

CHAPTER VI
RAMGARH THRUST

EARLIER VIEWS

The major dislocation that extends in the study area in its eastern and northern parts, is the northern extension of the thrust encountered in the Ramgarh area in the south-east. This thrust has brought the Nagthat formation over the Blainis and Infra-Krols. The author for the first time, has been able to trace this thrust further north and west beyond the Khairna bridge. None of the previous workers could recognise this dislocation in the area west of Kuchgad and it has intrigued almost all the previous workers. Heim and Gansser (1939), Gansser (1964), Pande (1950) and Valdiya (1962), all have considered this dislocation to be a folded

continuation of the Almora thrust. Heim and Gansser (1939) have termed the thrust flanking the Almora nappe synform in north as North Almora thrust. They are however, not clear about the exact location of the southern flank of the folded Almora thrust. Between Bhowali and Mukteswar, they have shown two thrusts dipping NE, the one near Ramgarh (Ramgarh thrust) in their opinion joins up with the North Almora thrust, though the thrust near Mukteswar has been called by them as South Almora thrust. Pande (1950, p.21) also considers the Ramgarh thrust as an eastern continuation of the Garhwal thrust (=Almora thrust) or equivalent to it in age. In the same paper, he has further stated that the metamorphics lying over Ramgarh thrust, form a syncline. According to Heim and Gansser (1939,p.28) the region between Bhowali and the South Almora thrust comprises a recumbent syncline overturned to the SW (Fig.4.1).

RECENT VIEWS

Merh (1968, p.6) however, for the first time pointed out that the Ramgarh thrust and the Almora thrust were quite distinct dislocations, and the former did not constitute the southern flank of the synformally folded Almora thrust as postulated by Gansser (1964); nor do the rocks above the Ramgarh thrust form a syncline, recumbent or otherwise.

Further, Merh (1968) suggested that the Ramgarh thrust is a subsidiary dislocation related to the Krol thrust. In a subsequent paper written jointly with J.P. Patel (Merh et al., 1971), Merh postulated that this thrust which was of the nature of a regional reverse fault, had developed by the rupturing of a large anticline of the same generation as that of the synformal folding of the Almora thrust sheet. In this paper, the authors have shown the thrust to follow the river Kosi, further west of Khairna bridge. Further investigations of J.P. Patel (1971) and O.K. Shah (personal communication) in Bhowali area, have partly disproved, the findings of Merh. Of course, the entire succession from Bhowali northward upto the South Almora thrust constitutes an uninverted and unfolded sequence, and that the dislocation is a high angled thrust. But, it is now evident that this thrust is in no way related to the folding that gave rise to the Almora nappe synform and the Bhowali anticline. There was a considerable time-gap between this folding (F_1 of the present author) and the formation of Ramgarh thrust. The Naini Tal, Bhowali and Ratighat area clearly show that the thrust truncates the E-W folds (F_2) that were superimposed over the Bhowali anticline.

AUTHOR'S FINDINGS

The mapping of the author has further shown that in the study area the Ramgarh thrust does not follow the river Kosi, as postulated by Merh et al. (1971). Westward from Bhujan, it runs almost along the Kuchgad stream for about 2.5 km upto the village Tripola, and then takes a westerly trend, and extends along the steep northern slopes of the Lodiakhan ridge, passing through the village Sialikhet, Tharar and Bellekh.

The Ramgarh thrust when traced from E, upto the village Bhujan, is typically recognised by the foliated chloritic and sericitic 'porphyries'. According to J.P. Patel (1971, p.95), these green "porphyries" are highly sheared granitic rocks, perhaps originally a group of migmatised slates and basic rocks.

Considerable drag folding is seen to have been associated with this thrust in the overlying rocks. In the study area too, the flexures and puckers recorded in the rocks to the east of Kuchgarh (Sub-area 2), are related to this drag fold effect. Similar folding has been reported by J.P. Patel (1971) and Vashi and Laghate (1972), from other adjoining areas.

The Ramgarh thrust, as mapped by the author shows much fluctuation in its inclination and strike trend. The dip of the fault plane is difficult to measure but it is either easterly or northerly. From east to west, it progressively cuts the younger members of the Nagthat formation-sheared granites-granophyres, sericitic quartzites, limestones and finally quartzite-slates. In the northern part of the area, the Nagthat slates and quartzites have come in direct contact with almost similar rocks of Infra-Krol, and it is because of this fact, that the tracing of Ramgarh thrust has been found rather difficult in this area.

Taking into consideration the opinions of the workers in the neighbouring areas, the author tends to agree with J.P. Patel (1971, p.143) that the Ramgarh thrust originates from Krol thrust, but both the dislocations came into existence at a date later than the F_2 (E-W) folding.