race. . . ." Well, we want to know exactly how many have laid adhesive eggs. The author tells us that the egg-character is non-Mendelian, and that, though of course a character of the female, it is transmitted through the female. We want the details of the evidence on which this statement is based, in the form of a table preferably. In no case is the probable error of his results worked out.

THE OLDEST EUROPEAN SEDIMENTS.

MR. J. J. SEDERHOLM, director of the Geological Survey of Finland, has issued in English his "Explanatory Notes to accompany a Geological Sketch-map of Fenno-Scandia" (Helsingfors: Frenckellska Tryckeri-aktiebolaget, 1908). The beautifully coloured map of Norway, Sweden, and Finland (Prof. W. Ramsay's "Fenno-Scandia") that accompanies this memoir was originally issued in Bulletin No. 23 of the Commission géologique de Finlande. Photographs are given of critical rock-specimens, such as the conglomerates that mark unconformities between the Archæan systems in Finland, and the early pre-Cambrian (Bottnian) banded sediment of the shores of Näsijärvi. This rock indicates seasonal stratification, strangely like that of the adjacent Glacial clays of Pleistocene age.

Those who have seen the actual specimens, or, better still, the beds in the field, cannot deny the existence of an immense series of pre-Cambrian sediments in Fenno-Scandia. The gneisses, such as those of the Hangö islets, are by no means the oldest or fundamental rocks, but result from the intrusion of granite into various series and at various times. Some of the granites in the north of Finland appear to be post-Silurian, as in Scandinavia. Sederholm's admirable summary is, of course, written from a Finnish point of view, and some of the results may meet with criticism when applied to Scandinavia; but they deserve the keen attention of geologists in our own islands, where post-Silurian movements have masked much of the older sequence, but where patches of ungranitised pre-Cambrian sediments may remain amid metamorphic areas.

A visit to Finland healthily counteracts the tendency, still apparent in some quarters, towards bringing all our clearly stratified rocks somehow into the Palæozoic era. Dr. A. Mickwitz has recently proposed (*Bulletin de l'Académie impériale des Sciences de St. Pétersbourg*, 1907, p. 699) to correlate the results of deep borings on the south side of the Gulf of Finland, in the hope of ascertaining the relations of the lower Cambrian strata of Russia to the pre-Cambrian beds that appear across the sea in Finland. Perhaps the areas still unexplored by the Finnish Survey may include some Palæozoic strata. For the present, the "Jatulian" dolomites, sandstones, and true bedded anthracites are sufficiently fascinating. What forms of vegetable life in pre-Cambrian times furnished the bed of coal 7 feet thick in Olonetz?

G. A. J. C.

METEORIC SHOWER OF JANUARY.

THE Quadrantids, or Boötids as they are sometimes called, the former constellation being modern and not fully recognised, ought to reappear under favourable auspices on the nights of Saturday, January 2, and Sunday, January 3; but the shower is a very fugitive one, and its more abundant phase will probably be confined to a few hours on one of the nights mentioned.

These January meteors really form a very rich stream, and I believe that, next to the Perseids, Leonids, and Andromedids, they are entitled to take precedence as regards numbers; but the annual returns are seldom well observed in this country owing to cloudy weather, moonlight, and other causes. Moreover, the radiant is only at a satisfactory height for the plentiful display of its meteors just before sunrise. At 9 p.m. in the latitude of Greenwich the point of radiation is only fourteen degrees above the northern horizon. Observations are best made, therefore, in the early evening between 5 p.m. and 6 p.m., or during the few hours before sunrise.

The meteors are generally fairly bright, with long, rather swift flights and flaky trains. They are decidedly conspicuous objects, and easily identified from members of the secondary showers of the epoch, which are not abundant or individually rich. This year the gibbous moon will slightly interfere with observations before midnight, but the morning hours, if atmospheric conditions allow, ought to provide a very suitable time for witnessing the spectacle.

W. F. DENNING.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

THE annual meeting of the Mathematical Association will be held on January 12, 1909, at King's College, London. Addresses will be delivered by Dr. H. T. Bovey, F.R.S., rector of the Imperial College of Science and Technology, on the mathematical preparation for students who propose to take up technical work; by Mr. Alfred Lodge, on the introduction of the idea of cross-ratio and homography, and its connection with involution; and by Prof. G. H. Bryan, F.R.S., on a proposal for the unknown digit.

THE annual meeting of the Geographical Association will be held on January 6, 1909, at the London School of Economics. In the morning, at 11.30, short papers on practical problems will be read. Mr. J. Fairgrieve will deal with the weather report and the teaching of geography, Dr. A. J. Herbertson will give hints on hanging and storing maps, and Mr. J. A. McMichael will give a demonstration of the method of making models by serial sections. In the afternoon, after a business meeting, the president, Mr. Douglas W. Freshfield, will deliver his address, Dr. H. R. Mill will lecture on the rainfall of the British Isles, and a lantern exhibition will be given of the set of views of the Dora Baltea, which has been prepared for the association by Mr. G. W. Palmer. The Geographical Association is, we are glad to find, continuing its excellent work in the direction of encouraging more scientific methods of teaching geography in schools. Monthly meetings for teachers and others are to be held on the last Friday evenings of January, February, and March next for the discussion of problems likely to assist teachers in their work, and in other ways the association is endeavouring to assist improved methods of geographical instruction. The honorary correspondence secretary, Mr. J. F. Unstead, 39 Greenholm Road, Eltham, is willing to give full particulars of the work of the association.

THE annual meeting of the recently formed American Federation of Teachers of the Mathematical and Natural Sciences was held at the Johns Hopkins University, Baltimore, on December 28 and 29. On the second day a joint meeting was held with the American Association for the Advancement of Science, at which numerous problems of science teaching were discussed. From Bulletin No. 1 of the federation, which has been received, we learn that seven associations have formally joined the federation. Fourteen others have the matter under consideration, and are expected to take action on it at their next meetings. Among pieces of work of obvious interest and importance which the federation proposes to undertake may be mentioned investigations and reports on such matters as the bibliography of science teaching and the history of science; the best means of publication for new material of interest to teachers of science; the best means of securing the most favourable conditions for science teaching, including a share in the shaping of college entrance requirements. It is important to notice that the articles of the federation provide, not for the formation of a new national society of teachers of mathematics and science, but for a collective representation of existing local societies in matters of broad general interest. Each local society, of which there are many in the United States, preserves its independent identity and methods of work. Already the federation has begun work by undertaking the compilation of a bibliography of the literature on the teaching of science and mathematics. The work is being done by cooperative effort, part having been assigned to each of the federated associations. A committee on bibliography has been appointed, with Prof. Richard E. Dodge, of Teachers' College, New York, as chairman. The list to be prepared is to "include books, articles in periodicals, scientific journals or association reports, including foreign contribu-