

men who have been refused service in the army or navy for minor defects may have these defects cured or so remedied that they will be able to enlist later. This is carrying out the plan of Dr. William Duffield Robinson, which won the approval of the surgeon-general. The entire equipment of the German-town Hospital has been offered.

UNIVERSITY AND EDUCATIONAL NEWS

THE will of the late Colonel Oliver H. Payne provides bequests of more than \$7,000,000 to charitable and educational institutions. The largest gifts are to Yale University, Lakeside Hospital, Cleveland, and the New York Public Library, each of which will receive \$1,000,000. An endowment of \$500,000 is bequeathed to the Cornell University Medical College. Other gifts include: Phillips Academy, Andover, Mass., \$500,000; St. Vincent's Charity Hospital, Cleveland, \$200,000; Cleveland Jewish Orphans Asylum, \$200,000; Hamilton College, Clinton, N. Y., \$200,000, and the University of Virginia, \$200,000.

MRS. REED, widow of late Dean John O. Reed, has presented to the library of the department of physics of the University of Michigan about 400 scientific books and bound reprints from the library of Professor Reed, the books being principally on physics and mathematics. There was received from Mrs. Reed, also, a gift of eight prisms of special design of various kinds of glass and natural crystals made by Professor Reed and used by him in research work. Mrs. Guthe, widow of the late Dean Karl E. Guthe, has presented to the library about 100 volumes of scientific works from Professor Guthe's library, together with about 1,000 catalogued reprints of scientific papers and a card catalogue of several thousand references.

PROFESSOR ROBERT DEC. WARD, of Harvard University, is giving instruction in meteorology in the school for the preliminary training of aviators, recently established at the Massachusetts Institute of Technology, in cooperation with the War Department. For the pur-

poses of this work, Professor Ward has become a member of the teaching staff at the Institute of Technology, and, under orders from the War Department, has been to Toronto to familiarize himself with the instruction which is there being given at the Cadet School of the Royal Flying Corps.

THE State College of Forestry at Syracuse announces the appointment of Mr. Ernest G. Dudley, of Leland Stanford University and the Yale Forest School, as assistant professor of forest extension. Mr. Dudley goes to the college from the U. S. Forest Service in California where he has recently been in charge of the Forest Service Exhibit at the Panama-California Exposition in San Diego.

DR. MILTON C. WINTERNITZ, formerly associate professor of pathology in Johns Hopkins University, has been elected professor of pathology in the school of medicine of Yale University.

DISCUSSION AND CORRESPONDENCE A REMARKABLE COINCIDENCE

THE most remarkable coincidence known to me relates to the discovery of Perrine's second comet. I published the facts in the case in *The Observatory*, Vol. 26, pp. 293-94, 1903, where they were made familiar to many astronomers. On describing the coincidence recently to a group of my colleagues in other sciences they urged strongly that I republish the facts in a journal of more general character, and thus make known the occurrence to students in other subjects.

Professor Charles D. Perrine, of the Lick Observatory staff, discovered the first of his many comets on November 17, 1895. This was Comet *c* 1895. He observed it night after night until December 20, 1895, when it was lost to sight in the glare of the sun's rays. The orbit of the comet was accurately determined, and its path for the early months of 1896 was computed and published in advance. I had the pleasure of assisting Mr. Perrine when he first looked for its reappearance from behind the sun, on the morning (just before dawn) of January 30, 1896. He found it at once, in the

predicted position, and as an object easily visible in medium-sized telescopes. Because the comet was following its predicted path so closely we decided not to squander money in cabling the fact of its reobservation to European observers. Perrine observed his comet morning after morning as weather permitted, for fifteen days, until on February 14 a cablegram was received from Kiel, Germany, announcing that Lamp had reobserved Perrine's Comet *c* 1895 that morning. The cablegram in cipher code was received at the Lick Observatory by one of the astronomers, in perfect order as shown by the control word; but in converting the cabled right ascension of the comet from degrees and minutes of arc into hours and minutes of time the translator made an error of 24 minutes of time, equivalent to 6° of arc. The *erroneous* translation was handed to Perrine. He compared this with what he knew to be the real position of Comet *c* 1895, by virtue of his observations in the preceding half month, and saw that there was a discrepancy of about 24 minutes of time. Inasmuch as the check word in the cablegram was correct he judged that the object observed by Lamp in Kiel must be a different comet from his own. The following morning was clear and he pointed the 12-inch telescope to the position that was handed to him. In looking through the finder of the telescope *he saw an eighth magnitude comet in the field of view*. This did not surprise him. He observed the position of the new comet, and we transmitted the observation by telegraph and cable, as usual, as belonging to a new comet discovered by Lamp in Kiel. This new object was at once known as Comet *a* 1896. Naturally considerable mystery existed (see *Astronomical Journal*, Vol. 16, p. 56, 1896, and *Astronomische Nachrichten*, Vol. 139, pp. 365-66, 1896). Several weeks elapsed before the tangled situation was unravelled at Mount Hamilton by our looking up the original cipher cablegram and detecting the error of 24 minutes in the conversion of arc into time, made after the cipher message had been translated and checked.

It is a surprising fact that the error should have directed the telescope upon an unknown

comet, but the surprise increases when we consider another attendant fact. The new comet was moving amongst the stars very rapidly; more than 2° east in right ascension and more than 3° north in declination, daily. When the cablegram was written in Kiel on the morning of the fourteenth the new comet was six or seven degrees from the cabled position. When the erroneous position was handed to Perrine on the morning of the fourteenth the new comet was three degrees from that position. When the first opportunity came, the following morning, to examine the erroneous position, the rapidly-traveling comet had moved into that position. Had the telescope been pointed to that position on any other morning whatsoever, the celestial visitor would have been far outside the finder field, and the chances are fair that it would have come and gone unseen. The cabled Kiel position of reobservation of Comet *c* 1895 and Perrine's position of Comet *a* 1896 were:

Comet *c* 1895, Feb. 14, R. A. = 19 h. 45 m.,

Dec. = $-2^{\circ} 23'$ (correct translation).

Comet *c* 1895, Feb. 14, R. A. = 19 h. 21 m.,

Dec. = $-2^{\circ} 23'$ (erroneous translation).

Comet *a* 1896, Feb. 15, R. A. = 19 h. 22 m.,

Dec. = $-2^{\circ} 49'$.

The angular radius of the finder field was about $1^{\circ}.3$.

I doubt whether another case of coincidence as remarkable as this one is on record in the literature of astronomy.

W. W. CAMPBELL

LICK OBSERVATORY,
June 4, 1917

REPORT OF DR. E. H. WILLIAMS ON THE FIRST PHASE OF PENNSYLVANIA GLACIATION

WHEN in 1880 Professor Lewis and myself conducted the survey of the terminal moraine across Pennsylvania (the results of which are embodied in volume Z of the Second Geological Survey of the State) we supposed at the outset that we were following the actual limit of glaciation. Soon, however, we were convinced of our error and spoke of a "fringe" of territory sparsely covered with glacial markings, extending an indefinite distance