superior capacity and hence possibility of superior attainment, involves a wider recognition than now exists of the positive use which modern psychologists are more and more making, in their development of the applications of psychological science, of the fact that not only are there such marked differences in native intellectual capacity or ability among persons as to permit the setting up, on a basis of intelligence tests, of such categories as idiot, feebleminded, sub-normal, average normal, superior and genius, but that within the group of so-called mentally normal human beings, which includes most college students, there still exist rather large differences in intellectual capacity. We all know this to be a fact, but few of us give it sufficient attention; few of us give it sufficient importance as an aid in guiding our practical activities. Now the value of the university's product is, as Terman well says, determined as much by the original quality of the raw material with which it works as it is by salary budget, instructional methods or curriculum. In an abundantly documented recent paper, this active exponent of modern psychology reveals the high significance which an analysis of the intellectual status of the student body of a university might have as a basis for positive action by any university determined to make the best use of its available resources for the advancement of American learning. He shows the positive economy in money, time and mental energy that could be effected by certain radical changes in university administration, and the highly desirable results which would come from these changes in the way of enabling the university to fulfil its highest function in the advancement of learning both through teaching and research. And only by such fulfilment can the nation make the most of its potential mental capacity.

I seem to have wandered somewhat from the particular subject which the title of my paper indicates to be especially mine this afternoon. But all of the things I have talked about have their definite relation to research in the universities. Yet one important phase of this subject I have alluded to by no more than a fortuitous juxtaposition of words. The relation between research and teaching is a subject which alone calls for another and longer paper than all of this present one, which ought to be inflicted on you some time by somebody. This is not the time nor am I the brutal body to do it. But I can not refrain from calling your attention, in my last moment with you, to the additional evidence of the curious and abnormal character of the institution we call university in America, which is afforded by the strange and highly injurious artificial opposition that has been created between research and teaching by the customs and methods of American higher education. Research and teaching are inseparable from, and indispensable to, each other in a real university. An institution which does radically separate or oppose them is not a university, however good and useful some other thing it may be. The University of Minnesota is a university because it is an institution which recognizes the intimate relationship and coincidence of teaching and research. And we may feel assured that under its new president it will continue, and with ever-increasing effectiveness, to fulfil its genuinely university function.

VERNON KELLOGG
THE NATIONAL RESEARCH COUNCIL

THE METRIC SYSTEM IN JAPAN

THE American Metric Association has received from the Decimal Association of London a brief statement by Dr. C. E. Guillaume, director of the International Bureau of Weights and Measures, relating to the progress of the metric system in the Far East. This was written on May 23, 1921, and we have had it translated for the information of the readers of SCIENCE. We have received from official Japanese sources additional information in regard to the Japanese metric law, passed on April 11, 1921, and the program for rendering it effective.

Practically all readers of SCIENCE will be glad to know that the Britten bill, now known as H. R. 10, is being endorsed by national organizations and has a fair chance of pass-

ing. Metric reports are being prepared by the United States Chamber of Commerce and the National Industrial Conference Board. The metric campaign is on in earnest and there should and will be no let up until success is won for North America.

The annual meeting of the American Metric Association for 1921 will be held in Toronto on December 29. In view of the importance of the movement in America, we hope that a large number of the members of the A. A. A. S. will reserve December 29 for the program of the American Metric Association.

Howard Richards, Jr.,
Secretary, American Metric Association

The Obligatory Adoption of the Metric System by the Empire of Japan

A telegram from Mr. Shirio Kikkawa, Director of the Bureau of Weights and Measures in Tokio, brings the news of the passage by the Japanese Parliament of the law rendering the employment of the metric system obligatory. The importance of this event, significant in itself, becomes greater in view of the fact that this settles the supremacy of the metric system in the Far East and also practically in the whole world. In Asia, legislative acts have, during the past few years, paved the way for a greater use of metric units and the governments are now making these acts effective. The work is pushed systematically in such a way as to assure gradual expansion, thus avoiding mistakes and inconveniences.

In Japan the metric system became legal on January 1, 1893, and at the same time the value of the old Japanese units, the shaku and the kwan, were fixed respectively at 10/33 of the meter and at 15/4 of the kilogram. The divisions of these Japanese units were also decimal. Subsequently a series of modifications of this law, and the promulgation of regulations, assured the increased use of the metric measures leading up to the time when their use should become obligatory.

In China the law of August 29, 1908, has given definite values to units which until then were variable according to the localities and the trades. The ch'ih and the liang have been fixed respectively as 32 centimeters and 37.301 grams. The metric equivalents are inscribed in the law; and the subdivisions of these Chinese units are also entirely decimal.

The law approved in 1913 by the Parliament of Pekin prepares for the complete and obligatory adoption of the metric system; a program of preparation and partial adoption is annexed to this law and leads, after ten years, to the obligatory use of the metric system.

Finally, in Siam, a law of 1912 prescribes the obligatory use of the metric system with gradual expansion from one province to another depending on the time required to secure a sufficient number of measuring devices and metric standards.

As can be seen from the preceding paragraphs, in all the Far East, the definite adoption of the metric system is decided in principle; delays in securing the general use of the metric system in the Far East can now only postpone it for a few years.

On the other hand, the House of Representatives of the United States has before it a bill dated April 11, 1921, introduced by Congressman Britten, which will render the use of the metric system obligatory for commercial transactions 10 years after its passage. It is well to note that the adversaries of the reform have heretofore considered it a good argument that the Anglo-Saxon measures were received in China, Japan, and Siam, having almost the same standing as the local measures. The promulgation of the new Japanese law reverses the sense of that argument.

C. E. Guillaume

SCIENTIFIC EVENTS

THE PARIS ACADEMY OF SCIENCES

The *Annuaire* of the Académie des Sciences for 1921 gives as usual a complete list of the members, as well as of the foreign associate members, the correspondents and the "académiciens libres." The annual also gives, as it always does, the names and dates of the successive presidents from the foundation of the Académie des Sciences, as the First Class of the newly organized Institut, on December 27, 1795, to the present time. At the close is an alphabetical "Index Biographique" of all the members and correspondents from 1795 until 1921. This covers nearly 200 pages (pp. 117–314). It mentions a complete list of all the prizes founded by or for the Académie.

The necrology of the Académie for 1920, includes the following members:

M. Armand Gautier, of the Section of Chemis-