

enstatite porphyrite. Above that level turbidity of feldspars and serpentinization of enstatite, with production of epidote and prehnite, set in, and quartz and orthoclase, mainly in micrographic intergrowth, come on abundantly. Plagioclase, which is labradorite lower down, becomes less calcic upwards till the composition of oligoclase is attained. These changes are ascribed to the straining off of the residual liquid, containing the lighter siliceous and alkaline constituents, after crystallization of the minerals with highest melting points, calcic plagioclase and magnesian pyroxene.

The alteration of feldspar and enstatite, with production of secondary minerals, on the higher horizons is ascribed, not to atmospheric agencies, as has been assumed by previous writers, but to reactions between the crystals and the volatile constituents in the residual liquid. The production of hornblende on the higher horizons of the Craig Lwyd area is ascribed to increased concentration of volatile constituents.

The marginal rock is an andesitic porphyrite constituting a chilled-border phase. On the extreme eastern margin this rock merges into a thin bed of a much altered, spongy felsite.

OBITUARY.

Sir Jethro Justinian Harris Teall.

BORN 5TH JANUARY, 1849.

DIED 2ND JULY, 1924.

All geologists will have heard with sorrow of the death of Sir Jethro Teall, who has been prominent among them for half a century, his first geological publication dating from 1875.

A general account of his life and work appeared in this Magazine in 1909 (*GEOL. MAG.*, Dec. V, Vol. VI, p.1), accompanied by an excellent portrait. As most of his work had been accomplished at the time when that account was written, and is noticed therein, it will not be necessary here to allude at length to his official work on the Geological Survey or to his geological writings which, indeed, remain as a monument to his genius, and must always be consulted by the student of petrology. An endeavour will be made to present, however inadequately, some idea of the personality of the man who was so beloved and respected by his contemporaries.

Before doing this, however, some mention should be made of the general nature of his geological work. In the years 1883-4, three papers of paramount importance appeared, the results of long and laborious investigation. They deal with the Cheviot andesites and porphyrites, some north of England dykes, and the chemical and microscopical characters of the Whin Sill. Before their appearance petrographical work in this country had been mainly descriptive, and confined chiefly to macroscopic and microscopic description of rocks, but Teall introduced new methods into Britain, showing the importance of chemical investigation, and laying the foundation of the study of the genesis of igneous rocks.

In 1885 he began his investigation of metamorphic rocks with a study of certain Highland dolerites converted into hornblende-schists, and in later years added largely to our knowledge of these rocks in publications dealing with those of the Lizard peninsula, and especially of the Scottish Highlands which appeared largely, though not entirely, in various memoirs of the Geological Survey.

In the case of the metamorphic as of the igneous rocks, he initiated lines of study which have proved most fruitful.

In 1888 appeared his great work on *British Petrography*, no mere textbook, but full of original matter. The book is so well known that it would be unnecessary to allude to it, save to mention the great assistance he received from his ever helpful wife in the preparation of the beautiful plates.

Though Sir Jethro's writings were mainly petrographical, he always followed with interest the progress of other branches of the science, and also of other sciences, and his face was familiar at many a scientific gathering.

Let us pass from the work to the man himself.

He was tall and well-built with a head and face which at once arrested attention, as may be gathered from a study of the portrait to which allusion has been made. A well-cut face was in early days framed in raven hair and full beard, and the large dark glowing eyes were wont to produce a feeling of awe in candidates who presented themselves for an oral examination, but the candidates were at once put at ease by the charm of Teall's manner, which was unvarying when addressing all sorts and conditions of men. It may be here remarked that he was an ideal examiner.

In his writings he exercised great caution. When he turned his attention to petrology, he published little for several years before the appearance of the three papers to which allusion has been made, and was always averse to hasty publication. The value of his work is no doubt much enhanced by this cautious attitude.

As a speaker the same attitude was maintained. He spoke simply, with no striving after rhetorical effect, but always clearly and concisely. This was the case whether joining in a discussion or giving a paper or lecture. As a teacher he would have been most successful, but his opportunities in this direction were few after leaving University College, Nottingham, and one feels that a career as a teacher would have been less attractive to him than that which he ultimately chose.

He was at all times a delightful companion, never more so than in the study over an after-dinner pipe, and in the field. His conversation ranged from grave to gay, from trivial matters to abstruse subjects, marked always by a delicate humour, and interrupted often by his hearty laugh. His kindness and courtesy, the absence of dogmatism and of signs of impatience, his eagerness and energy, all shone forth on such occasions.

His honesty and uprightness were transparent to all, and he was

universally trusted. When he was Director of the Geological Survey the staff placed complete confidence in his judgment; but, indeed, we may say that of all who had dealings with him. Had advice to be sought, often in delicate matters, or if a conciliator were needed in case of disputes, men naturally turned to Teall, and never in vain. Honest and high-minded as he was himself, he was ever lenient to the shortcomings of others, and seemed to assume that they must be as good as himself.

Sedgwick (whose lectures Teall attended when at Cambridge) once remarked, "I have never had a geological secret in my life," and Teall might have made the same remark. He imparted his knowledge freely, and the amount of information which was thus conveyed has undoubtedly contributed in a high degree to the production of much valuable original work by others.

Such, and much more, was Sir Jethro Teall. A beautiful life is ended, but its effects will be long felt for good in the future.

J. E. M.

CORRESPONDENCE.

THE NOMENCLATURE OF ROCKS.

SIR,—Will you kindly allow me space to urge on Mr. Wells the importance of the maxim "verify your references". The title of my paper on the Derbyshire lavas was not, as quoted by him in the current number of the *GEOLOGICAL MAGAZINE*, "Lower Carb. Spilites in Derbyshire." It was "On a Spilitic Facies of Lower Carboniferous Lava-Flows in Derbyshire"—a distinction with a considerable difference. It is, moreover, incorrect and misleading to quote me as having named the Derbyshire rocks "spilites", without a qualifying prefix.

I have nothing to add to my letter which appeared in your pages in the issue for March, 1923.

H. C. SARGENT.

15th July, 1924.