

Metamorphic series of Bihar and Orissa and the Dharwar of South India. This correlation, however, introduces several difficulties.

Finally, considering broadly the ancient metamorphic rocks of Rajputana, it will be found that they differ from those in other parts of India in two main respects. (1) They include a basal gneissic complex, upon which the metamorphosed sedimentary rocks rest unconformably, in contrast to other Archæan tracts in India where the ortho-gneisses have in every case been proved to be younger than the sedimentary schists. (2) They include three or four distinct systems of rocks separated by marked unconformities. This fact has led Heron to believe that the Delhi system is a post-Archæan formation.³³ The high degree of metamorphism and folding to which the Delhi rocks have been subjected is regarded as a phenomenon which was peculiar to Rajputana at so late a stage in pre-Cambrian times. On this assumption there are two alternatives.

(1) That the Delhis were roughly contemporaneous with the Cuddapahs, and that, as Heron has put it:

'They owe their folding and the related intrusion of granite batholiths to a special local upheaval in Rajputana which did not affect the rest of India, or to local persistence of disturbance in Rajputana after it had almost died out elsewhere.'

(2) That the Delhis are older than the Cuddapahs, but have no equivalents in other parts of India.

This is probably about as far as one can safely go at present with regard to correla-

tion. But the advances which have been made in our knowledge of the Archæan rocks of India during the past ten or twelve years have been so considerable, that one may be fairly hopeful as to the eventual solution of many of the problems which to-day seem so puzzling. Dr. Fermor is believed to be reviewing the Archæan rocks of India in a comprehensive manner. The publication of his conclusions, based as they are upon an exceptional experience of the Archæan rocks of most parts of India, will be looked forward to with great interest.

In the accompanying table, summarising the classification of the older rocks in the four chief tracts in India that have so far been studied in detail, no correlation is intended between one area and another.

Rajputana	Central Provinces
Delhi system	Ortho-gneisses
Raialo series	Sakoli series
Aravalli system	Sausar series
Bundelkhand gneiss and Gneissic complex	
Bihar and Orissa	South India
Granitic rocks	Cuddapah system
Iron-ore series	Ortho-gneisses
Gangpur series	Dharwar system
Older metamorphics	

³³ *Mem. Geol. Surv. Ind.*, 1917, 45, pt. 1, pp. 110-116.

Technological Researches at the University of the Punjab.

IN recognition of the valuable researches of basic importance to the Petroleum Industry conducted by Dr. S. S. Bhatnagar, Director, Punjab University Chemical Laboratories, Messrs. Steel Brothers Company Ltd., Agents, Indo-Burma and the Attock Oil Company, Ltd., have placed at the disposal of Prof. Bhatnagar, a sum of 1½ lakhs of rupees for research work on Petroleum and Allied subjects which will be paid in equal instalments over a period of five years. Messrs. Millar and Ward, Agents of Messrs. Steel Brothers, made a lumpsum grant to Prof. Bhatnagar as a personal gift, but the Professor offered to place the

money at the disposal of the Punjab University, an offer which was thankfully accepted, with a view to inaugurating a department of Petroleum Research under his guidance.

One of the features of the scheme is that all results of a patentable nature will be exploited jointly by Messrs. Steel Brothers and Prof. Bhatnagar and/or his chemists and the profits will be shared equally between the Company and the parties concerned. Dr. Bhatnagar proposes to give the University a large share of his profits for the furtherance of scientific, industrial and medical research in the University.