sedimentation throughout the Peninsular India and Lesser Himalaya indicate emergence above sea of the subcontinent.

The break in sedimentation in the Tethyan domain is manifest, among other things, in (1) the occurrence of conglomerates atop the Late Proterozoic flyschoid successions in northeastern Kumaun, southern flank of the Pir Panjal in Kashmir and Lingshi and Black Mountain basins in Bhutan, (2) the intriguing absence of sediments bearing Cambrian and Lower Ordovician fossils east of Spiti, and (3) explosive volcanism, accompanied presumably by earthquake-induced submarine slides, such as discernible in central Bhutan.

The extensive emplacement of 550±50 m.y. old Cambro-Ordovician granites is a consequence of extension,

attenuation and anatexis of the continental crust, possibly related to sea-floor spreading that isolated Laurentia from South America and East Antarctica - Australia in the Late Proterozoic - Early Cambrian times. The intracontinental Pan-African-Cadomian upheaval appears to be ^{the} harbinger of or coeval with dramatic changes in the global climate and resultant profound developments in the evolutionary history of life, including diversification of fauna and their faunal habitats.