expresses the fact that the increase in any section is equal to the difference between the ice which enters and leaves it, less the amount melted. Assuming that the velocity is in proportion to the square root of the thickness, that the melting is proportional to the horizontal projection of the surface and that there are certain fundamental variations of thickness at the névé line, which may be considered as due to climatic changes, Professor Finsterwalder finds that a glacier will go through variations which correspond very well with those observed. This is a most excellent beginning of a more exact understanding of glacial variations, though the assumptions are by no means accurate. The last chapter contains an account of the 'Ice Age' with special descriptions of the Alps in that period and describes the changes which have taken place in the topography as a result of the occupation of the valleys by the glaciers. The Ice Age, of course, can not be treated fully except in one or more volumes by itself.

In conclusion, we may say that the book is well and clearly written and is thoroughly reliable in its facts; it will be of the greatest value to all students of glaciers.

HARRY FIELDING REID.
JOHNS HOPKINS UNIVERSITY,
March 11, 1905.

The Varnishes of the Italian Violin Makers of the Sixteenth, Seventeenth and Eighteenth Centuries and their Influence on Tone. By GEORGE FRY, F.L.S., F.C.S. London, Stevens and Sons, Ltd. 1904.

About a fifth of the book deals with the minute description of the old violin varnishes as used by the best Italian makers. This is important as it is the only means of determining the composition of them, for it is clearly out of the question to remove the varnish from Straduarius violins and analyze it.

Following this is a chapter upon the influence of varnish upon the tone of violins, in which is shown that it has a decided influence and that oil rather than spirit varnishes are to be preferred. Two chapters are devoted to the manufacture of oil varnishes and those from turpentine derivatives.

The most important part of the book is contained in the last two chapters, in which the author thinks it more reasonable that the varnishes used in Italy were made from the materials close at hand—turpentine, linseed oil and rosin, the latter oxidized by treatment with nitric acid—than from some remarkable mystical gum. He substantiates his theory by describing a series of sixteen experiments in the manufacture of varnishes, using a nitrated mixture of rosin and linseed oil. A number of interesting problems are discussed, as, for example, the production of dichroism in varnishes, and studies in the drying of varnishes, the fact that age in violins is a detriment rather than an advantage, as usually supposed. Incidentally it should be remarked that the processes of manufacturing the nitrated varnishes have been patented in this country and abroad. The work is a valuable one to both the violin and the varnish maker, particularly to the latter on account of the material relating to the nitro-oleo varnishes which, so far as the reviewer is informed, is new.

A. H. GILL.

SCIENTIFIC JOURNALS AND ARTICLES.

THE opening article in the *Journal of Nervous and Mental Diseases* for March is by Dr. H. A. Hoppe, who discusses under the title of 'Soul Paralysis' some very interesting problems of the higher reflex acts, dealing with the relation between sensory stimuli and motor activity. This article is followed by a careful report by Dr. F. Robertson Sims of the 'Anatomical Findings in two Cases of Korsakoff's Symptom-complex.' Dr. Charles W. Burr reports a case of myasthenia gravis with autopsy, adding one more to the list of cases in which the thymus gland was persistent or persistent and diseased in the adult and associated with lymphoid infiltration of the muscles. The case is particularly interesting clinically because of the presence of visual symptoms, most frequently met with in and formerly regarded as pathognomonic of hysteria. Dr. S. G. Webber adds two more cases to the literature of multiple sclerosis, and suggests that the apparent rarity of the disease may be partially due to failure to get correctly diag-

nosed, the cases in question having been diagnosed as tumor of brain and locomotor ataxia, respectively, and their true nature revealed only by the autopsy. The proceedings of the Philadelphia Neurological Society for November 22, 1904, are reported, and the 'Periscope' contains numerous abstracts.

SOCIETIES AND ACADEMIES.

THE AMERICAN MATHEMATICAL SOCIETY.

The one hundred and twenty-second regular meeting of the American Mathematical Society was held at Columbia University, on Saturday, February 25, 1905. The attendance at the two sessions was about fifty, including forty-two members of the society. The vice-presidents, Professors Pierpont and E. W. Brown, presided at the morning and afternoon sessions respectively. The council announced the election of the following persons to membership in the society: Miss A. F. Becker, Yeatman High School, St. Louis, Mo.; Professor C. H. Beckett, Purdue University; Professor W. De W. Cairns, Oberlin College; Professor S. C. Davisson, Indiana University; Dr. J. S. French, Jacob Tome Institute; Mr. F. H. Hodge, Clark University; Mr. A. E. Joslyn, Armour Institute of Technology; Dr. J. W. Lowber, Austin, Texas; Mr. J. H. Maclagan-Wedderburn, University of Chicago; Mr. G. A. Plimpton, New York City; Mr. E. W. Ponzer, University of Illinois; Mr. H. W. Reddick, University of Illinois; Miss M. E. Sinclair, University of Nebraska; Dr. A. W. Smith, Colgate University. Ten applications for membership were received.

Professor E. B. Van Vleck was elected a member of the Editorial Committee of the *Transactions*, to succeed Professor T. S. Fiske, who retires with the completion of the present volume.

The following papers were read at this meeting:

L. D. Ames: 'The theorem that a closed simple surface is bilateral.'

C. L. Bouton: 'Note on isothermal curves and one-parameter groups of conformal transformations in the plane.'

E. W. Brown: 'Note on the variation of the arbitrary and given constants in dynamical equations.'

O. E. Glenn: 'Determination of the abstract groups of order p^2qr.'

F. R. Sharpe: 'The stability of the motion of a viscous liquid.'

James Pierpont: 'Note on infinite products.'

Charlotte A. Scott: 'The elementary treatment of conics by means of the regulus.'

A. W. Smith: 'The symbolic treatment of differential geometry.'

A. M. Hiltebeitel: 'Note on a problem in mechanics.'

R. B. Allen: 'Hypercomplex number systems with respect to a domain of rationality.'

L. P. Eisenhart: 'Note on the deformation of surfaces of translation.'

A meeting of the San Francisco Section of the society was also held on February 25, at Stanford University. The next meeting of the society falls on Saturday, April 29. The Chicago Section will meet at the University of Chicago, April 22. The summer meeting of the society will be held at Williams College, Williamstown, Mass., September 7–8.

F. N. Cole,
Secretary.

THE NEW YORK ACADEMY OF SCIENCES.
SECTION OF GEOLOGY AND MINERALOGY.

At the meeting on March 6 the following paper was read by title:

On the Absence of Helium from Carnotite: Dr. E. P. Adams.

The following paper was presented in full:

Notes on the Minnewaska Region, Ulster Co., New York: F. Wilton James.

The stripping of the grit from the crest of the second anticline of the Shawangunk* appears to be due to a slight cross fold by anticlinal fracture and erosion, as the rocks at the southwest end of the eroded area show an upward pitch. Through this depression the Peterskill probably flowed while its own valley and Coxing Clove were dammed by the front of the ice sheet, and cut then the Paltz Gap in the crest of the first anticline, 200 feet deep, through which the road to New Paltz now runs.

* Darton, Rep. 47, N. Y. State Mus.