	1916	1919	1920	1921	1922
Number of words	307,904	227,300	352,970	289,000	343,130
German	70.4%	40%	62%	68.4%	72.6%
French	25.3	42	20	23.4	10.3
Italian	1.7	4	4	1.8	6.4
Scandinavian	1.0	7	4	1.3	1.9
Portuguese	.97	....	....	....	....
English	.56	....	....	....	....
Spanish	.07	3	....	2.3	1.0
Dutch	....	4	....	....	1.2
Russian	....	....	10	....	3.0
Japanese	....	....	....	2.0	2.6

Haiti, India, Italy, Japan, Mesopotamia, Mexico, Norway, Rumania, Spain, Sweden, Switzerland and the United Kingdom.

The accompanying table gives the available data concerning the number of words translated during the past few years, showing the relative amounts of German and French translated before, during and after the war.

H. ANDREWS

COMMITTEE MEETING ON STANDARDIZATION OF STAINS

ON March 2 at the Chemists Club in New York City there was held a meeting of the Executive Committee of the Commission on Standardization of Biological Stains. The members of this committee are: H. J. Conn, Geneva; F. B. Mallory, Boston; L. W. Sharp, Ithaca; J. A. Ambler, Washington, D. C., and S. I. Kornhauser, Louisville, Ky. The meeting was also attended by C. H. Herty to represent the Synthetic Organic Chemical Manufacturers' Association, and by F. P. Garvan and W. F. Keohan to represent the Chemical Foundation.

At this committee meeting the very encouraging results of the work were reported. It was shown that already the stains available in America are in practically all cases as good and sometimes better than the best of the pre-war stains. The most important fact brought out at this meeting was that while the pre-war stains were standardized only in an empirical way, by buying large batches without knowing the exact composition of the dye, they must now be standardized on the basis of pure chemicals.

The reason for this is because it is proving that in some cases the impurities present in the pre-war stains were very necessary. Sometimes these impurities were other dyes and sometimes supposedly inert materials like dextrin. In all such cases the task plainly before the commission is to find out what the impurity is which was responsible for the good staining qualities of the impure product. Then in the future the users of stains must demand that these impurities be present, not as impurities, but as intentionally added ingredients. When this has been done and the products are labeled and used accordingly, the American stains will become standardized in a true sense of the term.

Very shortly the commission will begin issuing certification of definite batches of stain that it has found satisfactory. These stains will be put on the market under a special label bearing the name of the commission. Users of stains must be on the lookout for products bearing this label. Buyers of stains should also be on the watch for spurious imitations of this label put out by unreliable concerns. Any statement of certification not bearing the name of the commission is a certification by the manufacturer or dealer himself, and therefore has no value. A cut of the commission label will appear in this journal as soon as it is ready for the use of the manufacturers of stains.

The Chemical Foundation has agreed to support the work of this commission financially.

H. J. CONN

THE SOLAR ECLIPSE OF SEPTEMBER 10

THE State Department transmits to the Smithsonian Institution a communication from Mr. Leighton Hope, consul in charge at Ensenada, Mexico, on the conditions at Ensenada with respect to the observation of the total solar eclipse of September 10, 1923. An abstract of the consul's report is as follows:

The town is on the west coast of Lower California. The eclipse is total at Ensenada at 2:02 p.m. Weather conditions there promise

to be excellent. The town may be reached from San Diego by auto stage line over a rough but passable route in about five hours. If reached by sea it would probably require a special vessel as the two Mexican lines carrying passengers and freight from San Francisco and Los Angeles have somewhat irregular schedules at intervals of something like two weeks. Various points of vantage along the path of totality can be reached from Ensenada by automobile or by burro pack train, but facilities for such transportation are extremely limited there so that transportation should be arranged for in advance, probably at San Diego.

Ensenada is a small village with no hotel, one or two small rooming houses and a few Chinese restaurants. Camping out, however, would be pleasant. Meat, fresh vegetables, fruit and melons can be had at that season at reasonable prices and in sufficient quantity. Other supplies should be imported. Servants, cooks and ordinary labor will be difficult to obtain on the ground.

The town of Tia Juana, Mexico, near San Diego, has an unsavory reputation and it is not unlikely that criminals from there might visit Ensenada at the time of the eclipse, so that each member of observation parties should have a passport or other documents showing his nationality, identity and the purpose for which he is in Ensenada. Local authorities express themselves as anxious to do everything possible for the comfort of the guests on this occasion.

Provision for admission of apparatus duty free would have to be effected through the national government at Mexico City.

C. G. ABBOT,
Assistant Secretary

AWARD TO PROFESSOR MICHELSON[1]

MR. POST-WHEELER, who is on the staff of the American Embassy, attended the annual general meeting of the Royal Astronomical Society on February 9 to receive the gold medal on behalf of Professor A. A. Michelson, who was unable to be present himself.

Professor Eddington gave a most illuminating address on the reasons of the award, explaining that the necessity for the great separation of the mirrors receiving the pencils of light from the stars was to give sufficient difference of length of path to enable the rays from the two extremities of a diameter of the star to be in opposite phase, so that the bright regions of the image from one extremity should fall on the dark regions of the other and so cause the fringes to vanish. It was mentioned that the method had been successfully applied to the measurement of the diameters of Jupiter's satellites, but the stars seem to have been considered hopeless, till recent physical work on the distribution of energy in the spectrum led to the conclusion that the red stars have such dull surfaces that the brighter ones must have appreciable discs in order to give so much light.

The actual figure had been calculated for Betelgeuse, and the observed diameter afterwards proved to be very close to it.

Some letters from Mr. Pease were read, in which he described the great practical difficulties that were incurred in applying the method of diffraction fringes, and the long-continued trials that were finally crowned with success. One of the earliest successes was the determination of the orbit of Capella. This gave, for the first time, a really accurate value of the mass and absolute magnitude of a giant star, which had already proved of use in the physical studies that were being made on these bodies.

A recent interesting development of the Betelgeuse measures was that the diameter came out different at different times, to an extent much beyond the probable errors of the measures. Attempts were being made to correlate these changes with the variable brightness and variable radial velocity of the star, but it will be necessary to carry on these measurements for some time before a definite conclusion could be reached.

Professor Eddington went on to point out that the famous Michelson-Morley experiment, for which the Copley medal of the Royal Society was awarded in 1907, though not specially contemplated in the present award, might be considered as coming within its terms; for the measures were made by interference methods, and the question whether the movement of the

[1] From *Nature*.