



LII. Proceedings of Learned Societies

To cite this article: (1917) LII. Proceedings of Learned Societies , Philosophical Magazine Series 6, 33:198, 534-535, DOI: [10.1080/14786440608635668](https://doi.org/10.1080/14786440608635668)

To link to this article: <http://dx.doi.org/10.1080/14786440608635668>



Published online: 08 Apr 2009.



Submit your article to this journal [↗](#)



Article views: 3



View related articles [↗](#)

doubt owing to the difficulties attending an attempt to express a mathematical problem in non-mathematical language. The new theory does away with the need of three distinct colour sensations (for which there is no histological evidence); and it bears considerable resemblance to the views which have been advocated by Edridge-Green for many years past. The fact that the phenomena of colour mixture can be described so satisfactorily in terms of the three-colour theory is apt to make one ignore the lack of microscopical evidence for it; moreover physicists are usually so little acquainted with the subjective phenomena of colour vision that the difficulty of explaining these by the same theory does not oppress them. This article and the original article are well worth careful study.

The number also contains an appreciatory note by D.O.W. on the recipients of the Nobel Physics Prizes for 1915, Professor W. H. Bragg and his son (with portraits). Also an illuminative essay by Dr. H. Bateman on the theory of integral equations and the calculus of operations and functions.

LII. *Proceedings of Learned Societies.*

GEOLOGICAL SOCIETY.

[Continued from p. 456.]

February 7th, 1917.—Dr. Alfred Harker, F.R.S., President, in the Chair.

THE following communications were read:—

1. 'The Trias of New Zealand.' By Charles Taylor Trechmann, M.Sc., F.G.S.

2. 'The Triassic Crinoids from New Zealand collected by Mr. C. T. Trechmann.' By Francis Arthur Bather, M.A., D.Sc., F.R.S., F.G.S.

3. 'On a Spilitic Facies of Lower Carboniferous Lava-Flows in Derbyshire.' By Henry Crunden Sargent, F.G.S.

The igneous rocks of Derbyshire form a basic series, consisting mainly of lavas and sills, hitherto classed as olivine-dolerites and basalts, often associated with tuffs and agglomerates. All these rocks occur in Lower Carboniferous strata. The lavas were submarine and contemporaneous.

Specimens of the lavas from certain localities exhibit a trachytic structure, and possess affinities with both spilites and mugearites. These specimens are all intensely decomposed, felspar being generally the only original mineral that is determinable. The alkali-content sometimes exceeds 7 per cent., potash being always important and sometimes predominant. The felspar species are oligoclase and orthoclase, with generally a more basic plagioclase subordinate. Replacement by alkali-felspar frequently occurs.

Field-evidence shows that these spilitic rocks, as a rule, underlie the basalts. A gradation may be traced between the two extremes of the series.

It is suggested that the whole series has been derived from

a common magma of normal basaltic type, and that, by the upward passage of gases through the magma, a relative concentration of the alkalis took place in its upper part, which was the earliest erupted. It is further suggested that the intense decomposition of the spilites is a case of auto-metamorphism, due to retention of volatile constituents resulting from the physical environment of a submarine flow.

An analogue to the radiolarian cherts and jaspers, generally associated with spilites in other localities, is found in Derbyshire in the quartz-rock and other siliceous rocks that frequently occur in proximity to volcanic vents.

Since the spilites appear to be differentiates from a normal basaltic magma, resulting largely from their physical environment, it is concluded that they do not form a separate suite of igneous rocks distinct from other alkaline rocks.

LIII. *Intelligence and Miscellaneous Articles.*

ARNOLD LOCKHART FLETCHER.

ON April the 30th Arnold Lockhart Fletcher died at Rouen of severe wounds received in action. He was in the 28th year of his age. During his short life he accomplished work of permanent value.

Arnold Fletcher was educated in various schools in England and Ireland, and entered Trinity College, Dublin, in 1906. He graduated in Arts and in Civil Engineering, obtaining the latter degree in 1909. Shortly after passing his finals in Engineering he was appointed Assistant in the Department of Geology—a subject in which he had displayed a keen interest as a student. During his tenure of this post the work of research in this Department was mainly confined to the distribution of radioactive elements. Most of Fletcher's papers are devoted to this subject. Various important materials were examined by him, using, at first, the method introduced by Strutt, and, later, the method by fusion. When a convenient means of estimating thorium emanation was devised, the search for this element was added to that of radium emanation.

Fletcher's papers on the radioactivity of rocks and minerals show him to be an enthusiastic worker who spared no pains to obtain reliable results. His paper on the radium content of Secondary Rocks well illustrates his minute care in research (Phil. Mag. Feb. 1912). This paper will, in the present writer's opinion, long remain the best work which has been done on these materials. Indeed it cannot be superseded, for it is a record of natural quantities which enter as essential data into geological science, and must retain its value unless some at present unknown source of error can be shown to exist.

This and several of his other papers show Arnold Fletcher as possessed of the most valued quality of the investigator—the determination to arrive at accuracy. But they also show him to be possessed of the inventiveness which continually improves upon