

transference of yellow fever by means of a particular kind of gnat by the recent American Commission is hardly intelligible for bacillary disease. Moreover, it does not seem to be borne out by their experiments, nor does it appear to satisfy certain endemiological conditions. It is proposed to deal more fully with the endemiology and epidemiology of the disease on a later occasion.

12. We think that the evidence in favor of the etiological importance of the fine small bacillus is stronger than any that has yet been adduced for any other pretended 'yellow fever germ.' At the same time there is much further work to be done ere its final establishment can be claimed. The acquisition of a new intestinal bacterium would explain the immunity of the 'acclimatised.'*

THE NEW STAR IN PERSEUS. †

THE first news of Anderson's discovery of a new star in *Perseus* was received at this Observatory on February 24th. An examination of the region near the star, made that evening with the 40-inch telescope, failed to show any evidence of nebulosity, but the bright moonlight would have rendered a faint nebula invisible. At that time the magnitude of the star appeared to be about 0.5. Its color was yellow, with a decided reddish cast, very similar to that of α *Orionis*. Very little time was spent in examining the spectrum visually, as it was felt that photographs would be more valuable than drawings based on micrometer measures. We had fortunately just received a fresh supply of Erythro plates through the kindness of the International Color Photo Company of Chicago, and it was therefore possible to photograph the entire spectrum from $H\alpha$ to $H\gamma$. Beyond this point in the ultra-violet the absorption of the 40-inch objective greatly enfeebls the spectrum, which is still further weakened by the lack of perfect achromatism in this region.

*The completion of the interim report, of which this is an abstract, was interrupted by the onset of attacks of yellow fever in both of us. The loss of my much-lamented colleague renders it advisable to submit the shortened report only for the time being.—H. E. D.

† From Bulletin No. 16 from the Yerkes Observatory of the University of Chicago.

Photographs of the spectrum were obtained by Mr. Ellerman on February 24, 25, 26, 27 and 28, March 4, 6 and 11. The comparison spectra which appear on these plates are those of titanium, hydrogen and sodium.

On February 24th and 25th Mr. Ritchey photographed the region of the *Nova* with the 40-inch telescope and color screen. In order to obtain a sufficient number of comparison stars the plates were given an exposure of one hour. The light of the *Nova* was intercepted by a small movable occulting disk, with which four (for the second plate, five) very brief exposures were given at intervals of about fifteen minutes. The total exposure for the *Nova* was probably about half a second. In the resulting photographs, the images of the *Nova* and the neighboring stars (of which more than forty appear in a region 12' square) are small and appear to be well adapted for measurement. Through the kindness of Director Rees, these plates will be measured at the Columbia College Observatory. The position of the *Nova* was measured micrometrically by Professor Burnham on March 3d.

The wedge photometer used with the 40-inch telescope in the determination of standards of faint stellar magnitude has been employed by Mr. Parkhurst in measuring the brightness of the *Nova*. Hitherto objectives of one and two inches aperture have sufficed, but as the *Nova* decreases in brilliancy it will be followed with the 12-inch and 40-inch telescopes. A preliminary reduction gives the following magnitudes:

Date.	Mag.
1901, Feb. 25	1.0
" " 26	1.1
" " 27	2.0
" " 28	1.9
" Mar. 3	2.7
" " 4	2.8
" " 5	2.7
" " 6	3.1

A photograph of the spectrum (G 440) taken with the one prism spectrograph on February 28th has been measured by the writer. The resulting wave-lengths of the lines and bands, computed by the aid of Cornu-Hartmann formulæ, furnished data for attaching a scale to an enlargement of the photograph reproduced in the Bulletin.

Inspection of the photograph will show that the spectrum is very similar to the earlier spectrum of *Nova Aurigæ*. The hydrogen lines, notably C and F, are bright and very broad. The dark lines superposed upon them are probably reversals caused by the absorption of an outer layer of cooler gas at lower pressure.

On the more refrangible side the hydrogen lines are accompanied by dark lines, just as was the case with *Nova Aurigæ*. As Wilsing has shown, this is doubtless due to the great pressure under which the radiation occurs. The bright sodium line has broadened into a band, on which appear the two dark D lines. These appear on the photographs, and are clearly visible in visual observations with a three-prism spectroscope. As the titanium poles were moistened with a weak solution of sodium chloride, the comparison spectrum contains the bright sodium lines. Thus the motion of the star in the line of sight can be measured. Some preliminary determinations indicate that the *Nova* is moving away from the earth at a low velocity.

The helium line, D_3 , seems to be present as a dark line, lying close to the bright sodium band on the more refrangible side. The bright calcium lines H and K are notable for their great breadth and for the narrow lines of reversal which traverse them. The chief nebular line seems to be present ($\lambda 5002-5041$), and a fainter line or band ($\lambda 4911-4988$) covers the region of the second nebular line. The b group of magnesium is doubtless represented by the very bright band $\lambda 5154-5204$. The green coronal line ($\lambda 5303$) would fall near the more refrangible edge of a bright band in the spectrum of the *Nova*.

Further results, based upon measurements of photographs taken with the three-prism spectrograph, will be given in a subsequent paper.*

MARCH 12, 1901.

GEORGE E. HALE.

SCIENTIFIC NOTES AND NEWS.

PROFESSOR S. W. STRATTON has, in view of his appointment as director of the Bureau of Standards, resigned his professorship in the

* Note added March 18th. A comparison of photographs taken on March 4th and March 15th, shows

University of Chicago. He will go abroad soon to study similar institutions in foreign countries.

PROFESSOR GEORGE FREDERICK WRIGHT, of Oberlin College, arrived in New York on March 22d, after his geological expedition round the world.

DR. LEON VAILLANT, professor of zoology at the Paris Museum of Natural History, has been elected a member of the Zoological Society of London in the room of the late Alphonse Milne-Edwards.

At the banquet offered to M. Marey, the eminent French physiologist, by the Paris Club Scientia, to which we have already called attention, it was decided to present him with a medal, and a committee for this purpose has been appointed. Subscriptions may be sent to M. Masson, treasurer, 120 Boulevard Saint-Germain, Paris.

THE University of Glasgow will confer, on April 23d, its LL.D. on Dr. A. W. Rücker, secretary of the Royal Society.

DR. G. A. HANSEN, the discoverer of the lepra bacillus, will celebrate his 60th birthday on July 29th, and the occasion will be celebrated by the erection of a marble bust in the Lungegaard Hospital, Bergen, where he discovered the bacillus.

THE Society of Italian Agriculturists has awarded a special honor to Professor Grassi for his services to agriculture by his investigations on malaria.

DR. G. TORELLI, professor of mathematics at Palermo, has been awarded the mathematical prize of the Naples Academy of Sciences.

SECRETARY LONG has called a meeting of the Board of Visitors to the Naval Observatory in Washington on April 9th. The board, it will be remembered, consists of Mr. St. Clair McKelway, of the Brooklyn *Eagle*, President William R. Harper, of the University of Chicago, Professor Edward C. Pickering, of the Harvard College Observatory, Professor Asaph that the dark lines on the more refrangible edge of the bright hydrogen lines continue to increase in sharpness. At first single and rather diffuse, they have become sharply defined double lines. The b line of magnesium is apparently decreasing in intensity, and the calcium line K is much fainter than before.