fields of native cane adjacent to, and surrounding, the field of Formosan cane. According to Dr. W. H. Weston,[1] the morphology of *Sclerospora philippinensis* is very nearly identical to that of *S. sacchari*. However, he states:

> In the Philippines, in regions heavily infected with the maize mildew, sugar cane fields comprising many varieties grown under widely varying conditions and situated adjacent to the badly infected maize, and even containing some maize plants growing among and in contact with the young cane, have been under frequent observation during all stages of their development for over a year, and yet no case of infection with the downy mildew of maize has ever been seen.

He was, moreover, unable to cross-inoculate *S. philippinensis* from corn to sugar cane. The evidence is therefore strongly suggestive of the importation of the sugar-cane downy mildew, *Sclerospora sacchari* T. Miyaki, from Formosa.

The only literature on this disease which we have available here is the above-mentioned publication by Dr. Weston on the Philippine corn mildew, which incidentally discusses the cane mildew.

Measures have been taken to plow up the affected field, burn the affected stubble, and fallow the land. Steps to trace seed cane that emanated from the field are also under way, and it is possible that the disease may be entirely eradicated in the Philippines. The present brief note is presented as of possible interest to agronomists and plant quarantine officials of western countries. The importation of this disease and the recent experience in the Philippines with the introduction of Fiji disease of cane are two excellent examples of the need for rigid enforcement of plant quarantine regulations.

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[1] Weston, W. H., "Philippine downy mildew of maize," *Jour. Agr. Res.*, XIV., No. 3, p. 97.

ENGLISH PRONUNCIATION FOR THE METRIC SYSTEM

TO THE EDITOR OF SCIENCE: May I add a word of approval to what Dr. Frost has said in *re* (SCIENCE, May 13, 1921) "English Pronunciation for the Metric System" and suggest that the word ki'lo-me'ter should be pronounced with the accent upon the first and third syllables. In some quarters it is pronounced kilo'm-eter, contrary to the more general usage. This pronunciation, however, follows the custom in the case of thermo'meter, which is a much older word.

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GREGOR MENDEL AND THE SUPPORT OF SCIENTIFIC WORK AT BRUNN

TO THE EDITOR OF SCIENCE: Under date of December 29, 1920, I received a letter from Dr. Hugo Iltis of Brünn, Czechoslovakia, of which the following paragraphs are extracts:

> The venerable old "Naturforschende Verein" of Brünn runs the risk of stopping scientific work for want of money. For the same reason our university extension work is cut short. In this condition of utter distress I apply to your kindness and ask you to help us. Wealthy friends of Mendelism could perhaps be induced to grant us the means to continue our scientific and popular education-work. If it would be possible to get an assistance of one thousand dollars for each of the two institutions, the "Naturforschende Verein," where Mendelism took its origin, and "University Extension of Brünn," where work has just begun, would be saved for the next two or three years.
>
> When we published the Mendel-festival-volume, science and art flourished, and we tried by our work to prove worthy of Gregor Mendel. Now we have become so poor that we can not buy any scientific literature, nor can we have scientific treatises printed. We have made up our minds to sell our most precious treasure, the original manuscript of Gregor Mendel's most renowned work, "Versuche über Pflanzenhybriden," and I ask you to lend us your kind assistance in this matter too. Perhaps it could be sold by auc-

tion with the lowest bid of $6,000. This sum would afford us the chance of buying a small house as a refuge for our collections and library, which are in constant danger of being burned out.

It seems to me that all who appreciate the importance of Mendel's contribution should be actively interested in this message. Just what can and should be done and how to go about it are matters for discussion. I would suggest that those interested express their views in the columns of SCIENCE. However, some may wish to communicate directly with Dr. Iltis. His local address is Bäckergasse 10, Brünn, Tschechoslwakei.

E. B. BABCOCK

NOTES ON METEOROLOGY AND CLIMATOLOGY

DETERMINING THE TRUE MEAN TEMPERATURE

WHAT is the true mean temperature? It is a much easier task to define the true mean temperature than to determine it, but the prosecution of meteorological and climatological work demands that this element be determined. A very detailed and thorough discussion of the question has been published by Mr. C. E. P. Brooks, of the British Meteorological Office, in the *Monthly Weather Review*,[1] and it is of interest to review the varied nature of the problem and the solutions offered.

The "true mean temperature" is the mean height of a thermograph trace corrected for any sources of instrumental error. In practise, however, the mean of twenty-four hourly observations, or even the mean of observations every two, three, or four hours, is sufficiently close to yield the daily mean temperature. But it is not always feasible to secure such frequent observations, and the problem of reconstructing the true mean from three observations daily and the maximum and minimum faces the meteorologist. There are four ways of accomplishing this:

First, the combination of the means of the three daily observations at fixed hours, or the maximum and minimum, in proportions that have been found to be satisfactory at certain standard stations. If observations at 7 A.M., 1 or 2 P.M., and 9 P.M. be designated by *I*, *II*, and *III*, respectively, and the true mean by T, it is found that

$$T = (I + II + 2 \times III)/4$$

gives the best results, in general; but, in Greenland, where the morning observation occurs at 8 A.M., the formula commonly used is

$$T = [2(I + II) + 5 \times III]/9.$$

The author carried out an investigation of this type of formula by the method of least squares, for various groups of stations, such as western Europe, subtropics, and tropics, and found that for the first the usual one (given above) gave the best results; for the subtropics, the best combination is

$$T = [I + II + III - 1/10(II - III)]/3;$$

and for the tropics, this last can be used, although it is not as accurate for the tropics as for the subtropics. An alternative formula which gave very satisfactory results for Batavia is

$$T = [2(I + II) + 3 \times III]/7.$$

These apply, of course, to the hours specified above. It is further pointed out that the maximum and minimum can be combined into such formulæ, instead of the three observations, and examples are given for Hamburg, in which the maximum and minimum are combined with the morning and evening observations; and for Tunis and Egyptian stations in which the minimum only was combined with the three daily observations.

Second, "the calculation of appropriate additive corrections for various combinations of hours or for the mean of the maximum and minimum at standard stations, and their transference without modification to other stations in the vicinity." This method is only applicable to those stations or regions where the conditions are similar, such as are to be found in Russia and Siberia, or in the eastern half of the United States. The method is to plot the corrections for standard stations and to read off for the intermediate stations the appropriate correction. In mountainous districts, such as western United States, or the mountains of India, this scheme is unsatis-

[1] April, 1921, pp. 226–229.