G. L. CANNON: 'The Necessity for Science Conferences in Colorado.'

JUNIUS HENDERSON: 'The Collecting of Mollusks in Colorado.'

T. D. A. COCKERELL: 'The Fossil Beds of Florissant.'

A. E. BEARDSLEY: 'The Crustaceans of Colorado.'

H. E. SOVEREIGN: 'Apparatus illustrating the Laws of Electromagnetic Induction.'

A. N. FINN: 'A Report on the Quantitative Analysis of Uranium and Vanadium.'

J. ARTHUR BIRCHLEY: 'A Study of the Kater Pendulum.'

WM. DUANE: 'New Kinds of Radiation.'

G. S. DODDS: 'The Projection Microscope for Work in Botany and Zoology.'

W. D. ENGLE: 'The Effect of Bile on the Surface Tension of Water.'

GEORGE I. FINLEY: 'Recent Geological Correlation Work in the Cañon City Field.'

PHILIP FITCH: 'A Review of the Development of the Modern Kinetic Theory of Gases as a Basis for the Study of Radioactivity.'

F. L. ABBOTT: 'Producer-gas and Producer-gas Engines.'

J. VINCENT DANIELS: 'A Report on the Formation of Malic Acid by Fermentation.'

All of the institutions in the state of collegiate grade were represented by delegates, and a number of the larger high schools as well. A public address was given by Professor Thomas H. MacBride, of the State University of Iowa, his subject being 'The Response of Plants.' FRANCIS RAMALEY,

Secretary, Local Committee.

DISCUSSION AND CORRESPONDENCE.

A PERSISTENT ERROR.

MY attention has recently been called to an error in the use of geologic names, which, since I am inadvertently responsible, it seems desirable I should correct.

The terms Des Moines and Missourian have been in use for some years, especially in the publications of the Iowa and Missouri Surveys, for the lower and upper coal measures of the older classification. When I prepared for the 22d Annual Report of the U. S. Geological Survey a brief discussion of the western interior coal field, I was located in a mining camp with no opportunity for stenographic services. The report was, therefore, written out in long hand and sent down to Washington to be copied. Instead of being returned to me it went through the press, and I had no opportunity to examine it until the printed copies came to hand. It seems that in one of the early pages of the manuscript, by some inadvertence I had transposed the terms. The editor with painstaking care transposed them through all the remainder of the manuscript to correspond to this one wrong usage, and they appeared in this form in the published paper. The mistake was to my mind so obvious, and the usage so well established, that I never considered it worth while to make the correction. However, it misled Dr. Buckley, of the Missouri Survey, and in his report on the quarry industry the terms are accordingly misused. His attention having been called to this, the following note was made in the Geology of Moniteau County, page 8:

> Attention is here called to the names Missourian and Des Moines, in the use of which there is evidently some confusion. In the earlier reports of the Iowa and Missouri Geological Surveys the term 'Missourian' has been applied to the upper coal measures, and the term 'Des Moines' to the lower coal measures. In the late reports of the U. S. Geological Survey (22d Annual Report, part 3, plate 22, page 341), their use has been reversed, the term 'Missourian' being applied to the lower coal measures, and the term 'Des Moines' to the upper coal measures. These names were first applied in the Missouri reports during the Keyes administration, and there appears to be no good reason for reversing their application.

This would seem to have been sufficient to make the matter clear, but in the report of the coal-testing plant of the U. S. Geological Survey, Professional Paper 48, page 74, the wrong usage again appears. I desire, therefore, to enter protest in public against the persistence of the usage, which was a typographical mistake to begin with, and for which there is, as Dr. Buckley says, no good reason.

H. FOSTER BAIN.

THE NORTHERN LIMIT OF THE PAPAW TREE.

THE article by Dr. C. A. White in the May 11 issue of SCIENCE on the northern limit of

the papaw in the Mississippi Valley overlooks the occurrence of this tree at a point much farther north. The writer has noted its occurrence in the valley of Carroll Creek near Mt. Carroll, Ill., about five miles north of the forty-second parallel of latitude, or nearly one hundred miles farther north than the limits given by Dr. White, *and the tree there bears fruit.* A letter received to-day from A. B. Hostetter, of Mt. Carroll, states that the fruit seldom ripens, but that in favorable seasons members of his family have gathered and eaten the ripened fruit. The papaw in that locality seems to be restricted to the rocky gorge of Carroll Creek, a situation somewhat sheltered.

It may be of interest to note in this connection that the papaw has been reported by Wesley Bradfield, of the United States Forest Service, to extend as far north as Grand Traverse Bay in Michigan, or to about latitude forty-five degrees, and it is of common occurrence as far north as Grand Rapids, Mich., in latitude forty-three degrees.

Frank Leverett.

Ann Arbor, Michigan,
May 17, 1906.

After having read the communication from Dr. C. A. White in Science for the eleventh of May this year, relative to the northern limit of the papaw tree, I deem it my duty to inform the readers of your journal that this tree grows under a high bluff of sandstone on the south side of the Mississippi in the west end of Rock Island County, near a place known as Drury Landing.

Two weeks ago I saw these trees in bloom. I sought information regarding the ripening of the fruit and the testimony was unanimous by the residents in the neighborhood that the fruit may and does ripen even in this northern locality. It is known to have been offered for sale on the market in Muscatine, on the opposite side of the river. So far as the distribution of this plant along the Mississippi is concerned, it does not seem necessary to account for this by a hypothesis involving human agency, although we may take it for granted that man has been an agent of some consequence in the dispersal of its seeds.

J. A. Udden.

Rock Island, Ill.,
May 21, 1906.

SPECIAL ARTICLES.

Parallel Development in Brachiopoda.

'Brachiopod Homœomorphy: *Pygope, Antinomia, Pygites.*'—The writer has presented a paper with the above title to the Geological Society of London, and it was read on March 21. It deals with the diphyoid Terebratulæ, of which so many species have borne the name *Terebratula diphya* (Colonna). It is noted that this name is pre-Linnean, and can, therefore, only date from the time when it was revived by L. von Buch, 1834. Prior to that several names had been given to these shells. The first were *Terebratula cor* and *T. pileus* given by Bruguière in 1792 in the *Journ. Histoire Naturelle.* This paper has been entirely overlooked by workers on these shells. Bruguière's names indicate a perforate and an imperforate species, respectively. Consideration is then given to the synonymy of certain diphyoid species: *T. triangulus,* Valenciennes in Lamarck, which was actually founded on Bruguière's own figures of his *T. pileus,* reproduced in 'Encyc. Meth.'; *T. triquetra,* Parkinson, which includes two species, a perforate and an imperforate; and *T. antinomia,* Catullo, which covers various species. These and others all antedate *T. diphya,* von Buch.

Terebratula diphya is not the type of the genus *Pygope,* as all text-books say; for Link, the author of the generic name, referred only to *T. antinomia,* Catullo. Reasons are given for taking as the type of *Pygope* one of the forms of *T. antinomia* which is considered to be the same species as *T. deltoidea,* Val. Then the later generic name *Antinomia,* Catullo, is discussed. The genus was founded on five species; and one of them is now selected as the type — the genolectotype. This is *A. dilatata,* Catullo, supposed to be equivalent to *T. antinomia,* Catullo, that is, to what is now selected to be the type of that species. In that case the species would bear the name *Antinomia*