

Fermori² states that Chauparan is the western limit of the belt. The Gurpa mica field lies to the west and north-west of Bendi, the distance between Bendi and the western limit of the Gurpa field in its southern part being about ten miles. The north-western face of the area is about 14 miles to the north of Chauparan.

With a view to determine the suitability

² *Rec. G. S. I.*, 53, Pt. 3, 288.

of the felspar of the Pipratant vein for use in ceramic industries a specimen from the left bank of the Tilaiya Nala near Pipratant was analysed for its iron and alkali contents. It was found to contain 0.07 per cent. of Fe_2O_3 , 12.85 per cent. of K_2O and about 4.08 per cent. of Na_2O . Experiments made in the Department of Ceramics of the Benares Hindu University show that the felspar is of good quality and can be used in glass and ceramic industries.

OBITUARY.

Mr. J. H. Field, M.A., C.S.I.

THE death of Mr. J. H. Field, M.A., C.S.I., is a great loss to Meteorological Science. He was the Head of the Indian Meteorological Department from 1924 to 1928.

Before Mr. Field entered service in India in 1904, he had already achieved distinction during the Boer War by devising an automatic alarm fence which, on contact, lit flares and rang alarms in block houses. In order to gain first-hand information of the intricacies of upper air soundings, he undertook a balloon voyage at Lindenberg and also learnt the technique of kite flying. At that time Mr. W. H. Dines had just started his, now famous, upper air investigations in England and Mr. Field was not slow to realise the value of this important work. He devoted some time with Mr. Dines to gain an insight into the problems of the upper air. It is probably correct to say that in India Mr. Field was the first to send up kites fitted with temperature and humidity recording instruments. In 1905, while testing his kite-winch machines at Karachi, Mr. Field discovered that above the surface layer of moist air in that region there was a dry and warm current. During the next two years, kite experiments were undertaken at Belgaum. Mr. Field was not satisfied with these desultory observations and took short leave for a voyage across the Bay of Bengal with a view to carry out upper air soundings in that great laboratory of Indian cyclones. It was always a pleasure to listen to the various anecdotes of his quaint experiences while flying kites at various places.

Mr. Field, as a born experimentalist, had to struggle hard between his own natural inclination of working in laboratories and workshops and the high sense of administrative responsibility as an officer of the Department. He, however, never could forget his ideal, namely, upper air research and amid his less interesting administrative duties managed to improvise a small workshop in Simla. In this ill-equipped place he designed some very light recording instruments for use with his kites. This was a noteworthy achievement. He also overcame serious difficulties in the measurement of winds in higher altitudes under Indian conditions. The rubber balloons used in Europe rapidly deteriorated in the tropics. After a very patient testing of various kinds of materials he substituted gutta-percha and celluloid balloons in place of rubber. His activities, however, were perforce limited on account of financial difficulties, as the Government in those days was not in a position to realise the importance of upper air research. Things looked very gloomy indeed and between 1910-12 Mr. Field, in sheer despair, was seriously contemplating resignation. It was chiefly through the good offices of the Royal Society through the Secretary of State for India, that eventually three lakhs of rupees were sanctioned specifically for upper air research and Mr. Field selected Agra as the venue for his experimental and investigational activities. This is the history of the establishment of the Aerological Observatory at Agra in 1914 with Mr. Field as its first Director. It was here that his special aptitude for

experimental work found full scope and Mr. Field laboured incessantly for a decade to adapt experimental methods of the West to suit Indian conditions. It is to him that we owe the splendid collection of standard meteorological data of the upper layers of the free atmosphere over India. His investigations on the relation between the monsoon and the upper winds and the standard exposure of instruments in India will long be remembered in the meteorological history of India.

Mr. Field's activities were interrupted by the Great War during which he went to Britain and joined the Admiralty Research Station at Shandon, Scotland. Here he designed an electrical depth recorder for paravanes on mine sweepers. After the conclusion of the War, Mr. Field returned to India and resumed his upper air investigations. In 1922 his services had to be requisitioned in the Director-General's Office at Simla. Mr. Field knew that his duties would be mainly administrative but did not flinch. On the contrary he brought with him his impressive enthusiasm and convincing advocacy to lubricate the administrative machine at Simla. Mr. Field's predecessor in the Office of the Director-General was Sir Gilbert T. Walker, a mathematician of repute. Under Sir Gilbert's

direction the mathematical and physical work done in the India Meteorological Department had received world-wide recognition. It was in the fitness of things therefore that, after the retirement of Sir Gilbert, the mantle of the Director-Generalship fell on Mr. Field, a born experimentalist.

Mr. Field did not relinquish his meteorological work even after his retirement. His services were requisitioned by the Air Ministry, London, to investigate the cause of the so-called "Gibraltar plume". In this work also he exhibited his characteristic thoroughness and foresight by preparing a clay model of Gibraltar and experimenting with it in a wind tunnel before proceeding to determine the characteristics of the wind circulation on the spot.

His example has been a constant source of inspiration to the staff of the India Meteorological Department who received such guidance in a critical time of intense activity as financial facilities allowed. For this service alone the Indian Meteorologists can never be sufficiently grateful to him. The India Meteorological Department will ever remain indebted to Mr. Field for the tireless patience and critical acumen which have characterised both his scientific and administrative activities.

Nanga Parbat Expedition, 1937.

AS we go to the press, our attention has been drawn to an Associated Press message dated June 20th, concerning the ill-fated Nanga Parbat Expedition which was overwhelmed by an avalanche. Eight of the nine climbers, including the intrepid mountaineer leader Dr. Wien, perished. Nine Gurkha porters are also reported to have been killed. The news of the disaster will be received with the greatest dismay; the mountaineer experts opine that the season was not propitious for the ascent of the peak which is considered more accessible in autumn.

Two unsuccessful attempts on Nanga Parbat (26,629 feet) have been recorded. The first of these was made in 1895, and the second in 1934. The latter was led by

Willi Merkl. The present expedition arrived in Bombay on April 30, and established their base camp at an altitude of 10,650 feet on May 18. Camp 2 was reached on May 25 but owing to the unfavourable weather conditions the climbers had soon to return to the base camp. Weather having improved they proceeded rapidly reaching camp 2 on June 3, camp 3 on June 4 and camp 4 on the next day.

The porters all belonged to the Himalayan Club and had been on several expeditions including the Everest.

The members of the ill-fated expedition included Prof. C. Troll and Dr. H. Hartmann, eminent geologists who proposed to collect scientific data during the climb.