

ance in the world of work and the world of society. Prominence is given to men of science who have added to knowledge, and many foreign investigators are recognised equally with those of our own country. There is, however, a striking disparity in the amount of detail provided in the various life-histories; while in the case of some American scientific workers details are provided of each step in their careers and of their individual papers, many Fellows of the Royal Society supply the reader with next to nothing about themselves; but as a whole "Who's Who" is an indispensable work of reference, and the editor is to be congratulated upon its completeness. The tables which were formerly included with the biographies, and were, in fact, the nucleus of the book, are published separately in an extended form under the title "Who's Who Year-book, 1907."

OUR ASTRONOMICAL COLUMN.

COMET 1906g (THIELE).—A new set of elements and an ephemeris for this comet, computed by Dr. E. Strömngren, appear in No. 4138 of the *Astronomische Nachrichten*. The following is an extract from the ephemeris:—

Ephemeris 12h. M.T. Berlin.

1906	α (true) h. m.	δ (true) ' "	1906	α (true) h. m.	δ (true) ' "
Dec. 14 ...	12 59 ...	+53 6'4	Dec. 26 ...	14 35 ...	+58 24'6
18 ...	13 32 ...	+55 29'2	30 ...	15 2 ...	+59 13'3
22 ...	14 5 ...	+57 12'7			

On the last-named date the brightness of the comet will be about half that at the time of discovery (mag.=8.5).

The results of a number of observations of this object appear in No. 4137 of the same journal.

COMET 1906h (METCALF).—Numerous observations of this comet are recorded in No. 4138 of the *Astronomische Nachrichten*, and an ephemeris and set of elements, calculated by Herr M. Ebell, are also given.

Observing this object with the large equatorial of the Bordeaux Observatory on November 22, M. E. Esclançon perceived two nebulosities near to his comparison star B.D. $-3^{\circ}696$. These objects were easily visible, and differed in shape, the first being elongated, with a length of about $30''$, and the second being circular, with a diameter of about $20''$. Taking α and δ as the equatorial coordinates of the star B.D. $-3^{\circ}696$, the coordinates of the respective centres of the nebulosities at 11h. 30m. (M.T. Bordeaux) on November 22 were

$$\alpha - 6.4s., \delta + 6'', \text{ and } \alpha - 5.3s., \delta - 2' 20'',$$

but the various settings on the second object appeared to show an hourly movement of $\alpha = +0.7s.$, $\delta = -7''$. On November 23 M. Esclançon was unable to re-discover these nebulosities.

On receiving the news of this observation it occurred to Prof. Kreutz that the nebulosities might be companions to comet 1906h, and he therefore asked for observations of B.D. $-3^{\circ}696$ from several other observatories. Prof. Millosevich replied that he could find no appendices to this star, which was, however, unfavourably placed for observation, whilst at the time of publication no other observers had been able to make the desired observations.

A METEORITE IN THE ATLANTIC (OCTOBER 17).—The owners of the Prince line of steamers have received a letter, published in the *Liverpool Journal of Commerce* (November 27), from Mr. C. B. Anderson, captain of the *African Prince*, describing the fall of a meteorite observed by him on October 17. Captain Anderson says, in the course of his letter:—"On the evening of October 17 I was on the bridge with the second officer, when suddenly the dark night was as light as day, and an immense meteor shot comparatively slowly at first, because the direction was so very perpendicular to our position, then more rapidly towards the earth. Its train of light was an immense

broad electric-coloured band, gradually turning to orange, and then to the colour of molten metal. When the meteor came into the denser atmosphere close to the earth, it appeared, as nearly as it is possible to describe it, like a molten mass of metal being poured out. It entered the water with a hissing noise close to the ship."

SOME REMARKABLE SMALL NEBULÆ.—In No. 4136 of the *Astronomische Nachrichten* Prof. Barnard describes, and gives diagrams of, several remarkable groups of small nebulae which he has discovered since 1888.

In the first group there are six nebulae, two of which were probably originally discovered by Stephan, in a circular field of $16'$ diameter. The second group also contains six, two of which are remarkably small and are elongated, and several other nebulae were suspected in the same field. From the frequency with which these groups occur associated in isolated, compact clusters, Prof. Barnard thinks there can be no doubt but that the members of each group are physically connected. Both the above groups, and two others, found in 1889 and 1890 respectively, were discovered with the 12-inch refractor of the Lick Observatory.

Another nebula, which from its remarkable shape Prof. Barnard has named the "Bug Nebula," was discovered by him, with a 5-inch refractor, in 1880. This object, as seen in the 36-inch refractor, is a triple nebula having streamers running in a north-preceding direction from the two preceding components, and two nebulous arches springing from the following component, thus giving the whole the appearance of a ghostly beetle of some kind. In the N.G.C. it is designated by the number 6302.

THE PERIOD OF β CEPHEI.—Finding that the observations of the interesting spectroscopic binary β Cephei, made during 1901 and 1902, were insufficient to fix the period with certainty, although they showed that in all probability it was exceptionally short, Prof. Frost made arrangements to obtain several spectrograms on each observing night during the past summer, and now publishes a preliminary account of the results in No. 4, vol. xxiv., of the *Astrophysical Journal*.

As many as twenty two-prism plates, with an average exposure of twenty minutes, were secured in one night, and the preliminary discussion of the total shows that the period of the star's radial velocity is probably very near to 4h. 34m. 11s. The provisional measures also indicate a range of velocity of about 34 km., from about +12 km. to -22 km.

Some speculations as to the radius of the orbital motion of the bright component and the inclination of the orbit to the line of sight suggest that the bright body must be near to the centre of gravity of the system, and they also raise the question as to whether the two components must not be nearly in contact. Indications of the second-component spectrum suggest that the difference between the magnitudes of the two bodies may be small.

If these preliminary measures are confirmed, the period of β Cephei is by far the shortest yet discovered for a spectroscopic binary star.

NEW VARIABLE STARS.—By the method of superimposing a negative upon a positive of the same region taken on a different date, Miss Leavitt has discovered twenty-eight new variable stars in the region of the Southern Cross and the "Coal-sack." Two others were discovered on a plate having the Orion nebula at its centre, and one on a plate having the Pleiades central. Prof. Pickering remarks on the paucity of variable stars in the vicinity of the Pleiades, and states that the conditions in that region seem to favour unusual constancy in light. The position and the range of variability of each of these thirty-one variables are given in Circular No. 120 of the Harvard College Observatory.

OBSERVATIONS OF PHEBE IN 1906.—From Circular No. 119 of the Harvard College Observatory we learn that nine additional photographs of Saturn showing images of Phoebe were obtained with the 24-inch Bruce telescope at Arequipa during August and September last. These photographs have been measured, and the resultant positions of the satellite in respect to Saturn are given in the Circular.