

Deformational history of the proterozoic Easternghat Supergroup rocks in Orissa, India.

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Rocks of Easternghat Supergroups are exposed from south India upto Brahmani river in Orissa where it is said to be terminated by the Sukinda thrust, they, however, exist to its north.

The pictures so far obtained suggest the following.

- a. In all areas three periods of folding were observed with NNE, EW and N-S axes chronologically with additional minor phases at places.
- b. In the southern part around Umpavalli off Sunki the deformation history, with five episodes is more complex.
- c. Granites/charnockites intrude the rocks at many places and in most cases, deformation has outlasted intrusion.
- d. Linear domes were the outcome of double deformation west of Chilka lake where granites are pre - and syn Kinematic and anorthosites deform the adjacent rocks.
- e. South of Khurda town charnockites is at the base and with pyroxene granulite, quartzite and khondalite at its top, are combindly deformed along NNE-SSW axis long which granites intrude and are sheared.
- f. In this northern tract pyroxene granulite/ charnockite form the base on which Khondalite and /or quartyite are deposited. Meta-dykes with the same composition as that of the country rock (charnockitic) are traced close to the boundary thrust.
- g. Post Jurassic flow and dykes suggest their correlation with eocene flows here supporting a fracture to the east foundering the Peninsula.