Chapter IX

SUMMARY AND CONCLUSIONS
In the first chapter an introduction to the Precambrian terrain of Rajasthan is presented. The location and the accessibility of the area investigated and a brief resume of the published work is given. This has been followed by a very brief account of the physiography and drainage of the area. Lastly the scope of the authors work is outlined.

In Part I of the second chapter, in the first few pages a description of the structural elements which were observed in the rocks of the area investigated has been given. This was presented prior to the field descriptions of the rocks, as frequent reference to these structural elements was unavoidable in the descriptions of the rocks. A full account of the planar and linear structures is given. In the second part of the second chapter a summary of the folding episodes recognised in the rocks of the area followed by detailed description of the different rock types and their interrelationships and the structures seen in them are given. The lithological map (Pl. 6) shows considerable improvements and additions to Heron's geological map published in 1953. The major closure mapped by Heron was on careful investigation found to be a sedimentary facies change feature rather than a tectonic feature.

The third chapter which comprises the structural history describes the different structures seen in the rocks and their
interrelationships. The chronology of the structures was established with the help of minor structures. The evolution of these structures has been illustrated by sketches (Pl. 9) and supported by field photographs. Three deformations have been recognised. \( D_1 \) deformation produced recumbant to reclined folds \( (F_1) \) which, however, are sparingly developed. \( D_2 \) deformation, the strongest of all has produced \( F_2 \) folds which show amazing change in plunge amounts which has been explained as due to inhomogeneous flattening. The eyed folds seen in the rocks have been shown to be caused in a single deformation. The extensive boudinage seen in the pegmatites, psammites, calc schist layers in relatively soft rocks like biotite schists has been shown to belong to a late \( D_2 \) deformational feature. \( D_3 \) deformation is represented by the close folds to flexures trending in the E-W direction. This deformation has affected the early folds in different manners to varying degrees.

In the fourth chapter the structural analysis of the area has been presented. The area was divided in the four sectors and S-pole diagrams of bedding/schistosity for the different sectors were constructed. A synoptic \( \beta \)-pole diagram of the axial surfaces of \( F_1 \) folds and a synoptic S-pole diagram of the axial surfaces of \( F_2 \) folds have also been drawn. The geometry of the structural elements has also been discussed.

The fifth chapter gives a detailed account of the distribution, types and mode and time of emplacement of pegmatites. A discussion
at length on the age of emplacement of the pegmatites has been presented. It has been concluded that there are more than one type of pegmatites and the different pegmatites were emplaced at slightly different times in quick succession. It has been shown that the pegmatites in this area were emplaced almost syntectonically with the Delhi orogeny. These pegmatites are not regarded here as related to the Erinpura granite since the granites according to latest work is about 950 m.y. In the light of this evidence the author suggests that the granites to which these pegmatites belong may be essentially syn orogenic and not post orogenic and may be related to Bairat granite (1660 m.y.).

In the sixth chapter a detailed account of the boudinage as observed in the field has been presented. The rotation of boudins, folding of the boudins and the factors controlling boudinage have been discussed. The boudinage seen in the rocks is shown to belong to D₂ deformation post dating the F₂ folds but prior to the development of S₂ cleavage in the rocks.

In the seventh chapter detailed petrography of the different rock types of the area is presented. Petrographic studies included the study of fabric relations in minerals so that the periods of the crystallisation of different minerals could be fixed in a deformational time scale.

Chapter VIII essentially deals with the interpretative part of fabric studies covered in petrography. Evidence has been adduced to show that the main period of metamorphism was earlier
than the $S_1$ schistosity in the rock. A second period of mineral
growth could be identified which post-dates the beginning of the
$D_2$ deformation in the area. The matrix in the rock coarsened
to some degree between the main period and the second period of
metamorphism.