UNIVERSITY AND EDUCATIONAL NEWS.

In his opening lecture to the engineering students at Cambridge, on October 14th, Professor Ewing intimated that the crowded state of their lecture rooms and laboratories would soon be relieved. A gift of £5,000 had just been made for the addition of a new wing to the engineering laboratory in memory of the late Dr. John Hopkinson and of his son, John Gustave Hopkinson, who recently lost their lives in the Alps. Dr. Hopkinson's son was to have begun work at this time as a student of engineering at Cambridge. This gift was made by Mrs. Hopkinson jointly with her son Bertram and her surviving daughter.

The litigation commenced by the heirs of the late Dr. Elizabeth Bates, who left a bequest of $160,000 to the Michigan University, seems in a fair way to end in favor of that institution. It is reported that the contestants of the will have concluded to relinquish all claim to the personal property of the decedent, amounting to $120,000, and the Court has ordered this amount to be turned over to the University authorities. This leaves only the remainder of the bequest, $40,000, which is the subject of litigation.

Miss Wheeler has presented $5,000 to the permanent library fund of Williams College, as a memorial to her father, who was a graduate of the College.

Commemoration Day at Princeton University, which has been established since the sesquicentennial two years ago, was celebrated on October 22d, the chief event being an address by President D. C. Gilman, of Johns Hopkins University.

It is understood that Professor G. J. Brush, Director of the Sheffield Scientific School, will retire next January, after service as executive head of the School since 1872.

Dr. B. Moore, formerly instructor in physiology in University College Hospital, has been appointed professor of physiology in the Yale Medical School.

Dr. Albert Mathews has been appointed assistant professor of physiology at Tufts College.

Lucien N. Sullivan, of the Sheffield Scientific School, and John C. Peck, of the Rose Polytechnic Institute, have been appointed instructors in mechanical engineering in Lehigh University.

The chair of botany at Oberlin College, vacant by the death of Professor Herbert Jones, has been filled by the appointment of Frederick O. Grover. Mr. Grover was graduated from Dartmouth in 1890, and subsequently continued his studies at Harvard University.

The faculty of the University of Vienna, says *The Philadelphia Medical Journal*, has nominated the following, in the order named, one of whom shall succeed the late Professor Stricker, professor of experimental pathology: Professor von Mering, of Halle; Professor Knoll, of Prague; Professor Klemensiewicz, of Gratz; Professor Lowit, of Innsbruck.

Professor Bartholomew Price, Master of Pembroke College, has resigned the Sedleian chair of natural philosophy at Oxford University on the completion of his eightieth year. Oxford University has suffered a more serious loss in the resignation of Professor Ray Lankester to accept the Directorship of the Natural History Museum. Oxford is not so strong in science that it can afford any loss, and it is to be hoped that chairs in physics and comparative anatomy may be filled by men of science who will exert an important influence in the much needed development of the University.

DISCUSSION AND CORRESPONDENCE.

A RULE FOR FINDING THE DAY OF THE WEEK CORRESPONDING TO A GIVEN DATE.*

'Perpetual' calendars that can be consulted with greater or less readiness are to be found in works on astronomy and in encyclopædias, but I have not found any published rule for the simple problem of determining mentally the day of the week without reference to a calendar or lengthy table. Therefore, I venture to submit the rule that I have devised for this purpose.

* Read at the Fifth Summer Meeting of the American Mathematical Society.

To find the day of the week corresponding to a given date, add to the day of the month the index number of the month and the index number of the year, then subtract the largest multiple of seven that is less than the sum. The remainder will be the number of the day of the week.

The index numbers of the months are as follows:

January, 3 (in leap years, 2).
February, 6 (in leap years, 5).
March, 6.
April, 2.
May, 4.
June, 0.
July, 2.
August, 5.
September, 1.
October, 3.
November, 6.
December, 1.

To find the index number of the year, for any year from 1800 to 1899 inclusive, increase the excess of the year over 1800 by one-fourth of itself (discarding fractions) and subtract the largest multiple of seven contained in the sum. For dates in other centuries a multiple of 28 is added or subtracted so as to bring the year within the above limits, and, after finding the index number for the resulting year, one is likewise added or subtracted for each centesimal year not divisible by 400 that is passed over (or of which the beginning is passed over). If many years are to be passed over it is often convenient to use multiples of 112.

A few illustrations of the application of this rule are here given. To find the day of the week corresponding to August 20, 1898, we add the index numbers of the year, 3, and of the month, 5, to 20, and subtract 3 times 7. The remainder, 7, indicates that this is the seventh day of the week, or Saturday. If the index numbers of all the months and of a given year are known, it is ordinarily quicker to find the day of the week mentally than to consult a calendar of the given year. For July 4, 1776, we add 28 to 1776 and find the index number of 1804 to be 5; adding one for the year 1800 passed over gives 6, the index number of 1776; to which we add $2+4$; subtracting 7 we have the remainder 5, indicating Thursday. For December 25, 2046, we deduct 224 from the year and find the index number of 1822 to be 6. Deducting one for the year 1900 passed over (2000 is divisible by 400 and so is a leap year and requires no deduction), we find 5 as the index number of the year 2046. Adding $1+25$ we find that Christmas of that year will come on Tuesday.

As this subject is so simple it would be unnecessary to give a deduction of the rule. But it may be noted that if the index numbers of the months are not remembered, that of one month may be found by adding the index number of the year to the day of the month (for any date for which the day of the week is known) and subtracting the sum from the day of the week increased by a multiple of seven. The index numbers of the remaining months may then be obtained in succession, as the index number of any month, except January, is equal to that of the preceding month increased by the number of days therein and diminished by a multiple of 7.

Dates given in old, or Julian, style should first be changed to new, or Gregorian, style. The Dominical letter of any year may be found by deducting the index number of the year from 5 or 12. Thus for 1898 we have $5-3=2$, indicating the second letter of the alphabet, or B, as the Dominical letter.

If in time it should be more convenient to calculate the index numbers of the years from the excess of the years over 1900 instead of 1800, that modification of the rule may be made if the index numbers of the months are increased by 5 or diminished by 2.

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AN APPLE CANKER.*

LAST spring I began investigating the cause of the so-called apple canker. This disease attacks the bark of the larger limbs, where all stages of development may be seen from small sunken areas to the large cankers of many inches extent. In aggravated cases a portion of the wood is laid bare. The bark becomes swollen and rough in all directions from the

*M. B. Waite, *Rural New Yorker*, February 5, 1898, p. 82.