

The summer meeting of the Society will be held at Columbia University, June 27th-30th in connection with the meeting of the American Association. F. N. COLE, *Secretary*.

COLUMBIA UNIVERSITY.

NEW YORK SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE regular monthly meeting of the New York Section of the American Chemical Society was held on Friday evening, April 6th, at the Chemists' Club, 108 West Fifty-fifth street. Dr. C. F. McKenna presided, and the following papers were read;

'A Method of Obtaining Nucleic Acid,' by Dr. P. A. Levene.

'Analysis of a Saline Deposit from Southern Nevada,' by Ralph W. Bailey.

'Notes on the Ferrocyanide Titration of Zinc,' by Dr. E. H. Miller and E. J. Hall.

Special announcement was made of an extra meeting to be held on May 2d, for the exhibition of novel forms of apparatus, products, etc., and that the meeting would be in the nature of a reception, to which the ladies and friends of the members would be invited. The Section on this occasion will be the guest of the Chemists' Club.

An invitation to attend the next meeting of the New York Section of the Society of Chemical Industry, to hear a paper on 'Petroleum and its Products,' by Dr. C. F. Newberry, signed by Dr. Parker, was then read, after which the meeting adjourned.

DURAND WOODMAN,
Secretary.

DISCUSSION AND CORRESPONDENCE.

PHYSICAL OBSERVATIONS DURING THE TOTAL SOLAR ECLIPSE.

TO THE EDITOR OF SCIENCE: While the most important observations during the total eclipse of the sun are, of course, astronomical, some simple physical observations can be made with little or no apparatus and may serve to elucidate two obscure atmospheric phenomena, namely, the so-called 'shadow-bands' and the changes in the direction and velocity of the wind.

Professor R. W. Wood, in SCIENCE of April

27, has described the appearance of the shadow-bands and has given instructions for observing them, so that, although I myself had prepared a circular of instructions for co-operating observers, yet, in consequence of the fact that so able a physicist as Professor Wood will study this phenomenon, I shall be glad to send him my own observations and any that I may receive. It may be interesting here to state briefly the results of the observations made and collected by Professor Winslow Upton, Mr. A. E. Douglass and myself during total solar eclipses. In the eclipse of August 19, 1887, observed in Russia, it was cloudy and no shadow-bands were seen, but in the eclipse of January 1, 1889, observed in California with a clear sky, the bands were well defined, though an attempt to photograph them failed. They were more prominent at high altitudes than at low levels, but they seem to have no connection with the position of the stations in or near the shadow-belt. While the reports of the various observers indicated a general agreement for the direction in which the bands lay, yet there was no uniformity in the direction of progression which seemed not to be related to the direction of the wind. In every case the speed of the bands was much less than that of the shadow itself, thus disproving the theory that the bands are diffraction fringes in the shadow of the moon. The observations are discussed by Professor Upton and myself in Vol. XXIX., No. 1, *Annals Astron. Observatory of Harvard College*. During the eclipse of April 16, 1893, observed in Chile under the most favorable circumstances, the shadow-bands were very generally seen immediately after totality. They lay approximately northwest and southeast, and moved mostly towards the southwest at a speed variously estimated at from three to twenty miles an hour. The width of the bands appeared to vary from one-eighth of an inch to four inches, and their distance apart from one to ten inches. A significant fact was that, contrary to the observations in the previous eclipse, the bands were much less conspicuous on the mountain summit, occupied by the writer, than near sea-level, where they were also coarser, thus indicating the effect of increased thickness of atmosphere.

The many reports which were collected about the 'eclipse-wind,' so-called by the late Mr. Ranyard (*Memoirs Roy. Astr. Soc.*, Vol. XLI., Chap. XXXV.), show that some change in the direction and velocity of the wind usually occurs. Theoretically, the passage of the moon's shadow, by suddenly chilling the atmosphere, ought to increase the barometric pressure along its path and so cause an outflow of air in all directions. Investigations to determine the amount of this change of pressure were made by Professor Upton and the writer during the eclipses previously mentioned with the result that the changes which could be attributed to the eclipses were found to be too small to measure directly, even with most sensitive barometers. But a very slight gradient suffices to deflect the wind or to alter its velocity and this effect was detected by us (see *Amer. Meteorological Journal*, Vol. IV., and *Annals Harvard Observatory*, previously cited). At a station traversed by the shadow there should be a deflection of the wind contrary to clock-hands before totality and a movement in the opposite direction after the shadow has passed, if the wind blows from the northern side of the eclipse track, or *vice versa* if the wind blows from the southern side. A wind having the same general direction as the shadow should be accelerated when the shadow advances and retarded when it recedes, and a wind blowing into the advancing shadow should be diminished before this arrives and increased afterwards. During totality a lull in the wind might be expected, analogous to the calm experienced in the center of an anti-cyclone.

Although some of these effects have been perceived, observations in various parts of the shadow-belt are desired in order to confirm or disprove the theory. Therefore, I shall be glad to receive any information about the changes of the wind near the surface of the ground and high up in the atmosphere during the coming eclipse. To determine the direction and strength of the surface-wind a light streamer, or pennant, attached to a freely exposed pole, may be observed several times just before and just after totality, while, if high clouds are visible, a single observation of their drift before and after totality will give the

direction of the upper wind with sufficient accuracy.

A. LAWRENCE ROTCH.

BLUE HILL METEOROLOGICAL
OBSERVATORY, HYDE PARK, MASS.

THE UNIVERSITY OF CINCINNATI.

TO THE EDITOR OF SCIENCE: In my statement regarding the situation at the University of Cincinnati, as published in your issue of April 27th, the omission of four words, in a short paragraph on page 669, results in an erroneous statement.

The sentence should read: "During the greater part of the twenty-five years which have elapsed since the organization of the university, the institution has been without a president."

THOMAS FRENCH, JR.

'00 OR 1900.

THE use of the *year of publication* in its full or in its abbreviated form is coming into very general use as a 'catch title' in bibliographic lists and citations. The abbreviated form, *e. g.*, '97, for 1897, cannot be used for more than one century without ambiguity. There are two possibilities concerning the usage of the abbreviation '00; it may stand for either 1900 or for 1800. It is desirable that usage should be uniform. Since the use of the abbreviated form began in the present century,—about 1880, if I am not mistaken,—the omitted figures have always been 18. It seems to me that that is reason enough why we should use '00 always to mean 1800, not 1900, even though the current year belongs to the twentieth century. Thus the apostrophe would without exception stand for the same omitted figures, 18.

E. L. MARK.

HARVARD UNIVERSITY,
April 20, 1900.

CURRENT NOTES ON PHYSIOGRAPHY.

THE MEXICAN BOUNDARY.

THE 'Report of the Boundary Commission upon the survey and re-marking of the boundary between the United States and Mexico, west of the Rio Grande, 1891-1896' (Washington, 1899) includes a chapter devoted to a general description of the country adjacent to the international boundary line, of which the most notable features, in addition to the marked