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**GEOLOGY**

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**METEOROLOGY**

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**AND ETHNOLOGY**

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**OF MEGHALAYA**

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**THOMAS OLDHAM**

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As its title indicates, the book contains a brief but significant account of the geological structure, meteorology and ethnology of Khasi Hills in the North Eastern Frontier of India during the middle of Nineteenth Century when this region was annexed by the British power and made administratively a part of Bengal. Assam had already acquired the distinction of possessing unlimited mineral wealth.

During 1851, the author who was holding the post of the Superintendent of the Geological Survey of India, proceeded to the station of Chira Poonjee which is famous for the heaviest rainfall in the world, with a view to examine the mode of occurrence, extent and character of its mineral wealth particularly the iron ores which had for many ages been worked in these hills.

He visited some of the principal washings for the iron ore, traced out some of the coal beds and examined and reported on the coal pits at Lakadong in the Jyntea (Jantia) hills. He continued his efforts to make the geological researches into the physical structure of these hills during 1952 as well. He found that a very large area in the Khasi hills was composed of slaty and gneissose rocks presenting for the most part a highly crystalline character and traversed throughout their entire extent by numerous veins of granite and here and there by dykes and bursts of greenstone.

The second part of the book records the author's observations about the economical geology of the Khasi Hills. Among its mineral products, the most important are lime, coal and iron ore. The working of local mines was given on a perpetual lease, by Soobah Singh,

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the then Raja of Chera Poonjee, to the British Government on a nominal royalty of Re. 1 for every 100 maunds according to an Agreement signed by the Rajah with British power on 20th April, 1840. The book also describes the growth and cultivation of agricultural crops like potato, pine-apples and oranges in the Khasi hills from where they were exported to Calcutta markets.

At the end there are three Appendices. They record the elevation above the sea of various localities in the Khasi Hills and the climate and meteorology of Chera Poonjee which has a peculiar position on account of its situation on the summit of a highly elevated ridge which rises rapidly and almost perpendicularly from the great expanse of the plains of Bengal. Lastly in the third appendix the author has described the language and ethnology of the Khasis. He has described the peculiar position of the country inhabited by Khasis, their connection on the one side with the Bengali groups that dwell on the plains of Sylhet, Tipparah (Tripura) and Mymensing and on the other side with the Assamese and several other factors which continue to render the study of their language, their habits and customs as one of great interest.

The book is undoubtedly one of the earliest authentic reference tools and a valuable source book of immense research utility for those who are engaged in the research on geography, geology, onthropology, ethnology and meteorology of the North Eastern Front of India.

# Geology, Meteorology & Ethnology of MEGHALAYA



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BY

THOMAS OLDHAM, A.M., F.R.S., G.S., &c.,  
SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

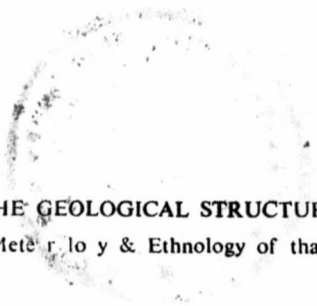
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DELHI - 110035.

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Geology, Meteorology & Ethnology of the Khasi Hills



First published in 1854 under the title 'ON THE GEOLOGICAL STRUCTURE OF PART OF THE KHASI HILLS' with observation on the Meteorology & Ethnology of that District.

NE  
555.4164  
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1984

Distributed by  
MITTAL PUBLISHERS' DISTRIBUTORS  
1856, Tri Nagar,  
DELHI-110 035.

Published by  
K.M. Mittal,  
MITTAL PUBLICATIONS,  
Tri Nagar,  
DELHI-110 035 (India).

Printed by  
Gian Offset Printers  
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## PRELIMINARY REMARKS.

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THE following brief sketch of the geological structure of a portion of the Khasi Hills, on the North-Eastern frontier of Bengal, is the result of observations made during two short visits to those hills, in the wet seasons of 1851 and of 1852.

Shortly after my arrival in this country, in the commencement of the year 1851, finding that it would be impossible at that season of the year, to commence field operations in the plains of Bengal, I proceeded, with the sanction of the Government of Bengal, to the station of Cherra Poonjee, with a view to examine the mode of occurrence, extent, and character of the iron ores, which had for many years been known to have been worked in these hills. I arrived at Cherra Poonjee in the middle of the month of June, and left again in the beginning of November. During that season, I visited some of the principal washings for the iron ore, traced out some of the coal beds, and examined and reported on the coal pits at Lakadong in the Jynteah hills. Advantage was also taken of the few fine days which occurred to make a careful survey of a part of these hills, extending Northwards from the station nearly to the Kalapani; and also of the station itself.

It will be seen from the Appendix (B), that during the five-months' duration of my visit in that year, 1851, there fell at Cherra Poonjee nearly 400 inches of rain, and there were only 63 days on which the amount was less than one inch: during this small number of working days, and having no Assistants, I was unable to accomplish very much.

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Returning to the same hills, during the rainy season of 1852, I was enabled by the zealous aid of my Assistants Mr. Medlicott and Mr. St. George, to complete the survey of the hills, commenced by myself during the preceding season, from the station across to Nungklow. The large Map accompanying this Report, on a scale of one mile = one inch, is the result of these combined labours; and will, I believe, be found both in the amount and accuracy of its details, fully equal to any Maps of Indian territory hitherto published. The small outline Map, of a larger area, is the result of flying sketch surveys made by myself during trips across the hills to Lakadong, Nonkradem, &c.

During this second visit, I crossed the hills to Nonkradem, and examined the rocks in that vicinity, and from that to the plains at Lacat; and succeeded in obtaining a tolerable series of the organic remains from the limestone and sandstone of Cherra and its neighbourhood.

The season of 1852 was much drier and finer than that of 1851, and we were thus enabled to continue actively engaged in the field, until the very day before leaving the hills. On reaching the plains, we immediately proceeded to the field again, so that the results of our labours were unavoidably put aside until the return of the hot season of the present year, 1853, enabled me to devote some time to their collation. Since leaving the field in April last, the survey of the Khasi hills has been plotted, and the Maps accompanying this report completed, together with a plan, on a larger scale, of the station of Cherra Poonjee itself.

The want in this country of books of reference, or collections for comparison, has compelled me, after a preliminary examination, to submit a selection of the fossils collected, for careful examination and description in England: and, until the final results of such comparison may be known, any report on the district must unavoidably be very incomplete. It will, nevertheless, be in all probability sufficient to make known the principal facts in the physical structure of these hills, and to indicate some of the more important economical considerations springing from this structure.

It is to me a source of great regret, that owing to the season of the year during which I visited these hills, I was unable to examine the lower parts of the ridge, or to proceed along the base, where many points of great geological interest still await solution. Densely covered as these portions are with close grass jungle, abounding in swamps, a sojourn there during the wet and hot months of summer, would be almost certain death to an European: and I was therefore obliged to forego my desire of visiting these districts. It will be seen that in consequence several questions of interest have been left still unsolved.

In judging of the extent of our labours, not only must such circumstance of locality be taken into the estimate, but the state of the climate also. During such wet seasons not much out of door work could be accomplished, especially when the country had to be surveyed and mapped topographically as well as examined geologically. And even during the season of 1852, which, as has been mentioned, was drier and finer than that of 1851, much interruption to such pursuits was unavoidable, where the fall of rain during the *three* months of our visit was not less than 276 inches.(a)

Appended to the outline of the Geology, is a brief sketch of the economical applications of some of the mineral products of these hills. And in the appendices which follow, will be found the results of observations carried on simultaneously with the geological researches; and relating to the elevation and climate of the station of Cherra Poonjee, and to the language and etymological relations of the Khasis.

I have to express the great obligations I am under to Colonel Lister, Political Agent for the Khasi hills, and to his Assistant, Lieutenant Cave, for their valuable and ready co-operation in every way to facilitate my enquiries. To

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(a) During these three months, the actual number of days during which no rain fell at Cherra Poonjee, was 21: viz., in July 3; in August 6; in September 12; while of days on which the fall was trifling or less than one inch of rain there were 25: viz., in July 3; in August 12; in September 10, giving a total number of fair working days, inclusive of Sundays, of 46.

Mr. Cave also and to Mr. Raban, Adjutant Sylhet Light Infantry, I am indebted for their delightful and instructive company during several trips among the hills, which enhanced my enjoyment most materially; and, which, from my almost total want of acquaintance with the language of the country (at least during my first visit) proved essentially valuable. Indeed, without the benefit of their local knowledge, my success would have been much more limited than it was.

Fig. I.

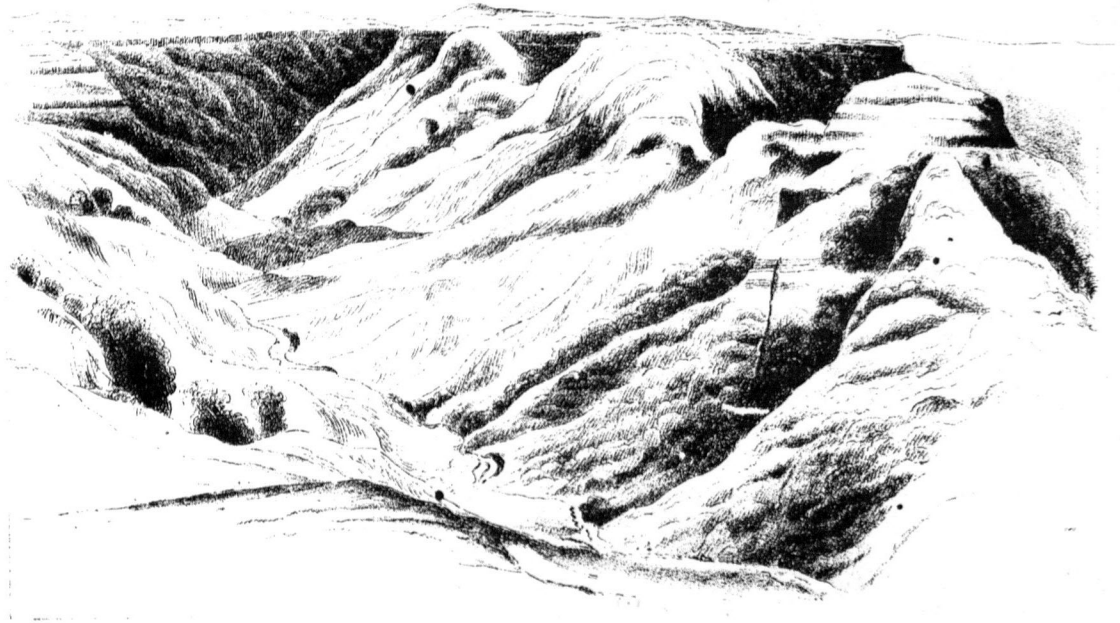
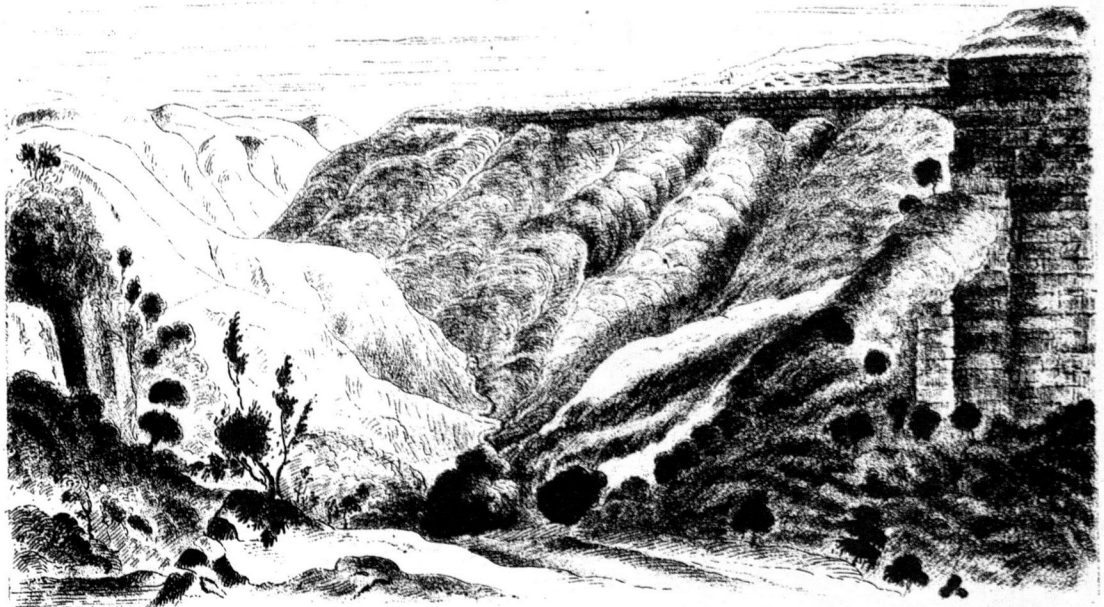


Fig. II.



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