About these stars, it is strongly and very irregularly condensed. The greatest mass or masses — for it is gathered in cloud-like forms — is around the three stars of $\varrho$ Ophiuchi. Each of these centers of condensation has peculiar rifts or long vacancies in it.

On March 30th another exposure at the same place was begun, but the sky hazing up only $2^h\,18^m$ could be given. This plate was defective. The previous results however were verified in every particular. On this last date also, the same duration of exposure was given with the small »lantern lens« $1\frac{1}{2}$ inch diameter and about 5 inches equivalent focus. This lens gives a large but rather poor field, and the scale is about 10° to the inch. The picture with this small lens was indeed remarkable — not so much with reference to the nebula, though new points about it were brought out — but the sky itself in that region was shown to be very wonderful. The Willard lens had shown that the nebula occupied a singularly blank region from which large vacant channels diverged towards the east. The plate with the small lens, showed that these channels among the stars ran irregularly eastward for fully 15° or 20° — connecting there with other vacancies and lanes; the whole giving the picture a most remarkable appearance.

This photograph with the »lantern lens« shows that the great nebula extends in a faint diffused manner southwards for two or three degrees beyond Antares and $\sigma$ Scorpii. It also shows a large long nebula involving the star $\nu^2$ Scorpii and about 2° or 3° long. This object is also shown on the Willard picture, but very near the edge of the plate.

$\sigma$ Scorpii has a large diffused mass of nebulosity extending northwards from it which can be fully traced on the picture to a connection with the greater and brighter nebulosity about $\varrho$ Ophiuchi.

This magnificent nebula is one of the finest in the sky, and as it involves so many of the bright stars in that region it would imply that they are essentially at the same distance from us.

I have attempted to make a drawing from the negative to accompany this paper for illustration, but the result, on account of intricate form of the nebula, was too unsatisfactory to send.

I shall soon be able to give a more prolonged exposure, the result of which will be published.

From its dimensions, its individual peculiarities, and its occupying a region almost devoid of stars and which is the center of great radiating lanes or vacancies among the stars, this nebula scarcely has an equal for interest in the sky.

The nebula about $\nu^2$ Scorpii is highly suggestive of being also an important object. I shall soon give a special exposure on it to determine its peculiarities.

Both plates with the Willard lens show the 5.6 mag. star $c^2$ Scorpii $Y_3$ 6807 (1860.0 $\alpha = 16^h\,3^m\,41^s$ $\delta = -27°\,34'$) to be surrounded with a feeble nebulosity. They also show the two stars BD. −19°4358-9 and 4361 (the latter of which for 1855.0 is in $16^h\,12^m\,1^s$ −19°46′) to be strongly involved in diffused nebulosity which is slightly extended n p and s f.

Following are the positions of some of the stars mentioned and whose places I have not given.

$\varrho$ Ophiuchi = $Y_3$ 6907 7.0 mag.
1860.0: $16^h\,17^m\,12^s$ −23° 7′

$\sigma$ Scorpii = $Y_3$ 6870 2.7 mag.
1860.0: $16^h\,12^m\,41^s$ −25° 15′

22 Scorpii = $Y_3$ 6922 7.0 mag.
1860.0: $16^h\,21^m\,29^s$ −24° 50′

$\nu^2$ Scorpii = $Y_3$ 6810 4.1 mag.
1860.0: $16^h\,3^m\,52^s$ −19° 6′.

Mt. Hamilton, Cal., 1895 April 12. *E. E. Barnard.*

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# Note on the variable star T Centauri, Cord. GC. 18609.

By Lieut. Col. *E. E. Markwick*, F. R. A. S.

With reference to a list of new variable stars announced by Mrs. Fleming, and communicated by Prof. E. C. Pickering in No. 3269 p. 71 of the Astronomische Nachrichten, I beg to state that the variability of the star Cord. GC. 18609 (= 252 of Centaurus in the Uranometria Argentina) was first publicly announced by me in the Gibraltar Chronicle of 1894 July 13. This is clearly referred to in the »English Mechanic« of 1894 Aug. 3, letter 36462, wherein it appears the star had then varied between $8\frac{1}{2}$ and $6\frac{1}{4}$ magnitudes. From a paper communicated to the British Astronomical Association which is found at p. 247 Vol. V of the Journal, it will be seen that I commenced regular observations for variability on 1894 May 6, and on May 26 variation was evident. It is curious that the star should have been thus observed independently by different observers each ignorant of what the other was doing.

I may observe that the star has quite recently reached a maximum, between the 5th and 6th magnitudes. I have not yet been able to ascertain if it has a regular period. In April it was not much above 10th mag. In all, 84 different observations have been secured with either binocular or $2\frac{3}{4}$ in. telescope, refractor.

Gibraltar 1895 June 14. *E. E. Markwick.*

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# Ephemeride für die Wiederkehr des Cometen 1884 II (Barnard).

Fortsetzung zu A. N. 3260. $12^h$ M. Z. Berlin.

| 1895 | $T$ = Mai 26.5 | | $T$ = Juni 3.5 | | | | | $T$ = Juni 11.5 | | 1895 |
|---|---|---|---|---|---|---|---|---|---|---|
| | α app. | δ app. | α app. | δ app. | log $r$ | log Δ | $1:r^2\Delta^2$ | α app. | δ app. | |
| Juli 5 | $1^h 40^m 39^s$ | + 7° 23′6 | $1^h 27^m 2^s$ | + 5° 2′4 | 0.1253 | 0.0107 | 0.535 | $1^h 11^m 38^s$ | + 2° 11′7 | Juli 5 |
| 7 | | | 1 31 48 | 5 39.7 | | | | | | 7 |
| 9 | 1 49 50 | 8 32.1 | 1 36 27 | 6 16.3 | | | | 1 21 17 | 3 30.2 | 9 |
| 11 | | | 1 40 59 | 6 52.0 | | | | | | 11 |
| 13 | 1 58 39 | 9 39.4 | 1 45 26 | 7 26.9 | 0.1343 | 0.0075 | 0.520 | 1 30 27 | 4 45.4 | 13 |
| 15 | | | 1 49 45 | 8 0.9 | | | | | | 15 |
| 17 | 2 7 4 | 10 42.5 | 1 53 57 | 8 34.1 | | | | 1 39 6 | 5 57.1 | 17 |
| 19 | | | 1 58 2 | 9 6.4 | | | | | | 19 |
| 21 | 2 15 .3 | 11 42.3 | 2 2 0 | 9 37.9 | 0.1447 | 0.0038 | 0.505 | 1 47 13 | 7 5.3 | 21 |
| 23 | | | 2 5 51 | 10 8.5 | | | | | | 23 |
| 25 | 2 22 36 | 12 38.8 | 2 9 34 | 10 38.3 | | | | 1 54 48 | 8 9.9 | 25 |
| 27 | | | 2 13 9 | 11 7.2 | | | | | | 27 |
| 29 | 2 29 39 | 13 32.3 | 2 16 37 | 11 35.3 | 0.1562 | 9.9993 | 0.489 | 2 1 48 | 9 10.8 | 29 |
| 31 | | | 2 19 57 | 12 2.6 | | | | | | 31 |
| Aug. 2 | 2 36 14 | 14 22.6 | 2 23 9 | 12 29.0 | | | | 2 8 13 | 10 8.2 | Aug. 2 |
| 4 | | | 2 26 12 | 12 54.7 | | | | | | 4 |
| 6 | 2 42 18 | 15 10.0 | 2 29 7 | 13 19.5 | 0.1685 | 9.9939 | 0.473 | 2 14 0 | 11 2.1 | 6 |
| 8 | | | 2 31 53 | 13 43.6 | | | | | | 8 |
| 10 | 2 47 50 | 15 54.4 | 2 34 30 | 14 6.8 | | | | 2 19 9 | 11 52.5 | 10 |
| 12 | | | 2 36 58 | 14 29.2 | | | | | | 12 |
| 14 | 2 52 49 | 16 35.9 | 2 39 16 | 14 50.9 | 0.1814 | 9.9878 | 0.459 | 2 23 37 | 12 39.4 | 14 |
| 16 | | | 2 41 24 | 15 11.8 | | | | | | 16 |
| 18 | 2 57 11 | 17 14.7 | 2 43 23 | 15 31.9 | | | | 2 27 23 | 13 22.7 | 18 |
| 20 | | | 2 45 11 | 15 51.2 | | | | | | 20 |
| 22 | 3 0 54 | +17 50.6 | 2 46 48 | +16 9 7 | 0.1947 | 9.9810 | 0.445 | 2 30 24 | +14 2.5 | 22 |

Die Swift'sche Beobachtung vom 29. Juni (vgl. A. N. 3299) passt zunächst nicht in die Bahnebene hinein.

Berlin, Kgl. Recheninstitut, 1895 Juli 6. *A. Berberich.*

## Todes-Anzeige.

Am 21. Juni 1895 starb zu Berlin Dr. **Friedrich Tietjen,** ordentlicher Professor der Astronomie an der Berliner Universität und Director des mit der Berliner Sternwarte verbundenen Recheninstituts, sowie Herausgeber des Astronomischen Jahrbuchs. *Tietjen* war im Jahre 1834 zu Garnholt bei Westerstede in Oldenburg geboren, hatte in Göttingen und Berlin Astronomie studirt und war dann seit 1861 unablässig an der Berliner Sternwarte und Universität bis zwei Tage vor seinem an einer Herzkrankheit erfolgten Tode thätig gewesen.

Seine bedeutendsten Leistungen lagen auf dem Gebiete der rechnenden Astronomie. Selbst ein überaus sicherer und schneller Rechner, aber auch mathematisch hochbegabt, hat er nicht blos als Leiter des Recheninstituts und des Jahrbuchs, sowie in den Uebungen des, von ihm gemeinsam mit dem Unterzeichneten geleiteten, astronomischen Seminars sehr förderlich gewirkt, sondern auch durch seine, hauptsächlich in den Astronomischen Jahrbüchern veröffentlichten Beiträge zur Theorie und Methode der Bahnbestimmungen und der Störungsrechnungen unmittelbar zum Fortschritt der Wissenschaft beigetragen. Leider ist von mehreren sehr schönen Vereinfachungen theoretischer und rechnerischer Art, an deren zusammenfassender Bearbeitung und Veröffentlichung ihn schon seit längerer Zeit beginnende Kränklichkeit hinderte, Manches mit ihm dahingegangen.

Als College und Freund war der geist- und charaktervolle, aber höchst schlicht auftretende Mann hochgeehrt und geliebt. Sein Andenken wird an der Berliner Universität und Sternwarte, aber gewiss auch in den weitesten Kreisen unserer Wissenschaft in hohen Ehren bleiben.

Berlin 1895 Juli 9. *W. Foerster.*



Geschlossen 1895 Juli 13. Herausgeber: A. Krueger. Druck von C. Schaidt. Expedition: Sternwarte in Kiel.