The British Medical Journal reports that professors of the Paris Faculty of Medicine have been placed in two classes according to their seniority, those in the first class receiving a salary of 25,000 francs and those in the second class a salary of 23,000 francs. By a recent ministerial decree Professors Richet, Pouchet, Hutinel, De Lapersonne, Gilbert, Roger, Nicolas, Ribemont-Dessaignes, Quénu, Prénant, Widal, Chauffard, and Weiss have been put in the first class, and Professors Delbet, Marfan, Hartmann, Bar, Marie, Broca, Teissier, Desgrès, Lejars Achard, Robin, Legueu, Letulle, Couvelaire, Carnot, Besançon, Vaquez, Dupré and Jeanselme in the second class.

DISCUSSION AND CORRESPONDENCE

TRANSVERSE VIBRATIONS OF RODS

To the Editor of Science: In reference to Professor Cady's paper on "The Theory of Longitudinal Vibrations in Rods having Internal Losses" in the *Physical Review* for February, I should like to say that we have made in the laboratory of Clark University during the last ten years a very great many measurements of transverse vibrations of rods of all sorts of materials and that we find that the theory of viscosity is by no means substantiated. Until Professor Cady's experimental results are published I shall therefore have to reserve my opinion as to the application of this theory to longitudinal vibrations.

I would say in justice to myself and my students that our results have been held back so long because we have attempted to apply the theory of elastic hysteresis to the subject and the difficulties in the solution of the Volterra integro-differential equations involved have been so great that we have not been able to finish the theoretical results. It looks at present as if that theory was not substantiated either. Accordingly, it will be necessary to invent a new theory or a combination of both. I have now decided to publish the experimental results without waiting for the theory and they may be expected to appear soon in the *Proceedings* of the National Academy of Sciences. The subject is an extremely interesting one and of great importance for many reasons.

Arthur Gordon Webster
Clark University, July 13, 1920

THE EXPLORATION OF VENEZUELA

To the Editor of Science: With three companions, I have just returned from a collecting trip in western Venezuela, and I found there some conditions which will probably be of interest to others who may contemplate a scientific trip in the tropics.

At the present time in western Venezuela there is considerable activity in oil development, not only in exploration, but in the establishment of permanent camps and refineries. Two of these camps are located in country entirely different in character. Arrangements could be made by any one desiring to visit these camps to make them his headquarters, thus rendering accessible for study faunas and floras which the student could otherwise reach and study only at considerable trouble and expense.

One of these camps is about twenty miles from Maracaibo in a desert region. The flora and birds here would be of especial interest.

The other camp is located on the Rio Oro, a tributary of the Catatumbo, and is reached by launch from Encontrados, a town about ninety miles from the mouth of the Catatumbo, which town can be reached by steamer without change of boat from Maracaibo. This camp is in a well watered and heavily forested region, as I was told, but I did not have an opportunity to visit the camp myself.

The camp near Maracaibo belongs to the Caribbean Petroleum Company, with offices at Maracaibo. The other camp belongs to the Columbian Petroleum Company, and letters of inquiry relative thereto might be addressed to Mr. David Brullenbourg, Encontrados.

I was informed by several gentlemen connected with both petroleum companies that any one interested in the fauna and flora of the region would be welcome at these camps, and his expenses there would be reduced to the minimum. These camps offord an oppor-

tunity of living in health and safety in regions where such considerations are of vital importance. Maracaibo can be reached from New York City by the Red "D" Line in from ten to twelve days, and once at Maracaibo, the camps can be reached without difficulty.

In addition to these permanent camps, there is more or less exploration going on, and I was informed by two gentlemen that scientific investigators would be welcome with such exploring parties. Correspondence relative to this matter might be addressed to Mr. Grady Kirby and Mr. J. Whitney Lewis, care of The American Consul, Maracaibo. The Lake Maracaibo region offers an available field to collectors, and there are well-established and regular lake steamer lines, and from Encontrados, to mention only one of the railroads, a railroad extends to Estacion Tachira at the foot of the mountains at an elevation of 364 meters. Between the terminals of this railroad are two or more other points in desirable country for study and collecting. From Estacion Tachira there is an automobile road to San Cristobal, which is on one of the head waters of the Orinoco river.

E. B. WILLIAMSON

MATHEMATISCHE ZEITSCHRIFT

IN view of the numerous reports of the present hardships of German scientists it may be of interest to note that in 1918 a new journal devoted to mathematical research was started in Germany under the title *Mathematische Zeitschrift,* and that three volumes of this periodical appeared in 1919 while only two volumes were expected to be published annually according to the announcement.

This evidence of activity in mathematical research seems to reflect an optimism which one might not have expected under present conditions. The subscription price of the first four volumes of this journal was 24 marks per volume, for the fifth volume it was raised to 32 marks, and for the sixth it was again raised to 48 marks. The director of the journal is L. Lichtenstein, of Berlin.

G. A. MILLER

SCIENTIFIC BOOKS

Aids to Forecasting. By E. GOLD, F.R.S. Published by the Air Ministry. London, 1920.

This publication officially numbered Geophysical Memoir No. 16, gives a classification of the Daily Weather charts, 1905 to 1918. The weakness of any such classification is, of course, the assumption that like surface isobaric conformations are always followed by similar weather conditions.

The general principle which Colonel Gold uses in selecting 15 types and subtypes, recognizes the position of the anticyclone as the dominating feature. This we are glad to notice because for many years forecasters have centered their attention on the "low"; naturally enough, overlooking the fact that directive force and course of the "lows" are determined largely by the antecedent or adjacent "highs." Doubtless we shall have better forecasts for the North Atlantic seaboard when there is a fuller knowledge of the relation between advancing "lows" and those quick moving anticyclonic areas from the north known as "Labrador highs."

This series of British charts starts with the anticyclonic to the S.W. then moving east until over Western Europe, then S.E., E., N.E., N., N.W., and W.

Additional charts of special character are included, such as the indefinite area of low or high pressure, the trough, the dumb-bell depression and the depression centrally situated. The types were selected primarily with reference to the weather of southeastern England and northeastern France.

The forecaster fits his chart to the classified type and finds in a table corresponding type dates. Referring to the charts for those days he studies the general results. It is suggested that a local forecaster ought to have a set of synoptic charts interleaved so that he may study the weather in more detail.

The primary purpose of the arrangement is to assist in day-to-day forecasting; but the data can be employed in discussing from