## $\left[\begin{array}{ll}113\end{array}\right]$

VIII. A catalogue of nebulce and clusters of stars in the southern hemisphere, observed at Paramatta in New South Wales, by James Dunlop, Esq. In a letter addressed to Sir Thomas Makdougall Brisbane, Bart. K.C.B. late Governor of New South Wales. Presented to the Royal Society by Joнn Frederick William Herschel, Esq. Vice President.

## Read December 20, 1827.

THE following nebulæ and clusters of stars in the southern hemisphere were observed by me at my house in Paramatta, situated about $6^{\prime \prime}$ of a degree south and about $1^{\text {s }} .78$ of time east of the Brisbane Observatory. The observations were made in the open air, with an excellent 9 -feet reflecting telescope, the clear aperture of the large mirror being nine inches. This telescope was occasionally fitted up as a meridian telescope, with a strong iron axis firmly attached to the lower side of the tube nearly opposite the cell of the large mirror, and the ends of the axis rested in brass Y's, which were screwed to blocks of wood let into the ground about 18 inches, and projecting about 4 inches above the ground ; one end of the axis carried a brass semicircle divided into half degrees and read off by a vernier to minutes. The position and index error of the instrument were ascertained by the passage of known stars. The eye end of the telescope was raised or lowered by a cord over a pulley attached to a strong wooden post let into the ground about two feet : with this apparatus I have observed a sweep of eight or ten degrees in breadth with very little deviation of the instrument from the plane of the meridian, and the tremor was very little even with a considerable magnifying power. I made drawings or representations of a great number of the nebulæ and clusters at the time of observation, several of which are annexed to this paper ; and also very correct drawings of the Nebulæ major and minor, together with a representation of the milky nebulosity surrounding the star $\eta$ Robur Caroli. The places of the
small stars in the Nebulæ major and minor, and also those accompanying the $\eta$ Robur Caroli, I ascertained by the mural circle in the year 1825, at which time I was preparing to commence a general survey of the southern hemisphere. These stars being laid down upon the chart, enabled me to delineate the nebulosity very accurately.

The nebulæ are arranged in the order of their south polar distances to the nearest minute for 1827, and in zones for each degree in the order of their right ascension. The column on the right hand shows the number of times the object has been observed.

The reductions and arrangement have been principally made since my return to Europe; and I trust this catalogue of the nebulæ will be found an acceptable addition to that knowledge which the Brisbane observatory has been the means of putting the world in possession of, respecting that important and hitherto but little known portion of the heavens.

| No. | h $\begin{gathered}\text { R } \\ \mathrm{m} \\ \mathrm{m}\end{gathered} \mathrm{s}$ | S.P.D. | Description of the Nebulæ and Stars. |
| :---: | :---: | :---: | :---: |
| 1 | 4130 | 1214 | A very small faint round nebula, about $12^{\prime \prime}$ diameter, with a very minute star south following dist. $1^{\prime}$ $\qquad$ |
| 2 | 0336 | 1541 | A faint nebula, about $1 \frac{1}{2}^{\prime}$ long, irregular figure, rather branched. This is involved in the margin of the Nebula minor. ..................... 1 |
| 3 | 0418 | 1559 | A small round nebula, about $12^{\prime \prime}$ diameter |
| 4 | 04219 | 1556 | A faint round nebula, about $30^{\prime \prime}$ diam |
| 5 | 04712 | 1546 | A small faint nebula, about $10^{\prime \prime}$ or $12^{\prime \prime}$ |
| 6 | 04739 | 1536 | A faint nebula, about $20^{\prime \prime}$ diamete |
| 7 | 1932 | 1546 |  |
| 8 | 11023 | 1548 | A small oval nebula, about $10^{\prime \prime}$ diamete |
| 9 | 11237 | 1544 | A faint nebula, about $1^{\frac{1}{2}}$ diameter, of an irregular round figure . . . . 2 |
| 10 | 11343 | 1551 | An elliptical nebula, about $1^{\prime}$ long and $40^{\prime \prime}$ broad, with three minute stars in it $\qquad$ |



| No. |  | S.P.D. | Description of the Nebulæ and Stars. $\quad \begin{gathered}\text { Noof } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 11 | $\begin{array}{llll}1 & 15 & 57\end{array}$ | ${ }^{\circ} 5$ 5'5 | A very small round nebula, with a bright point in the centre, which I suspect to be a star . |
| 12 | 11630 | $15 \quad 52$ | A small round nebula, about $8^{\prime \prime}$ diameter |
| 13 | 11638 | 1549 | A small round nebula, with a bright point in the centre. This is the following of a group of nebulæ. |
| 14 | 1170 | 1543 | A small star in a faint nebula, about $10^{\prime \prime}$ or $12^{\prime \prime}$ diamet |
| 15 | 11953 | 1550 | A group of very minute stars, in a faint ill-defined rather extended nebula $\qquad$ |
| 16 | 12235 | 1543 | A very faint nebula of a round figure, about $2^{\prime}$ diameter, with a small star in the north margin |
| 17 | 12618 | 1532 | A faint round nebula, about $2^{\prime}$ diameter, a very little brighter in the middle, with some minute stars in it. |
| 18 | 01628 | 1659 | (47 Toucan, Bode.) This is a beautiful large round nebula, about $8^{\prime}$ diameter, very gradually condensed to the centre. This beautiful globe of light is easily resolvable into stars of a dusky colour. The compression to the centre is very great, and the stars are considerably scattered south preceding and north following.-Figure 1. is a good representation. |
| 19 | $039 \quad 9$ | 162 | A small faint elliptical nebula.-This is the preceding in a line of small faint nebulæ |
| 20 | 03953 | $16 \quad 8$ | A faint |
| 21 | 04016 | $16 \quad 0$ | A small round faint |
| 22 | 04249 | 1612 | A small faint round nebula |
| 23 | 05022 | 1638 | A small, but very bright nebula, exceedingly condensed. This is the brightest nebula in the small cloud. I think I perceive two bright nuclei in this body. |
| 24 | 05220 | 1633 | A small faint nebula |
| 25 | 05325 | 1654 | A pretty large pretty bright nebula, about $2 \frac{1^{\prime}}{4}$ diameter, irregular round figure, resolvable, very slight condensation, not well defined at the edges $\qquad$ |
| 26 | 05417 | 1638 | A small double nebula; the following is very |
| 27 | 05437 | 1625 | A faint |
| 28 | 05523 | 1658 | A faint ill-defined small nebu |
| 29 | 0570 | 1633 | A small round nebula, $10^{\prime \prime}$ |
| 30 | 05742 | 1635 | A small round nebula, about $8^{\prime \prime}$ diameter . . . . . . . . . . . . . . . . . . . 1 |
| 31 | 05812 | 1653 | A pretty large unequally bright nebula, about $5^{\prime}$ diameter, round figure, resolvable into stars of mixt magnitudes |
| 32 | 0590 | 1642 | A small |
| 33 | 059 | 1631 | A small faint ill-defined nebul |
| 34 | 5940 | 1658 | A faint elliptical neb |
| 35 | 042 | 1655 | A very small faint nebula, with a small star in the south margin ..... 2 |


| No. |  | S.P.D. | Description of the Nebulæ and Stars.No.of <br> Obs. |
| :---: | :---: | :---: | :---: |
| 36 | $\begin{array}{llll}1 & 0 & 43\end{array}$ | 1618 | A faint ill-defined nebula, about |
| 37 | 1230 | 1657 | A small faint nebula, about $20^{\prime \prime}$ diameter |
| 38 | $1 \begin{array}{lll}1 & 3 & 40\end{array}$ | $16 \quad 5$ | A very small oval nebula, a little brighter in the centre; a star of the 8th magnitude south |
| 39 | 1350 | 1615 | A rather faint nebula, about $2^{\prime}$ long, extended in the direction of the meridian, easily resolvable |
| 40 | $\begin{array}{llll}1 & 4 & 10\end{array}$ | 1631 | A small round nebula, with a star in the north side . . . . . . . . . . . . . . |
| 41 | $1 \begin{array}{lll}1 & 4 & 28\end{array}$ | 1626 | A smal |
| 42 | $1 \begin{array}{lll}1 & 5 & 0\end{array}$ | 1635 | A |
| 43 | $\begin{array}{llll}1 & 5 & 19\end{array}$ | 1645 | A small |
| 44 | 1622 | 1622 | A faint nebula, about $40^{\prime \prime}$ |
| 45 | $1 \begin{array}{llll}1 & 7 & 50\end{array}$ | 1620 | A small faint nebula |
| 46 | 1200 | 1635 | A very small faint round nebula |
| 47 | 12511 | 1623 | A very small round nebula, about $8^{\prime \prime}$ diameter, with a bright point in the centre. $\qquad$ |
| 48 | 12628 | $16 \quad 9$ | A faint ill-defined small nebula |
| 49 | 22825 | $\begin{array}{ll}16 & 1\end{array}$ | A small faint nebula, about $12^{\prime \prime}$ diameter, with a bright point in the centre.................................................................. 1 |
| 50 | 04930 | $17 \quad 5$ | A small faint round n |
| 51 | 05037 | $\begin{array}{ll}17 & 3\end{array}$ | A small round nebula |
| 52 | 0510 | 170 | A small faint ill-defined nebula. This is the following of a line of small nebulæ . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 53 | 05430 | 1712 | A small faint nebula |
| 54 | 05746 | 1725 | A small round pretty well-defined nebula, $15^{\prime \prime}$ or $20^{\prime \prime}$ diameter...... 1 |
| 55 | 05828 | 1729 | A small faint ill-defined nebula |
| 56 | $\begin{array}{llll}1 & 3 & 15\end{array}$ | $17 \quad 2$ | A small faint nebula |
| 57 | $1{ }^{1} 660$ | $17 \quad 7$ | A small faint nebula, |
| 58 | 1 | $17 \quad 9$ | An extremely faint ill-defined nebula |
| 59 | $1 \begin{array}{lll}1 & 8 & 36\end{array}$ | 1739 | A very small faint nebula, about $10^{\prime \prime} \mathrm{d}$ |
| 60 | 11232 | 1732 | A round well-defined nebula, gradually brighter to the centre, about 25" diameter ............................................................ 1 |
| 61 | $17 \quad 0 \quad 9$ |  | A rather large faint nebula, of an irregular figure, easily resolvable into very small stars, rich. |
| 62 | 05732 | 1815 | A beautiful bright round nebula, about $4^{\prime}$ diameter, exceedingly condensed. This is a good representation of the 2nd of the Connaissance des Tems in figure, colour, and distance; it is but a very little easier resolved, rather a brighter white, and perhaps more compact and globular. This is a beautiful globe of white light; resolvable : the stars are very little scattered.-Figure 3. |


| No. | $\begin{array}{ll} \mathcal{R} & \\ \mathrm{m} & \mathrm{~g} \end{array}$ | S.P.D. | Description of the Nebulæ and Stars. $\quad$ No.of |
| :---: | :---: | :---: | :---: |
| 63 | $1 \begin{array}{lll}1 & 7 & 24\end{array}$ | 1849 | A ss |
| 64 | 22035 | 1820 | A very small faint nebula, about $10^{\prime \prime}$ diameter, with a minute bright point in the centre. |
| 65 | 4.34 37 | 1820 | An extremely faint |
| 66 | $6 \quad 352$ | $18 \quad 3$ | An |
| 67 | 12114 | 1824 | A star of the 6th magnitude, with a beautiful well-defined milky ray proceeding from it south following; the ray is conical, and the star appears in the point of the cone, and the broad or south following extremity is circular, or rounded off. The ray is about 7 ' in length, and nearly $2^{\prime}$ in breadth at the broadest part, near the southern extremity. With the sweeping power this appears like a star with a very faint milky ray south following, the ray gradually spreading in breadth from the star, and rounded off at the broader end. But with a higher power it is not a star with a ray, but a very faint nebula, and the star is not involved or connected with it: I should call it a very faint nebula of a long oval shape, the smaller end towards the star; this is easily resolvable into extremely minute points or stars, but I cannot discover the slightest indications of attraction or condensation towards any part of it. I certainly had not the least suspicion of this object being resolvable when I discovered it with the sweeping power, nor even when I examined it a second time; it is a beautiful object, of a uniform faint light. Figure 2. |
| 68 | $16 \quad 5 \quad 14$ | 1813 | A pretty large rather faint round nebula, about $3 \frac{1^{\prime}}{}$ or $4^{\prime}$ diameter, a little brighter in the middle. There is a very small nebula on the north preceding side joining the margin of the large nebula ...... |
| 69 | $19 \quad 7$ - | 1812 | (43 Pavonis, Bode's Catalogue.) I cannot find the nebula answering to this place: perhaps there may be a mistake in the right ascension. . |
| 70 | $4 \quad 4 \quad 15$ | 1957 | A small faint nebula, about $25^{\prime \prime}$ long, with a minute star in the southern extremity; a double nebula follows. |
| 71 | $4 \quad 6.35$ | 1955 | A double nebula, about $35^{\prime \prime}$ diameter; there are two small stars in the preceding of the two |
| 72 | 4.52 25 | 1944 | A faint |
| 73 | 45242 | 1949 | A pretty bright round nebula, bright at the centre ................. . 3 |
| 74 | $453 \quad 8$ | 1953 | A small faint nebul |
| 75 | 45330 | 1951 | A small round well-defined nebul |
| 76 | 4540 | 1941 | A prett |
| 77 | 45735 | 1937 | A small nebula, with a |
| 78 | 45750 | 1953 | A small faint nebula, about $15^{\prime \prime}$ diameter, with a minute star slightly involved in the south side. |
| 79 | 45925 | 1955 | A small faint n |
| 80 | 5 5 0 | 1957 | A small round nebula, about $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter, well defined ..... 2 |


| No. | $\mathrm{l}_{\mathrm{l}} \begin{gathered}\text { R } \\ \mathrm{m}\end{gathered}$ | S.P.D. | Description of the Nebulæ and Stars. $\begin{gathered}\text { No.of } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 81 | 5 1 10 | 195 | A faint neb |
| 82 | $5 \quad 210$ | 1951 | A small faint nebula, preceding |
| 83 | 51048 | 1940 | A pretty large extremely faint nebula, about $5^{\prime}$ long, and $2^{\prime}$ broad, extended north preceding, and south following, resolvable into stars of mixt magnitudes |
| 84 | 51133 | 1949 | A pretty well-defined small nebula, about $15^{\prime \prime}$ diameter, with a small star rather preceding the centre $\qquad$ |
| 85 | 51613 | 1948 | A very small round nebula, with a bright point exactly in the centre, forming a triangle, with very small stars on the north side........ 2 |
| 86 | 51710 | 1942 | An extremely small nebula, $8^{\prime \prime}$ diameter, bright at the centre ....... 2 |
| 87 | 52122 | 1949 | An extremely faint ray of nebula, about $3^{\prime}$ or $4^{\prime}$ long, and $1^{\prime}$ broad; position south preceding, and north following |
| 88 | 52138 | 1959 | A small faint nebula, $25^{\prime \prime}$ or $30^{\prime \prime}$ diameter, with two small stars near the south side of it |
| 89 | 52340 | 1958 | A pr |
| 90 | 5250 | 1945 | A small round faint nebula |
| 91 | 52623 | 1935 | A small rou |
| 92 | 52837 | 1952 | Two very |
| 93 | 52855 | 1958 | A very faint nebula |
| 94 | 52929 | 1947 | An extremely fa |
| 95 | 53033 | $19 \quad 53$ | A faint nebula, $30^{\prime \prime}$ diameter: a small star north of the centre....... 2 |
| 96 | 53138 | 1950 | A faint round nebula, about $1 \frac{1}{4}$ diameter, slightly bright to the centre |
| 97 | 5 | 1947 | A round |
| 98 | 53322 | 1944 | A pretty |
| 99 | 53630 | 1935 | A p |
| 100 | 53512 | 1958 | A small |
| 101 |  | 1933 | A very small ill-define |
| 102 | 53810 | 1947 | A faint ill-defined nebula, perhaps $3^{\prime}$ diameter |
| 103 | 54035 | 1942 | A round well-defined nebula, $30^{\prime \prime}$ diameter, bright at the centre. The preceding of three nebulæ forming a triangle |
| 104 | 54038 | 1932 | A very small |
| 105 | $\begin{array}{llll}5 & 41 & 3\end{array}$ | 1936 | A round well-defined nebula, $25^{\prime \prime}$ diamet |
| 106 | 55110 | 1955 | A faint elliptical nebula, about $2^{\prime}$ diameter; slightly condensed to the centre. |
| 107 | 5 52`20 | 1946 | A very pretty double nebula, with a star in the preceding side of the largest, and a very small star in the south margin of the smallest nebula $\qquad$ |
| 108 | 55232 | 1943 | A small round faint nebula |
| No. | $\begin{gathered} \mathbb{R} \\ \mathrm{h} \\ \mathrm{~m} \\ \mathrm{~m} \end{gathered}$ | S.P.D. | Description of the Nebulæ and Stars. $\quad$ Noof |
| :---: | :---: | :---: | :---: |
| 109 | $5 \quad 5250$ | 1940 | A small fain |
| 110 | $4 \begin{aligned} & 4 \\ & 5\end{aligned}$ | $20 \quad 3$ | A small faint nebul |
| 111 | 45350 | 2011 | A small round nebula. The preceding of three nebulæ in the form of a triangle $\qquad$ 2 |
| 112 | $454 \quad 2$ | 2016 | A very pretty small double nebula; very nearly equal ; distance about $12^{\prime \prime}$ or $15^{\prime \prime}$ |
| 113 | 4.5417 | $20 \quad 5$ | A |
| 114 | 4.5418 | 2036 | A small round nebula, about $20^{\prime \prime}$ diameter, bright at the centre .... 2 |
| 115 | 45951 | $20 \quad 6$ | A |
| 116 | $5 \quad 6 \quad 50$ | $20 \quad 8$ | A small round prett |
| 117 | 51130 | $20 \quad 1$ | A |
| 118 | 51145 | 2041 | A pretty well-defined small nebula, with a small star south of it . .... 1 |
| 119 | 51225 | 2054 | A small r |
| 120 | 51322 | 2051 | A small round nebul |
| 121 | $\begin{array}{llll}5 & 14 & 5\end{array}$ | $20 \quad 15$ | A small round nebula |
| 122 | 51417 | 2013 | A small nebula, about $20^{\prime \prime}$ diameter, with three smaller nebulæ following, and three pretty bright small stars on the north side ...... 1 |
| 123 | $\begin{array}{lll}5 & 16 & 3\end{array}$ | 2040 | A faint ill-defined nebula, $2^{\prime}$ diameter . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 124 | $\begin{array}{lllll}5 & 17 & 15\end{array}$ | $20 \quad 7$ | A very small round nebula, about $12^{\prime \prime}$ diameter ................. 2 |
| 5 | 518181 | 2019 | A small rather well-defined round nebu |
| 126 | 51825 | $20 \quad 1$ | A very |
| 127 | 51842 | 2024 | A faint extended nebula, ill defined |
| 128 | 51925 | $20 \quad 0$ | A small faint nebula, $\mathbf{1}^{\prime}$ north |
| 129 | 51944 | 2037 | A pretty large and very ill-defined nebula, of an irregular round figure, with several small stars in it. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2 |
| 130 | 5223 | 2049 | A small round nebul |
| 31 | 52215 | 2020 | A ver |
| 2 | 52245 | 2056 | A small faint confused nebula, rathe |
| 3 | 52557 | 2016 | A small |
|  | $\begin{array}{llll}5 & 27 & 9\end{array}$ | 2021 | A small faint nebula |
| 135 | 52736 | 2025 | A small faint round nebula .................................... 1 |
| 136 | 52924 | 2055 | A faint confused pretty large nebula. There are a multitude of small nebulæ in this place |
| 137 | 53340 | 2056 | A very small faint nebula, about |
| 138 | $34 \quad 5$ | 20 | A small round faint nebula |
| 139 | 53538 | 2053 | A small faint round nebula |
| 140 | 53613 | 2056 | A small faint round nebula |

| No. | $R$ | S.P.D. | Description of the Nebulæ and Stars. <br> small stars in the north following margin. But with a power sufficient to resolve it, the globular appearance vanishes in a very considerable degree; and the brightest and most condensed part is to the preceding side of the centre, with the stars considerably scattered on the north following side. Resolvable into stars of mixt small magnitudes. A small nebula precedes this. |
| :---: | :---: | :---: | :---: |
| 165 | $\begin{array}{ccc}\text { h } & \mathrm{m} & \mathrm{s} \\ 4 & 8 & 34\end{array}$ | ${ }^{\circ} 1218$ | An exceedingly faint ill-defined nebula, with several exceedingly minute stars in it. $\qquad$ |
| 166 | $410 \quad 0$ | 2115 | A well-defined small elliptical nebula, |
| 167 | 4.5425 | 2132 | A pretty bright round well-defined nebula, $15^{\prime \prime}$ diameter .......... 2 |
| 168 | $457 \quad 3$ | 2128 | A pretty large faint nebula, irregular figure, and irregularly bright in parts |
| 169 | 45740 | 2118 | A pretty bright pretty large nebula, of an irregular round figure, $5^{\prime}$ diameter; a little brighter in the middle |
| 170 | $\begin{array}{llll}5 & 8 & 35\end{array}$ | 218 | A pretty large faint nebula, irregular figure ........................ 1 |
| 171 | 510 | 2156 | A very |
| 2 | 51127 | 212 | A pretty bright round nebula, $40^{\prime \prime}$ diameter. This is preceding and brightest of three nebulæ in a line $\qquad$ |
| 3 | 51440 | 217 | A small faint nebula, 12 ${ }^{\prime \prime}$ diameter . . . . . . . . . . . . . . . . . . . . . . . . . |
| 174 | $\begin{array}{llll}5 & 16 & 18\end{array}$ | 2141 | A very |
| 175 | 5227 | 2150 | A pretty large rather faint nebula, about $5^{\prime}$ diameter, irregular figure, partly resolvable into stars of mixt magnitudes. The nebulous matter has several seats of attraction, or rather it is a cluster of small nebulæ with strong nebulosity common to all |
| 176 | 52340 | 2145 | A small faint neb |
| 177 | 52750 | 21 | A sma |
| 178 | 5327 | 2110 | A small faint nebula, with a ray proceeding from it, about $6^{\prime}$ or $7^{\prime}$ long; a small star is involved in the preceding extremity of the ray ..... 1 |
| 179 | $\begin{array}{llll}5 & 34 & 37\end{array}$ | 2147 | A small faint nebula, about $8^{\prime \prime}$ diameter . . . . . . . . . . . . . . . . . . . . . |
| 180 | 5 56 56 5 | 2148 | Th |
| 181 | $5 \begin{array}{llll}5 & 36 & 50\end{array}$ | 214 | A small faint nebula, $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter . . . . . . . . . . . . . . . . . . . 1 |
| 182 | 538 2 | 2146 | A group of very small stars of mixt magnitudes, with several small faint nebulæ, in strong nebulosity, common to all $\qquad$ |
| 183 | 53820 | $21 \quad 5$ | A faint ill-defined nebula, $20^{\prime \prime}$ diameter . . . . . . . . . . . . . . . . . . . . . . 1 |
| 184 | 54113 | 21 | A very |
| 185 | 54537 | 2140 | A small faint round nebula, preceding a minute double star of the 12th magnitude. Another similar small nebula follows, about $20^{\prime \prime}$ in $\boldsymbol{R}$, and $2^{\prime}$ south in a line with the double star $\qquad$ |
| 186 | 54912 | 2148 | A very small faint nebula . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
| No. | $\begin{array}{ll} \mathrm{R} & \\ \mathrm{~h} & \mathrm{~m} \end{array}$ |  | Description of the Nebulæ and Stars. |
| :---: | :---: | :---: | :---: |
| 18 | 550 | 2146 | Two very small faint nebulæ follow |
| 188 | $\begin{array}{lll}5 & 51 & 7\end{array}$ | 2129 | A curved line of five or six faint small nebulæ, with small stars mixt. <br> This is rich in small stars and nebulæ |
| 189 | 55249 | 2146 | A very faint round nebula, $30^{\prime \prime}$ diameter. Exceedingly faint. |
| 190 | $\begin{array}{lllll}5 & 54 & 17\end{array}$ | 2148 | Two very |
| 191 | $5 \begin{array}{llll}54 & 29\end{array}$ | 2145 | A pretty bright round nebula |
| 192 | 55637 | 2128 | A minute cluster of very small stars in strong |
| 193 | 559 | 2119 | A pretty bright round well-defined nebula, 12 |
| 194 | $5 \quad 5937$ | 2126 | A pretty large fa |
| 195 | $6 \bigcirc 0$ | 2151 | A small pretty bright round nebula |
| 196 | $\begin{array}{llll}6 & 0 & 14\end{array}$ | 2131 | A small round pretty well-defined nebula, $25^{\prime \prime}$ diameter, with a small star north following |
| 197 | $\begin{array}{lll}6 & 2 & 7\end{array}$ | 2133 | A small faint round nebula |
| 198 | $\begin{array}{llll}6 & 6 & 27\end{array}$ | 2142 | A pretty strong ray of nebula following a small star; but the small star is not involved. The ray is about $2^{\prime}$ long and $50^{\prime \prime}$ broad, with a bright point or nucleus near the preceding extremity.-Figure 6.. |
| 199 | $6 \quad 8 \quad 2$ | 2152 | A faint confused nebula, with two or three bright points in it, which I suspect to be stars |
| 200 | 61134 | 2134 | A faint nebula, following a pretty bright star |
| 201 | 6.1330 | 2146 | A round well-defined small nebula, $20^{\prime \prime}$ diameter, bright at the centre |
| 202 | 61747 | 2137 | A small faint nebula, about $15^{\prime \prime}$ diameter |
| 203 | 62117 | 2153 | A small round nebula, $20^{\prime \prime}$ diameter, slightly; a little brighter towards the centre |
| 204 | 12-311 | $21 \quad 0$ | A very faint nebula, about $40^{\prime \prime}$ diameter, with a pretty bright star south following |
| 205 | $3 \quad 219$ | 2241 | A very faint small nebula, north following, a pretty bright small star; a very minute star is between the bright star and the nebula...... |
| 206 | $315 \quad 50$ | $22 \quad 50$ | A faint ill-defined nebula, rather extended in the direction of the meridian, with several exceedingly minute stars in it ............... |
| 207 | 31820 | $22 \quad 25$ | A faint ill-defined nebula, probably $2^{\prime}$ diameter, of a round figure; a very minute star involved in it. |
| 208 | $433 \quad 7$ | 22.45 | A very faint smal |
| 209 | $5 \quad 630$ | 2214 | A very faint round nebula, $45^{\prime \prime}$ diameter, preceding a bright star in the same parallel. $\qquad$ |
| 210 | 51443 | 2225 | A small round nebula, rather faint. This is the preceding in a line of nebulæ and small stars, with a star of the 7th magnitude at the north extremity.-Figure 7. |
| 211 | 52642 | 2221 | A small faint elliptical nebula, about $20^{\prime \prime}$ diameter. This is the preceding in a curved line of six or seven small nebulæ, of unequal magnitudes |
| N | $\begin{gathered} \mathrm{R} \\ \mathrm{~h} \\ \mathrm{~m} \\ \mathrm{~s} \end{gathered}$ |  | Description of the Nebulæ and Stars. No. |
| :---: | :---: | :---: | :---: |
|  | 52730 | 2241 | A small faint ill-defined nebula |
| \& | 52846 | 2228 | A faint elliptical nebula, about $30^{\prime \prime}$ diameter. This is the following in a curved line of nebula. |
| 4 | 52948 | 2257 | A |
| 215 | 5 5 3 | 22.34 | A round well-defined nebula, about $20^{\prime \prime}$ diameter, bright at the centre 3 |
| 16 | 53112 | 2240 | A sm |
| 17 | 53250 | 22.6 | A rather well-defined nebula, $40^{\prime \prime}$ or $50^{\prime \prime}$ |
| 21 | 534.22 | 2214 | A pretty bright round nebula, $30^{\prime \prime}$ diameter, with a minute star slightly involved in the margin |
| 219 | 53540 | 2221 | A pretty bright round nebula; about $1 \frac{1}{4}$ diameter, bright towards the centre $\qquad$ |
| 220 | 53617 | 2224 | A round |
| 221 | 5460 | 2250 | A fai |
| 222 | $5 \quad 5837$ | 223 | A small r |
| 223 | 0 |  | A pretty bright and well-defined |
| 224 | 1226 | 2232 | An exceedingly faint nebula, extended in the direction of the meridian, about $4^{\prime}$ or $5^{\prime}$ in length, with a line or group of very small stars in it 2 |
| 225 | 171250 | 2259 | A pretty large rather bright round nebula, $3^{\prime}$ or $4^{\prime}$ in diameter, very moderately condensed to the centre, resolvable into extremely minute stars; the stars are more scattered on the south side ............. 3 |
| 226 | 43930 | 2314 | An extremely small round nebula, pretty well defined; a small star preceding in the same parallel |
| 227 | $451 \quad 7$ | 2342 | A small faint nebula, 12 |
| 228 | 45240 | $23 \quad 37$ | A very faint round nebula, $12^{\prime \prime}$ or $15^{\prime \prime}$ diameter |
| 229 | 4536 | 2341 | A small round pretty well-defined nebula, $12^{\prime \prime}$ diameter. This is the following of a triangle of very small nebulæ |
| 230 | 4560 |  | A very faint rather elliptical nebula, about $2^{\prime}$ diameter. This is the preceding and largest of three nebulæ forming a triangle $\qquad$ |
| 281 | 45616 | $23 \quad 0$ | A |
| 232 | 4. 5647 | $23 \quad 6$ |  |
| 233 | $\begin{array}{llll}5 & 1 & 40\end{array}$ | 2333 | A small round well-defined nebula, $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter . . . . . . . . . . 1 |
| 234 | $5 \begin{array}{lll}5 & 3 & 33\end{array}$ | 2312 | A |
| 35 | 5 | 2325 | A sm |
| 236 | 5 | 2321 | A small nebula, $20^{\prime \prime}$ diameter, with a very bright point in the centre.. 2 |
| 237 | 5257 | 2330 | A rather large faint nebula, $3^{\prime}$ or $4^{\prime}$ diameter, of an irregular round figure; no central attraction. |
| 238 | 52730 | 2331 | A faint round nebula, about $50^{\prime \prime}$ |
| 239 | 53246 | 2323 | A pretty large faint nebula, about $2^{\prime}$ diameter, round figure. A number of very small stars on the north side, very faint at the margin..... 1 |
| No. | ¢ $\begin{aligned} & \text { R } \\ & \mathrm{m} \\ & \mathrm{m}\end{aligned} \mathrm{s}$ | S.P.D. | Description of the Nebulæ and Stars. $\begin{gathered}\text { No.of } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 240 | $535 \cdot 3$ |  | A faint ro |
| 241 | 5360 | 230 | A large cluster of small stars of mixt magnitudes in strong nebula; irregular extended figure |
| 242 | 53712 | 2339 | A very faint nebula, $1^{\prime}$ diameter ; round figu |
| 243 | $6 \quad 956$ | 2334 | A very |
| 244 | $13 \quad 50$ | 2350 | A very faint nebula extended north preceding and south following, about $3^{\prime}$ in length, with a minute line of five extremely small stars involved in the nebula, and two minute stars near the north extremity, but not involved. |
| 245 | 4126 | 2454 | A very small faint nebula, $10^{\prime \prime}$ diameter, about $14^{\prime}$ south of a pretty bright small star $\qquad$ |
| 246 | $5 \quad 4.38$ | 2451 | A pretty well-defined round faint nebula, $25^{\prime \prime}$ diameter; a little brighter at the centre |
| 247 | 51135 | 2425 | A prett |
| 248 | 51430 | 2419 | A pretty bright round well-defined nebula, about $30^{\prime \prime}$ diameter, gradually bright to the centre $\qquad$ |
| 249 | $640 \quad 5$ | 2434 | A very small faint ill-defined |
| 250 | 11439 | 24.20 | A very faint small round nebula, about $10^{\prime \prime}$ diameter, with a bright point exactly in the centre. Magnifying power 170............. 2 |
| 251 | $\begin{array}{llll}13 & 8 & 0\end{array}$ | 24. 24 | An extremely faint small nebula, about $15^{\prime \prime}$ diameter, pretty well defined. A very small star is north preceding, and a very minute south preceding; both very near the nebula, but not involved in it . |
| 252 | 132011 | 2444 | A very faint nebula, about $25^{\prime \prime}$ diameter. It is very near a star of the 8th magnitude, and near the north following extremity of a crescent of very small stars $\qquad$ |
| 253 | 14 $35-$ | 2410 | (3 Circini, Bode) is a line of stars of the $8-9$ th magnitudes, oblique to the equator, about $1^{\circ}$ in length joining a circular line of small stars at the north extremity, with a bright star of the 7th magnitude in the south following extremity.-Figure 8. |
| 254 | 222614 | 2457 | A very small nebula, $10^{\prime \prime}$ diameter, with a very minute star in the preceding side of it |
| 255 | 22364 | 24.1 | A small faint elliptical nebula in the parallel of the equator, about $25^{\prime \prime}$ long, and $12^{\prime \prime}$ or $15^{\prime \prime}$ broad. |
| 256 | 44630 | $25 \quad 39$ | A small round nebula |
| 257 | 95410 | 2513 | A very small and very faint nebula, about $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter; very feeble at the margin. |
| 258 | $1032-$ | 2546 | A cluster of extremely small stars, resembling a faint nebula, about $6^{\prime}$ diameter; round figure. |
| 259 | $\begin{array}{llll}15 & 3 & 8\end{array}$ | $25 \quad 5$ | A small faint round nebula, $25^{\prime \prime}$ or $30^{\prime \prime}$ diameter, sensibly brighter in the middle. A star of the 9 th magnitude, $4^{\prime}$ or $5^{\prime}$ south. |
| 260 | $15 \quad 717$ | 2546 | An extremely faint ill-defined nebula, $1 \frac{x^{\prime}}{}{ }^{\prime}$ or $2^{\prime}$ diameter, irregular round figure, a very little brighter towards the middle. $\qquad$ |
| No. | $\mathrm{h}{ }_{\mathrm{m}}^{R} \mathrm{~s}$ | S.P.D. | Description of the Nebulæ and Stars. $\begin{gathered}\text { No.of } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 261 | $\begin{array}{llll}18 & 49 & 25\end{array}$ | ${ }_{2}{ }^{\circ} 3^{\prime} 5$ | A very minute double nebula, the distance between them about $15^{\prime \prime}$ of a degree; the largest or following of the two is not more than $10^{\prime \prime}$ diameter; each of them has a small bright point or nucleus ...... |
| 262 | $18 \quad 5130$ | $25 \quad 53$ | A pretty large very faint nebula, about $5^{\prime}$ or $6^{\prime}$ diameter, slightly bright towards the centre; a minute star is north of the nebula, and two stars of the 7th magnitude preceding. |
| 263 | $2119 \quad 0$ | 2523 | A small faint round nebula, $20^{\prime \prime}$ diameter, a little brighter in the middle, following a group of pretty bright stars. |
| 264 | 4 1513 | $26 \quad 30$ | A faint round nebula, about $40^{\prime \prime}$ diameter, slightly bright to the centre; this is north preceding $\theta$ Rhomboidis. |
| 265 | $9 \quad 5 \quad 48$ | $26 \quad 1$ | A very bright round nebula, about $9^{\prime}$ or $4^{\prime}$ diameter, very gradually bright to the centre. This has a fine globular appearance......... 1 |
| 266 | $1140 \quad 9$ | $26 \quad 8$ | A very small nebula, very bright immediately at the centre; the bright point is nearly equal in brightness to one of the minute stars north of the nebula. I do not think the bright point is a star, but a very highly condensed nucleus, surrounded by a faint chevelure, not more than $10^{\prime \prime}$ diameter. Another very minute nebula precedes this ... |
| 267 | 113935 | 2611 | An extremely small round nebula, not more than $5^{\prime \prime}$ diameter, equally and uniformly bright, with a small well-defined planetary disc, with no bright point or condensation to the centre. This is not a small star; the appearance is very different from any of the small stars near it, and it is also very unlike the general appearance of small nebulæ: both of these objects are very singular. |
| 268 | $\begin{array}{llll}15 & 36 & 8\end{array}$ | $26 \quad 7$ | A very faint nebula, about $1^{\prime}$ diameter, with a very minute star preceding, and another following; both are involved................. . . 1 |
| 269 | 16430 | 2639 | A small round faint nebula, about $15^{\prime \prime}$ diameter, with a minute star near the south side, and four small stars following. The nebula is in the point of a cone formed by the four small stars and itself .... $\quad 2$ |
| 270 | 234116 | 2659 | A faint ray of nebula, about $25^{\prime \prime}$ or $30^{\prime \prime}$ long, with a small star in the centre of it.-Figure 9. $\qquad$ |
| 271 | 111136 | 2728 | A rather bright nebula, about $2 \frac{1^{\prime}}{}$ or $3^{\prime}$ long and $1^{\prime}$ broad, in the form of a crescent, the convex side preceding; no condensation of the nebulous matter towards any point. This is easily resolvable into many stars of some considerable magnitude, arranged in pretty regular lines, with the nebula remaining, which is alsc resolvable into extremely minute stars. This is probably two clusters in the same line.-Figure 10. |
| 272 | $1231-$ | 2755 | A group of five stars of the 8 th or 9 th magnitude, with a great number of extremely small stars resembling faint nebulæ, $3^{\prime}$ or $4^{\prime}$ diameter. 1 |
| 273 | $13 \quad 3448$ | 2757 | (201 Centauri, Bode.) This is a curved line of small stars, about $1 \frac{1^{\prime}}{}{ }^{\prime}$ long, with a star of the 7th magnitude in the north extremity; a group of extremely minute stars on the preceding side of the crescent, and a multitude of very minute stars extended preceding and following.-Figure 11. |
| 274 | $1419 \quad 3$ | 27.39 | An exceedingly small very faint round nebula, about $8^{\prime \prime}$ diameter, north |
| No. | $\boldsymbol{R}$ | S.P.D. | Description of the Nebulæ and Stars. <br> rather following a star of the 12th magnitude; with a smaller star on the other side |
| :---: | :---: | :---: | :---: |
| 275 | 14 1818 | $2{ }^{\circ} 713$ | A very small round well-defined nebula, about $15^{\prime \prime}$ diameter, with a bright point in the centre |
| 276 | $1514 \begin{array}{ll}15\end{array}$ | 2750 | A very small nebula, with a very minute star involved in the north side of it: the star is not central; another small star is distant about $4^{\prime}$ from the nebula. $\qquad$ |
| 277 | $15 \quad 28 \quad 9$ | 2751 | A faint extended nebula, about $4^{\prime}$ long and $2^{\prime}$ broad, with a group of seven or eight extremely small stars in it. |
| 278 | $16 \quad 19 \quad 7$ | 2718 | A pretty well-defined small nebula, extended in the parallel of the equator, rather a little south preceding, and north following, about $1 \frac{1}{2}$ ' long, and $25^{\prime \prime}$ broad, with a star of the 11th or 12th magnitude in the centre. The nebula is nearly equally bright, and the star is in the centre--Figure 12. |
| 279 | $17 \quad 26 \quad 0$ | 2735 | A pretty large faint nebula, round figure, about $3^{\prime}$ diameter; very faint at the margin. |
| 280 | 191421 | 2724 | An extremely faint ill-defined nebula, of an irregular figure, rather elongated following: there are two minute stars involved in the preceding side of it. |
| 281 | $11 \quad 1016$ | 2820 | A cluster of very small stars, a little elongated preceding and following, about $10^{\prime}$ diameter; the stars are congregated towards the centre, a pretty bright star south, and a double star south following this .... 4 |
| 282 | 1342 - | 2857 | A group of ten or twelve stars about the 10th magnitude, with a multitude of very small stars, forming an irregular branched figure, $8^{\prime}$ or $10^{\prime}$ long and $6^{\prime}$ broad. |
| 283 | 14470 | 2859 | A group of small stars forming a semicircle, with a line of minute stars joining the extremities |
| 284 | $15 \begin{array}{lll}15 & 52\end{array}$ | $28 \quad 4$ | A group of twelve or |
| 285 | $\begin{array}{llll}15 & 59 & 4\end{array}$ | 2840 | A very faint small round nebula, about $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter; a little brighter in the centre |
| 286 | $16 \quad 2112$ | 2829 | An exceedingly faint very small round nebula, about $12^{\prime \prime}$ diameter, with a minute bright point in the centre. This is south of a star of the 7-8th magnitude, and a nebula follows in the field ............ 1 |
| 287 | $16 \quad 35 \quad 3$ | 2832 | A faint elliptical nebula, about $25^{\prime \prime}$ diameter, not bright at the centre, and nearly uniform in its light |
| 288 | $21 \quad 2012$ | 2828 | A pretty bright small elliptical nebula, about $20^{\prime \prime}$ long; the brightest part is near the south following extremity. This precedes a small star.................................................................... . . . |
| 289 | 112920 | 2916 | A pretty large cluster of stars of mixt magnitudes, about $10^{\prime}$ diameter. The greater number of the stars are of a pale white colour. There is a red star near the preceding side; another of the same size and colour near the following side; another small red star near the centre; and a yellow star near the south following extremity, all in the cluster $\qquad$ |

| No. 304 | $\left. \right\rvert\,$ | $\begin{aligned} & \text { S.P.D. } \\ & \circ \\ & \hline 0 \\ & 30 \end{aligned}$ | Description of the Nebulæ and Stars. <br> ( $\lambda$ Circini, Bode) Lacaille describes this as three small stars in a line with nebula. No particular nebula exists in this place. A group of about twenty stars of mixt magnitudes, forming an irregular figure, about $5^{\prime}$ or $6^{\prime}$ long, answer to the place of the $\lambda$. This is in the milky way; and there is no nebula in the group of stars except what is common in the neighbourhood. |
| :---: | :---: | :---: | :---: |
| 305 | $17 \quad 2930$ | $30 \quad 27$ | A very small round nebula, with a minute bright point near the following side. The bright point is not in the centre of the nebula, a pretty bright small star following distance $1^{\prime}$ of arc .............. . . |
| 306 | $4{ }_{4}^{4} \quad 9 \quad 8$ | 3138 | A small round pretty well defined nebula, $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter, slightly bright to the centre, a bright star in the field south following ..... |
| 307 | 44912 | 3137 | An extremely faint round nebula, $30^{\prime \prime}$ or $40^{\prime \prime} \mathrm{d}$ |
| 308 | $10 \quad 15.48$ | 3110 | A very small round nebula, about $25^{\prime \prime}$ diameter, bright at the centre, nearly in a line between two very small stars. A star of the 6-7th magnitude is south following. ...................................... . . . |
| 309 | 1038 - | 3113 | ( $\eta$ Roboris Caroli, Bode) is a bright star of the 3rd magnitude, surrounded by a multitude of small stars, and pretty strong nebulosity; very similar in its nature to that in Orion, but not so bright. Figure 14. is a very correct representation of it; the circle A B is about $1^{\circ}$ and $37^{\prime}$ diameter, with the star $\eta$ in the centre. I can count twelve or fourteen extremely minute stars surrounding $\eta$ in the space of about $1^{\prime}$; several of them appear close to the disk: there is a pretty bright small star about the 10th magnitude north following the $\eta$, and distant about $1^{\prime}$. The nebulosity is pretty strongly marked; that on the south side is very unequal in brightness, and the different portions of the nebulosity are completely detached, as represented in the figure. There is much nebulosity in this place, and very much extensive nebulosity throughout the Robur Caroli, which is also very rich in small stars. |
| 310 | $1047 \quad 0$ | 3142 | A faint nebula, about $1 \frac{1}{2}^{\prime}$ or $2^{\prime}$ diameter, with a small bright star near the preceding side; this is resolvable into exceedingly minute stars $\qquad$ |
| 311 | 125030 | 3115 | A very faint pretty large nebula, about $6^{\prime}$ or $8^{\prime}$ diameter, round figure, resolvable into very minute stars. Several stars of some considerable magnitude appear scattered among the minute stars of the nebula, but they are only the continuation of a branch of small stars which run over the place where the nebula is; the stars in the nebula are very gradually, but not much, compressed to the centre. |
| 312 | $\begin{array}{lll}13 & 16 & 7\end{array}$ | 3138 | A pretty large faint nebula, about $5^{\prime}$ diameter, irregular branched figure, resolvable, with considerable compression of the stars towards the central point. This precedes a star of the 7th magnitude, and a group of small stars follow, about $10^{\prime}$ north of the nebula |
| 313 | 141614 | 315 | A very minute group of small stars, about $2^{\prime}$ long, extended in the parallel of the equator. |
| 314 | $15 \quad 9-$ | 3129 | (16 Circini, Bode) described in the Connaissance des Tems as nebula, with very near each other, forming a triangle, which answers to the place |
| No. | $\begin{array}{lll} & \boldsymbol{R} \\ \\ \text { h } & \\ \text { m }\end{array}$ | S.P.D. | Description of the Nebulæ and Stars. <br> of 16 Circini ; but there is no nebula accompanying them, neither is there any nebula accompanying any of the stars in this place.... |
| :---: | :---: | :---: | :---: |
| 315 | 152130 | 3155 | A small rather faint nebula, $20^{\prime \prime}$ or $25^{\prime \prime}$ diameter, at the preceding extremity of a line of four or five very small stars . . . . . . . . . . . . . . . |
| 316 | $16 \quad 29 \quad 6$ | 3145 | A very faint ray of nebula, about $1 \frac{1}{2}^{\prime}$ long, and $15^{\prime \prime}$ or $20^{\prime \prime}$ broad, extended north preceding and south following, with rather a condensation of the nebulous matter near the south following extremity. There is a minute star near the north preceding extremity, but I do not think it is involved in the ray. |
| 317 | 174328 | 3111 | A faint ill-defined round nebula, very faint at the margin, perhaps $1 \frac{I^{\prime}}{}{ }^{\prime}$ or $2^{\prime}$ diameter |
| 318 | $1753-$ | 3143 | A group of eighteen or twenty small stars of nearly equal magnitudes, extended $8^{i}$ long, and $4^{\prime}$ broad. |
| 319 | $22 \quad 720$ | 3158 | A very small cluster of very minute stars, resembling a small faint nebula, $2^{\prime}$ diameter |
| 320 | $4 \begin{array}{lll}4 & 5 & 7\end{array}$ | 3223 | A small faint nebula, about $12^{\prime \prime}$ diameter, with three very small stars north of it |
| 321 | $10 \quad 2713$ | 3237 | A very small cluster of very small bright stars ; round figure, about $4!$ diameter; rich in extremely small stars resembling faint nebula .. |
| 322 | $\begin{array}{llll}10 & 30 & 7\end{array}$ | 3217 | A star of the 7th magnitude, involved in faint nebula.............. |
| 323 | 1059 - | 3216 | ( 5 Centauri, Bode) is a very large cluster of stars about the 9 th magnitude, with a red star of the 7-8th magnitude, north following the centre of the cluster. Elliptical figure: the stars are pretty regularly scattered |
| 324 | 1117 | 3243 | Seven o |
| 325 | $1132-$ | 3219 | A cluster of stars in strong milky nebulosity |
| 326 | $16 \quad 5 \quad 21$ | 3228 | A group of very small stars of an irregular branched figure, $15^{\prime}$ or $20^{\prime}$ diameter. The central part is very thin of stars .................. |
| 32 | 174816 | 3226 | A very faint nebula, rather extended north, about $30^{\prime \prime}$ or $40^{\prime \prime}$ long |
| 328 | $19 \quad 1546$ | 3241 | A small faint nebula, about $20^{\prime \prime}$ diameter, with a minute star in the preceding margin |
| 329 | 2119 - | 3219 | (47 Indi, Bode). This is described as two small stars in nebula. I can find no nebula in this place; but there are three small stars forming an obtuse triangle, which answers to the place of 47 Indi. There is also an angular line of very minute stars, about $1^{\prime}$ in length, following about $2^{\prime}$ or $3^{\prime}$ in time, and $30^{\prime}$ south, which would have a nebulous appearance through a small telescope |
| 330 | 92230 | 3346 | A faint cluster of small stars of mixed magnitude, with two or three pretty bright stars in it. This answers to 485 Argûs (Bode), and is described as a small star surrounded by nebula. This precedes 492 Argûs, about $3^{\prime}$ in $\notin$, and $3^{\prime}$ or $4^{\prime}$ north of the star, and is probably the object intended; the cluster is about $5^{\prime}$ diameter, irregular figure, no nebula |

| No. | $\mathrm{b}{ }_{\mathrm{b}} \begin{gathered}R \\ \mathrm{~m}\end{gathered} \mathrm{~s}$ | S.P.D. | Description of the Nebulæ and Stars. $\begin{gathered}\text { No.of } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 34 | $23 \quad 25 \quad 36$ | ${ }^{3} 4{ }^{\circ} 53$ | A faint round nebula, about $20^{\prime \prime}$ diameter. . . . . . . . . . . . . . . . . . . 1 |
| 348 | $4 \quad 18$ | 3523 | A very faint nebula, about $35^{\prime \prime}$ diameter. This precedes a group of small stars .......................................................... 1 |
| 349 | 114212 | 3513 | A pretty large faint nebula, $6^{\prime}$ or $7^{\prime}$ diameter, easily resolvable with slight compression of the stars to the centre, or rather towards the following side of the centre $\qquad$ |
| 350 | 14.20 30 | 3551 | A curved line of small stars, south preceding a star of the 7th magnitude. $\qquad$ |
| 351 | 145336 | $35 \quad 4$ | A pretty large cluster of small stars resembling faint nebula, general figure round, south preceding 2 Pyxidis |
| 352 | $14 \quad 5930$ | $35 \quad 1$ | A small round nebula, about $20^{\prime \prime}$ diameter, a little brighter in the centre 1 |
| 353 | 153830 | 3534 | A rather faint easily resolvable nebula, of an irregular figure, $2^{\prime}$ diameter |
| 354 | 222942 | 3534 | A small faint round nebula, about $15^{\prime \prime}$ diameter, south following a pretty bright small star |
| 355 | $1032 \quad 8$ | 3652 | A triangular group of small stars resembling faint nebula, with several stars in it of some considerable magnitude. |
| 356 | 14.3540 | 3614 | A group of eight or ten pretty bright small stars, in the form of a (the letter Y), about $5^{\prime}$ long, parallel to the equator, with small stars in it resembling faint nebula. |
| 357 | 1415 - | 3617 | A very extensive cluster of stars of mixed small magnitudes; the stars appear to be either congregating together in different parts of the cluster, or breaking up; there are several groups already formed, the whole cluster is composed of lines of stars, but no general attraction towards any particular point |
| 358 | 154737 | 3655 | A pretty large faint nebula, of an irregular figure, about $6^{\prime}$ diameter, very faint. |
| 359 | $\begin{array}{lll}15 & 54 & 10\end{array}$ | 3623 | Three very minute stars forming a triangle, with a faint round nebula, about $20^{\prime \prime}$ diameter in the centre, but none of the stars are involved in the nebula $\qquad$ |
| 360 | $15 \quad 59 \quad 27$ | 3613 | A pretty large cluster of small stars of mixed magnitudes, about $12^{\prime}$ diameter; the stars are considerably congregated towards the centre, extended south preceding and north following..................... 5 |
| 361 | $162-$ | 3651 | A cluster of stars extended south preceding and north following, of various mixed magnitudes, considerably compressed to the centre.. 1 |
| 362 | 1611 - | 3657 | A space in the milky way, exceedingly rich in small stars .......... 1 |
| 363 | $\begin{array}{llll}16 & 13 & 5\end{array}$ | 3643 | A faint cluster of very minute stars, about $2^{\prime}$ diameter, resembling faint nebula . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 364 | 163512 | 3629 |  |
| 365 | $17 \quad 4 \quad 27$ | 361 | A very faint small round nebula, about $15^{\prime \prime}$ diameter, with a bright point in the centre. I cannot say there is a gradual condensation of the nebulous matter; the minute point may be a star ........... 1 |
| No. | $\mathrm{h} \begin{gathered} \mathbb{R} \\ \mathrm{m} \end{gathered} \mathrm{~s}$ | S.P.D. | Description of the Nebulæ and Stars. $\quad \begin{gathered}\text { No.of } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 36 | $\begin{array}{llll}17 & 27 & 10\end{array}$ | $\left.\begin{array}{\|ll\|} \hline 0 & 2 \\ 36 \end{array} \right\rvert\,$ | A pretty large nebula, extended nearly in the parallel of the equator, brightest and broadest in the middle; a group of very small stars in the middle give it the appearance of a nucleus, but they are not connected with the nebula, but are similar to other small stars in this place which are arranged in groups. The nebula is resolvable into stars. $\qquad$ |
| 367 | 184511 | 3619 | An extremely faint nebula, of an irregular figure, $3^{\prime}$ or $4^{\prime}$ diameter, a little brighter in the middle; south following $\lambda$ Telescopii......... |
| 368 | 192116 | 3635 | An extremely faint small round nebula, very difficult to be seen, about $9^{\prime}$ north of a star of the 6-7th magnitude. |
| 369 | 35613 | 3710 | A faint nebula, elliptical in the parallel of the equator, about $30^{\prime \prime}$ long and $12^{\prime \prime}$ broad |
| 370 | 4256 | $37 \quad 59$ | An extremely faint round nebula, about $15^{\prime \prime}$ diameter, with a small star in the centre. The faint nebula resembling an atmosphere or chevelure ; the star is in the centre, a small star south of it has nothing of this nebulous appearance $\qquad$ |
| 371 | 82438 | 3752 | A small faint elliptical nebula, with three minute stars in it. This is near the north following extremity of a crooked line of pretty bright small stars $\qquad$ |
| 372 | 92146 | 3717 | A very faint nebula, of an irregular round figure, about $1^{\prime}$ diameter, very slight condensation to the centre $\qquad$ |
| 373 | 164434 | 3715 | A very small round nebula, north preceding $\varepsilon$ Aræ, another nebula follows this ......................................................... . . 1 |
| 374 | 164544 | 3727 | A very faint nebula, of an irregular round figure, about $2^{\prime}$ diameter, slightly bright towards the centre, easily resolvable into very minute stars, slightly compressed to the centre; this also precedes $\varepsilon$ Aræ. |
| 375 | 173330 | 3753 | A very faint small nebula, about $25^{\prime \prime}$ diameter, round figure, south following a star of the 7 th magnitude. $\qquad$ |
| 376 | $\begin{array}{llll}18 & 4 & 6\end{array}$ | 3744 | A pretty bright round nebula, about $1 \frac{1}{4}$ diameter, moderately condensed to the centre; three very small stars involved in the preceding margin. |
| 377 | $\begin{array}{llll}15 & 6 & 53\end{array}$ | 3848 | A very small faint nebula, $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter, north following a small group or cluster of stars |
| 378 | $16 \quad 231$ | 3815 | A small faint round nebula, about $10^{\prime \prime}$ diameter, north following two pretty bright stars |
| 379 | $\begin{array}{lll}16 & 11 & 30\end{array}$ | 3832 | A small faint round nebula, with a bright centre.................. . 2 |
| 380 | 161349 | 3852 | A pretty large faint nebula, about $6^{\prime}$ diameter, rather elongated in the direction of the meridian; no sensible condensation towards the centre. $\qquad$ |
| 381 | $17 \quad 10 \quad 0$ | 3825 | An extremely faint small nebula, about $12^{\prime \prime}$ diameter, with a bright point in the centre. $\qquad$ |
| 382 | $\begin{array}{llll}17 & 18 & 16\end{array}$ | 3817 | A small faint round nebula, about $35^{\prime \prime}$ diameter . . . . . . . . . . . . . . . 1 |
| 383 | 173718 | 3826 | A small faint nebula, about $30^{\prime \prime}$ diameter, with a small star slightly involved in the preceding margin $\qquad$ 1 |
| No. | $\begin{aligned} & \mathrm{R} \\ & \mathrm{~h} \\ & \mathrm{~m} \end{aligned}$ |  | Description of the Nebulæ and Stars. ${ }_{\text {O }}^{\text {No }}$ | No.of Obs. |
| :---: | :---: | :---: | :---: | :---: |
| 384 | $\begin{array}{llll}18 & 16 & 18\end{array}$ | 3883 | A very faint ill-defined nebula |  |
| 385 | 192840 | 3832 | A faint ray of nebula, about $1 \frac{1^{\prime}}{}{ }^{\prime}$ long, and $15^{\prime \prime}$ or $20^{\prime \prime}$ broad, extended in the parallel of the equator; a small star precedes it, but is not involved. The following extremity of the ray is the brighter ...... | 2 |
| 386 | $\begin{array}{lll}10 & 15 & 9\end{array}$ | 8912 | 11 Roboris Caroli (Bode). A group of eight or ten pretty bright small stars, with very small stars, about $6^{\prime}$ diameter ................... . . | $2$ |
| 387 | 131250 | 3953 | A very small round nebula, about $10^{\prime \prime}$ diameter, bright immediately at the centre. A star of the 7th magnitude, about $4^{\prime}$ north of it .... |  |
| 388 | $1396 \quad 0$ | 3932 | A bright exceedingly well-defined rather elliptical nebula, about $1^{\prime}$ diameter, exceedingly condensed almost to the very edge, and gradually a little brighter to the centre. This is about $6^{\prime}$ north of M Centauri.-I have strong suspicion that this is resolvable into stars | 6 |
| 289 | 151634 | 39.59 | A very fine round pretty bright nebula, about $3^{\prime}$ diameter, gradually brighter towards the centre, and well defined at the margin: this is resolvable. With a power of 260 it has a beautiful globular appearance. The stars are considerably scattered on the south side.. | $8$ |
| 390 | $\begin{array}{lll}16 & 7 & 50\end{array}$ | 3947 | A very small nebula, about $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter, with a very bright nucleus, or else a very minute star in a small nebula.. I think the bright point is rather to the north side of the centre. There is a small star preceding, and another following, forming an obtuse triangle with the nebula | $2$ |
| 391 | 162238 | 39.22 | A very faint small nebula, about $30^{\prime \prime}$ diameter, with two brightish points in it, which I suspect to be exceedingly minute stars ............. . |  |
| 392 | 162323 | 3924 | A small faint nebula, about $25^{\prime \prime}$ diameter. These two nebulæ are nearly in the same parallel |  |
| 393 | $\begin{array}{lll}16 & 37 & 8\end{array}$ | 3913 | A small faint nebula, $12^{\prime \prime}$ or $15^{\prime \prime}$ diameter, with two small stars slightly involved in the following side |  |
| 394 | 173623 | $39 \quad 27$ | A very small round nebula, well defined, about $12^{\prime \prime}$ diameter, a star of the 12th or 14th magnitude near the preceding edge. The star is not involved. $\qquad$ | $1$ |
| 395 | $\begin{array}{lll}18 & 17 & 30\end{array}$ | 3953 | An extremely faint small round nebula, about $15^{\prime \prime}$ diameter, with two very minute points in it, which I suspect to be stars. The nebula is extremely faint, but pretty well defined............................ . . | 1 |
| 396 | $18 \quad 20 \quad 50$ | 3927 | A small round faint nebula, with a bright point in the centre, a star of the 7 th magnitude following | 1 |
| 397 | 93440 | 4026 | A very small faint round nebula, about $15^{\prime \prime}$ diameter, with two or three exceedingly small stars slightly involved in it, and another small star about $1^{\prime}$ south of it $\qquad$ | $1$ |
| 398 | $13 \quad 57 \quad 5$ | 4059 | An extremely faint nebula, about $4^{\prime}$ or $5^{\prime}$ long, and $2^{\prime}$ or $3^{\prime}$ broad, elliptical in the parallel of the equator. This is easily resolvable into minute stars, with no sensible condensation or compression towards any point | 1 |
| 399 | 154247 | 4012 | A small faint rather elliptical nebula, about $12^{\prime \prime}$ diameter, with a bright point in the north preceding side of the centre. This precedes a very pretty double star | 1 |
| No. | h $\begin{array}{lll}\boldsymbol{R} \\ \mathrm{m} & \\ \mathrm{s}\end{array}$ | S.P.D. | Description of the Nebulæ and Stars. $\begin{gathered}\text { No.of } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 400 |  |  | A pretty large faint nebula, about $6^{\prime}$ diameter, easily resolvable, round figure, with two rows of small stars following |
| 401 | $\begin{array}{lllll}16 & 23 & 17 & 4\end{array}$ | 4032 A | A very faint cluster of small stars, with a branch extended; the head of the cluster is rich in small stars |
| 402 | $17 \quad 11 \quad 9$ | $40 \quad 11$ A | A very fine round cluster of very small stars, slightly compressed to the centre, about $8^{\prime}$ diameter |
| 4031 | $17 \quad 29 \quad 30$ | 4049 A | A small round faint nebula, about $25^{\prime \prime}$ diameter, very slightly bright towards the centre ; a very small star is near the north edge, but is not involved, and a star of the 6 th magnitude preceding. |
| 404 | $17 \quad 38 \quad 20$ | 4034 | A very faint round nebula, about $1^{\prime}$ diameter, following a pretty bright small star |
| 405 | $18 \quad 55 \quad 24$ | $40 \quad 48$ | A small faint nebula, about $25^{\prime \prime}$ diameter, with a small star preceding it 1 |
| 406 | $21 \quad 7 \quad 36$ | $40 \begin{array}{ll}4 . & 4\end{array}$ | A small round nebula, about $12^{\prime \prime}$ or $15^{\prime \prime}$ diameter, very bright immediately at the centre, resembling a small star surrounded by an atmosphere. This is north following a star of the 6th magnitude.... 1 |
| 407 | $22 \quad 50 \quad 55$ | $40 \quad 1$ | A very small faint round nebula, with a bright point in the centre ... 1 |
| 408 | 04735 | 4138 | A pretty large rather ill-defined nebula, of a round figure, with a bright point, or small nucleus near the centre; the nebula is extremely faint almost to the very centre. There is a star of the 8 th or 9 th magnitude near the south preceding side, but not involved . . . . . . . . . . . 1 |
| 409 | 4. 356 | $41 \quad 47$ | A very small and very faint round nebula, about $20^{\prime \prime}$ diameter . . . . . 2 |
| 410 | $86-$ | 4126 | A curiously arranged group of pretty bright small stars of mixt magnitudes. This answers to the place of 310 Argûs (Bode), and is described by Lacaille as nebula with five small stars forming the letter T in it. There is no nebulosity in this place. 'The diameter of the cluster may be about 12..-Figure 16. is a very good representation of the group . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . |
| 411 | $12 \quad 55 \quad 30$ | 4131 | A beautiful long nebula, about $10^{\prime}$ long, and $2^{\prime}$ broad, forming an angle with the meridian, about $30^{\circ}$ south preceding and north following; the brightest and broadest part is rather nearer the south preceding extremity than the centre, and it gradually diminishes in breadth and brightness towards the extremities, but the breadth is much better defined than the length. A small star near the north, and a smaller star near the south extremity, but neither of them is involved in the nebula. I have strong suspicions that this nebula is resolvable into stars, with very slight compression towards the centre. I have no doubt but it is resolvable. I can see the stars, they are merely points. This is north following the 1st $\xi$ Centauri.-Figure 17. .......... 6 |
| 412 | $216 \quad 15 \quad 14$ | 4.4120 | A pretty large round nebula, about $4^{\prime}$ diameter, gradually a little brighter towards the centre. There is a small star on the north, and another on the south side, both involved. This is easily resolved into stars, with slight compression to the centre |
| 413 | $31629 \quad 0$ | 04135 | 5 A cluster of small stars, with a bright star in the preceding side. A very considerable branch or tail proceeds from the north side, which joins a very large cluster |
| No. | h $\begin{gathered}\text { R } \\ \mathrm{m} \\ \mathrm{m}\end{gathered} \mathrm{s}$ | S.P.D. | Description of the Nebulæ and Stars. $\quad$ No.of |
| :---: | :---: | :---: | :---: |
| 41 | $\begin{array}{llll}16 & 45 & 27\end{array}$ | 418 | A very faint ill-defined nebula, about $1 \frac{1^{\prime}}{\prime}$ or $\mathscr{Z}^{\prime}$ diameter, with two small stars in it ; easily resolvable, with slight compression to the centre. |
| 415 | $\begin{array}{lll}17 & 8 & 3\end{array}$ | 4110 | A small nebula, of a long oval figure, with a very small star in the centre, and three stars in a line following. |
| 416 | $17 \quad 10 \quad 15$ | 4125 | A faint ray of nebula extended in the parallel of the equator, about $2 \frac{I^{\prime}}{}{ }^{\prime}$ or $3^{\prime}$ in length, with two very minute stars in it: this is very feeble and ill-defined. A nebula precedes this . . . . . . . . . . . . . . . . . . . . . . |
| 417 | $1714 \quad 0$ | 4142 | A rather faint nebula, of an irregular round figure, $4^{\prime}$ diameter, slightly branched ; easily resolvable into stars, with slight compression of the stars to the centre $\qquad$ |
| 418 | 173356 | 4138 | An exceedingly faint nebula, about $2^{\prime}$ long, and $1^{\prime}$ broad, of an irregular figure, with two or three very minute points in it, which I suspect to be small stars. |
| 419 | $17 \quad 41 \quad 6$ | 41 | A very |
| 4.20 | 174511 | 4157 | A very small round nebula, with a minute star north of it, but not involved. A nebula follows this. $\qquad$ |
| 421 | 174523 | 4150 | A very faint small round nebu |
| 422 | $18 \quad 1020$ | 4147 | A faint round nebula, about $30^{\prime \prime}$ diameter. A pretty large nebula north following this |
| 423 | 181125 | 4159 | An angular group of extremely small stars resembling a faint nebula, with stars of some considerable magnitude in it; irregular figure, $4^{\prime}$ or $5^{\prime}$ long. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3 |
| 424 | 181650 | 41.23 | A very faint small round nebula, with two very minute stars involved in it. This is north following $\}$ Telescopii, a dusky greenish star of the 5 th magnitude |
| 425 | $19 \quad 5413$ | 4212 | A very small faint nebula |
| 426 | 33818 | 428 | A very faint nebula, about $1^{\prime}$ diameter, rather elliptical in the parallel of the equator ; with a brightish point or condensation of the nebulous matter, a little to the preceding side of the centre . . . . . . . . . |
| 42 | 34645 | 427 | A pretty large |
| 428 | 34737 | 420 | An extremely faint ill-defined small nebula. A pretty large nebula precedes this |
| 42 | $4 \quad 348$ | 4234 | A very small faint round |
| 430 | 85420 | 423 | A group of very small stars of mixed magnitudes, irregular figure, about $3^{\prime}$ diameter |
| 431 | $1356-$ | 4235 | A curiously curved line of small stars, of nearly equal magnitudes; two stars of 7th magnitude following |
| 432 | $1615-$ | 4252 | A cluster of $v$ |
| 433 | 172630 | 4248 | A round faint pretty well-defined nebula, $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter, south preceding a star of the 7th magnitude |
| 434 | $1731 \quad 0$ | 4229 | A star of the 7 th magnitude, accompanied by several small stars. This answers to the place of 68 Aræ (Bode), but there is no nebula .... |

| No. |  |  | Description of the Nebulæ and Stars. ${ }_{\text {N }}^{\text {No }}$ | No.of Obs. |
| :---: | :---: | :---: | :---: | :---: |
| 45 | 20 1216 | ${ }^{44} \times 17$ | An extremely small faint elliptical nebula, about $12^{\prime \prime}$ long and $8^{\prime \prime}$ broad, with a small bright point in the following extremity, which may be a star $\qquad$ | $1$ |
| 452 | $529 \quad 5$ | 4514 | A very faint small ill-defined nebula, with a very minute double star in it | $1$ |
| 453 | $844 \quad 0$ | $45 \quad 10$ | A group of ten or twelve pretty bright small stars, south following 409 Argûs. | $1$ |
| 454 | 163723 | 4533 | A faint nebula, about $4^{\prime}$ or $5^{\prime}$ diameter, irregular round figure, easily resolvable into stars; with stars of larger magnitudes scattered in the preceding side of it $\qquad$ | 6 |
| 455 | 164120 | 4523 | An extremely faint ill-defined nebula, easily resolvable into stars ; this is in the milky way. | 1 |
| 456 | 1649 - | 4531 | A very large patch of strong nebula, about $20^{\prime}$ long, and $16^{\prime}$ broad, rich in small and extremely minute stars. | 2 |
| 457 | 172340 | 4522 | A beautiful round nebula, about $5^{\prime}$ diameter, with a bright round welldefined disk or nucleus, about $15^{\prime \prime}$ diameter, exactly in the centre; this has the appearance of a planet surrounded by an extremely faint diluted atmosphere; there is a small star involved in the faint atmosphere: the atmosphere is at least $6^{\prime}$ diameter.-Figure 18. ...... | 7 |
| 458 | $17 \quad 3051$ | 4557 | A very faint nebula of some considerable extent; extended in the parallel of the equator; resolvable into extremely minute stars...... | 2 |
| 459 | 174020 | $45 \quad 2$ | A very extremely faint ill-defined nebula, south-following a star of the 7th magnitude |  |
| 460 | $17 \quad 45 \quad 30$ | $45 \quad 54$ | A very faint nebula, extended about $2 \frac{1}{4}$ in length, oblique to the equator, with a bright point in each extremity : the northern, I think, is a very small star; but the southern of the two, or the one at the south following extremity, is a small nucleus or condensation of the nebulous matter. This follows 16 Telescopii.-Figure 19. | 7 |
| 461 | 174933 | $45 \quad 55$ | A faint round nebula, about $40^{\prime \prime}$ diameter, gradually a little brighter in the middle | 1 |
| 462 | $17 \quad 5117$ | 4521 | A very small faint round nebula, about $12^{\prime \prime}$ diameter; a large nebula north preceding this | 1 |
| 463 | $18 \quad 3 \quad 7$ | 4547 | A small round pretty well-defined nebula, about $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter : a very small star near the following edge, but not involved-preceding $\sigma$ Telescopii. | $1$ |
| 464 | 182233 | 4545 | A very fine double nebula, very nearly equal, about $10^{\prime \prime}$ diameter; distance about $17^{\prime \prime}$; position in the parallel of the meridian: a small star follows $\qquad$ | $1$ |
| 465 | 18380 |  | An extremely faint nebula, rather of a fan shape, with the small end preceding ; it may be $3^{\prime}$ broad at the following extremity : there is a very minute bright point (or star) near the small end involved in the nebula |  |
| 466 | $359 \quad 5$ | $46 \quad 5$ | A small faint round nebula, about $25^{\prime \prime}$ diameter, a little brighter in the centre : a star of the 10th or 12th magnitude preceding the nebula. | 1 |
| No. | $\mathrm{h}_{\mathrm{h}} \begin{gathered}R \\ \mathrm{~m} \\ \mathrm{~m}\end{gathered}$ | S.P.D. | Description of the Nebulæ and Stars.No.of <br> Obs. |
| :---: | :---: | :---: | :---: |
| 46 | $\begin{array}{llll}5 & 9 & 25\end{array}$ | ¢ 4638 | An extremely faint nebula, about $50^{\prime \prime}$ diameter, round figure........ 1 |
| 468 | 93430 | 4644 | A very faint easily resolvable nebula, extended about $10^{\prime}$ long, and $4^{\prime}$ or $5^{\prime}$ broad : no central condensation. |
| 469 | $14 \begin{array}{lll}14 & 22 & 15\end{array}$ | 4636 | An exceedingly faint extended nebula, about $10^{\prime}$ long ; rather ill-defined 1 |
| 470 | $16 \quad 2953$ | 4659 | A round nebula, about $3^{\prime}$ diameter, slightly bright to the centre; easily resolvable; gradual central condensation evident. |
| 471 | 163535 | 4632 | A very faint small nebula, about $15^{\prime \prime}$ diameter; another small nebula north of this. |
| 4.72 | 171130 | 4645 | A faint nebula, about $2^{\prime}$ diameter, rather elongated, slightly bright towards the centre. I suspect this is resolvable: a line of small stars south $\qquad$ |
| 473 | $17 \quad 5514$ | 4622 | A very bright round highly condensed nebula, about $3^{\prime}$ diameter. I can resolve a considerable portion round the margin, but the compression is so great near the centre, that it would require a very high power, as well as light, to separate the stars; the stars are rather dusky |
| 474 | $\begin{array}{llll}17 & 58 & 7\end{array}$ | 4631 | A small faint elliptical nebula, about $20^{\prime \prime}$ diame |
| 475 | $\begin{array}{lll}23 & 7 & 9\end{array}$ | 4628 | A small faint nebula, rather elongated in the parallel of the equator, about $30^{\prime \prime}$ broad, and $40^{\prime \prime}$ long; there is a pretty bright point situated near the centre of the nebula : a small star precedes it ........... |
| 476 | 231058 | 4645 | A small faint round nebula, about $30^{\prime \prime}$ diameter: a double nebula follows this. $\qquad$ 2 |
| 477 | 231240 | 4653 | Two very small round nebulæ, nearly the same $\mathbb{R}$, and differing about $1^{\prime}$ in polar distances. $\qquad$ |
| 478 | 03623 | 4723 | A faint ray of nebula, with two very small stars in it . . . . . . . . . . . 1 |
| 479 | 12815 | 4740 | A very faint nebula, of a round figure, with two or three minute stars in it near the margin $\qquad$ |
| 480 | 35118 | 476 | A very faint ill-defined nebula, with two or three very small stars in it, and a small star following . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 481 | $1118 \quad 0$ | 4736 | A cluster of stars, about $10^{\prime}$ diameter, mixt magnitude. This precedes 25 Centauri (Bode.) $\qquad$ |
| 482 | 131444 | 4745 | A very singular double nebula, about $2 \frac{1^{\prime}}{2}$ long, and $1^{\prime}$ broad, a little unequal: there is a pretty bright small star in the south extremity of the southernmost of the two, resembling a bright nucleus: the northern and rather smaller nebula is faint in the middle, and has the appearance of a condensation of the nebulous matter near each extremity. These two nebulæ are completely distinct from each other, and no connection of the nebulous matters between them. There is a very minute star in the dark space between the preceding extremities of the nebula: they are extended in the parallel of the equator nearly.-Figure 20. is a good representation. |
| 483 | $1628 \quad 7$ |  | A cluster of very minute stars, of a round figure, about $4^{\prime}$ diameter, following v Normæ $\qquad$ |
| 484 | 16363 |  | A very small feeble nebula |
| No. | ¢ $\begin{gathered}\text { R } \\ \mathrm{m}\end{gathered}$ | S.P.D. | Description of the Nebulæ and Stars. $\quad$ No.of |
| :---: | :---: | :---: | :---: |
| 48 | $\begin{array}{llll}17 & 59 & 18\end{array}$ | $4{ }^{\circ} 7{ }^{3} 7$ | A round pretty well-defined faint nebula; about $45^{\prime \prime}$ diameter, north of a triangle of small stars. $\qquad$ |
| 486 | 183920 | 4744 | A very singular body resembling a star, with a very faint diluted atmosphere, $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter; it is paler than a star of the same magnitude, and precedes a pretty bright star....................... |
| 487 | 31120 | 4814 | A pretty bright round nebula, about $1 \frac{1^{\prime}}{2}$ diameter, very bright and condensed to the centre, and very faint at the margin ; with a very small star about $1^{\prime}$ north, but not involved $\qquad$ |
| 488 | $7 \quad 8 \quad 48$ | 4821 | An extremely |
| 489 | 8400 | 4843 | A very faint nebula, about $6^{\prime}$ diameter, with small stars scattered in it -in the milky way |
| 490 | 84032 | 4828 | A very large cluster of pretty bright stars, coarsely scattered, about $1^{\circ}$ diameter, following a star 5th magnitude, 396 Argûs (Bode.) ..... 2 |
| 491 | $\begin{array}{lll}9 & 716\end{array}$ | 4855 | A very small faint elliptical nebula, about $15^{\prime \prime}$ diameter; a very small star involved in the north extremity. |
| 492 | 102447 | 4843 | A pretty large faint nebula, of an irregular figure, easily resolvable. n. preceding 557 Argûs |
| 493 | 133540 | 4835 | A very small faint round nebula, about $10^{\prime \prime}$ diameter, gradually a little brighter in the middle; a star of the 7th magnitude north of the nebula $\qquad$ |
| 494 | $\begin{array}{llll}14 & 8 & 7\end{array}$ | 4829 | A very small faint nebula, south preceding a star of the 10th magnitude................................................................ 1 |
| 495 | $15 \quad 1430$ | 4822 | An exceedingly faint ray of nebula, about $1^{\prime}$ long, extended in the direction of the meridian : a group of small stars south of the nebula. |
| 496 | $16 \quad 28 \quad 5$ | 4835 | An extremely small feeble nebula. . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 497 | $16 \quad 2825$ | 4839 | A very small round nebula, about $10^{\prime \prime}$ diameter . . . . . . . . . . . . . . . 1 |
| 498 | $16 \quad 2950$ | 4825 | A very small round nebula, about $12^{\prime \prime}$ or $15^{\prime \prime}$ diameter. These three nebulæ are in the field together, and another small nebula follows, north $\qquad$ |
| 499 | 1642 - | 4825 | A cluster of pretty bright stars of mixt small magnitudes, considerably congregated to the centre, about $10^{\prime}$ diameter, with a large branch of very small stars extended on the north side; this is 150 Scorpii (Bode.) |
| 500 | $17 \quad 318$ | $48 \quad 55$ | A small nebula, about $20^{\prime \prime}$ diameter, round, or rather elliptical, pretty well defined, with a bright point in the centre |
| 501 | $17 \quad 3748$ | 4841 | Two very small stars, with a small nebula between them ; both the stars are involved in the nebula, but the nebula is not in a line between the stars $\qquad$ |
| 502 | $17 \begin{array}{lll}17 & 38\end{array}$ | $48 \quad 26$ | A group of small bright stars of nearly equal magnitudes .......... 2 |
| 503 | $17 \quad 4027$ | $48 \quad 13$ | A very small faint elliptical nebula, about $10^{\prime \prime}$ diameter, preceding a very small star, and following a group of stars |
| 504 | $\begin{array}{llll}18 & 9 & 0\end{array}$ | 4836 | A small round rather well-defined nebula, about $20^{\prime \prime}$ diameter : a very |
| No. | $\boldsymbol{A}$ | S.P.D | Description of the Nebulæ and Stars.No.of <br> Obs. small star is involved in the northern margin, and a small star precedes it, distant $1^{\prime}$ |
| :---: | :---: | :---: | :---: |
| 505 | $\begin{array}{llll}18 & 33 & 8\end{array}$ | ${ }_{48}^{0} 8{ }^{\prime}$ | A small rather elliptical nebula, about $15^{\prime \prime}$ long, with a small bright point preceding the centre. |
| 506 | $18 \quad 3313$ | 4830 | A very faint nebula, about $25^{\prime \prime}$ diameter. I suspect a very feeble ray proceeding towards the other nebula, but not connected. This nebula is rather confused and ill-defined. |
| 507 | 0650 | 4950 | A beautiful long nebula, about $25^{\prime \prime}$ in length ; position north preceding, and south following, a little brighter towards the middle, but extremely faint and diluted to the extremities. I see several minute points or stars in it, as it were through the nebula: the nebulous matter of the south extremity is extremely rare, and of a delicate bluish hue. This is a beautiful object.-Figure 21. |
| 508 | $\begin{array}{lll}5 & 7 & 0\end{array}$ | 4945 | An exceedingly bright, round, well-defined nebula, about $1 \frac{\mathrm{I}^{\prime}}{2}$ diameter, exceedingly condensed, almost to the very margin. This is the brightest small nebula that I have seen. I tried several magnifying powers on this beautiful globe; a considerable portion round the margin is resolvable, but the compression to the centre is so great, that I cannot reasonably expect to separate the stars. I compared this with the 68 Conn. des Tems, and this nebula greatly exceeds the 68 in condensation and brightness |
| 509 | $12 \quad 15 \quad 0$ | 4932 | A very curiously branched group of small stars in the form of an inverted $F$, about $1^{\circ}$ in length : a bright star of the 7 th magnitude in the preceding extremity of the figure. |
| 510 | 123810 | 4944 | A faint nebula, about $12^{\prime \prime}$ or $15^{\prime \prime}$ diameter, a little brighter to the centre, very faint at the margin |
| 511 | 12404 | 4930 | A pretty large faint nebula |
| 512 | $1418 \quad 8$ | 4916 | A very small round nebula, about $14^{\prime \prime}$ diameter, a little brighter in the middle, with a very small star involved in the margin of the nebula |
| 513 | 15510 | 4928 | A very singular body ; it is not larger than a star of the 12th magnitude. With a higher power it has a considerable hairy appearance; it is very different from a star of the same magnitude, and is not dusky, but rather pale ; preceding $\omega$ Lupi about $6 \frac{1^{\prime}}{}$ in $\mathbb{\pi}$, and $6^{\prime}$ or $7^{\prime}$ north of the star |
| 514 | 161320 | 4946 | A round cluster of small stars of nearly equal magnitudes, about $12^{\prime}$ diameter, considerably congregated to the centre, not rich in small stars. This answers to the place of 44 Normæ (Bode), but there is no nebula |
| 515 | 163329 | 4930 | A small faint round nebula, about $10^{\prime \prime}$ diameter, with a bright point or nucleus in the centre |
| 516 | $18 \quad 055$ | $49 \quad 4$ | A very faint small ill-defined nebula, with two very minute stars in it : they are not near the centre, but involved in the north and south sides : this is north preceding two stars of the 6th magnitude .... 1 |
| 017 | 184048 | 4919 | A small faint nebula, rather elongated in the direction of the meridian. The south extremity is brightest and broadest, and about $15^{\prime \prime}$ in length 1 |
| No. | $\mathrm{h}_{\mathrm{h}} \begin{gathered}\text { R } \\ \text { m }\end{gathered}$ | S.P.D. | Description of the Nebulæ and Stars. $\quad \begin{gathered}\text { No.of } \\ \text { Obs. }\end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 518 | 22 46 | ${ }_{4}{ }^{\circ} 9{ }^{2} 4$ | A very faint nebula extended preceding and following, about $1 \frac{1}{2}^{\prime}$ long, and $20^{\prime \prime}$ or $25^{\prime \prime}$ broad; a little brighter in the middle, or rather nearer the north preceding extremity; the south following extremity is very ill defined |
| 519 | $227 \quad 7$ | $50 \quad 4$ | A faint nebula, of an irregular round figure, about $30^{\prime \prime}$ diameter, north of a bright small star . $\qquad$ |
| 520 | 164316 | 5050 | A cluster or group of small stars, about 4' diameter, with branches extending south preceding, and north following, with considerable compression of the stars towards the centre of the group. This answers to the place of 155 Scorpii (Bode), but there is no nebula . |
| 521 | $16 \quad 50 \quad 0$ | 5034 | Two rows or lines of pretty bright small stars in the parallel of the equator, with a multitude of minute stars resembling faint nebula, $5^{\prime}$ diameter $\qquad$ |
| 522 | $17 \quad 5 \quad 44$ | 5044 | An exceedingly faint nebula, about $1 \frac{1}{2}^{\prime}$ long, and $1^{\prime}$ broad, elliptical in the direction of the meridian, with two or three very small stars in it |
| 523 | $17 \quad 4018$ | 5058 | A small round pretty well-defined nebula, about $10^{\prime \prime}$ diameter |
| 524 | $17 \quad 43$ | 5021 | An extremely faint nebula, about $40^{\prime \prime}$ diameter, following a pretty bright small star. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 525 | $17 \quad 5030$ | 5013 | A very small, very faint round nebula, with a pretty bright point, immediately at the centre $\qquad$ |
| 526 | $\begin{array}{llll}18 & 8 & 58\end{array}$ | 5052 | A small elliptical nebula, about $25^{\prime \prime}$ long, and $15^{\prime \prime}$ broad, preceding a small star . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 527 | $18 \quad 980$ | 5011 | A faint round nebula, about $1^{\prime}$ diame |
| 528 | $18 \quad 50 \quad 56$ | 50 | A very small round nebula, about $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter. . . . . . . . . . . 2 |
| 529 | $22 \quad 630$ | 5056 | An extremely faint small nebula, $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter. I think there is rather a brightish point in the preceding side; the nebula is south following a pretty bright small star $\qquad$ |
| 530 | 04723 | 5124 | A pretty large faint nebula, irregular round figure, $6^{\prime}$ or $7^{\prime}$ diameter, easily resolvable into exceedingly minute stars, with four or five stars of more considerable magnitude; slight compression of the stars to the centre $\qquad$ |
| 531 | $5 \quad 5 \quad 23$ | 5155 | A long or rather elliptical nebula, about $2^{\prime}$ long, and $50^{\prime \prime}$ broad, a little brighter in the middle, and well defined. There is a group of small stars on the north side. $\qquad$ |
| 532 | $5 \times 50$ | 5137 | An elliptical nebula, about $1 \frac{1^{\prime}}{}$ long, brightest and broadest in the middle, well defined. The preceding nebula and this, are very similar in appearance and brightness $\qquad$ |
| 533 | 51317 | 5154 | An extremely small faint nebula, with a brightish point near the centre 1 |
| 53 | 55250 | 5159 | A very small extremely |
| 535 | 745 | 5159 | A pretty large faint nebula, easily resolvable into small stars, or rather a cluster of very small stars, with a small faint nebula near the north preceding side, which is rather difficult to resolve into exceedingly small stars. This is probably two clusters or nebula in the same line; the small nebula is probably three times the distance of the large nebula $\quad 5$ |
| No. |  |  | Description of the Nebulæ and Stars. $\quad$ No.of |
| :---: | :---: | :---: | :---: |
| 536 | $16 \quad 17 \quad 55$ | 5133 | A round nebula, about $1^{\prime}$ diameter, bright immediately at the centre, and very faint from the bright nucleus to the margin. Another observation makes the figure rather elliptical, with a bright nucleus .... 2 |
| 537 | 171325 | 513 | An extremely faint ill-defined nebula, extended in the direction of the meridian, about $4^{\prime}$ or $5^{\prime}$ long, and $35^{\prime \prime}$ broad ; the brightest part is near the south following extremity. There are two small stars near the south extremity in a line parallel with the nebula . |
| 538 | 172130 | 5123 | An extremely faint nebula, about $3^{\prime}$ or $4^{\prime}$ diameter, with three minute stars in it |
| 539 | $17 \quad 45 \quad 20$ | 5121 | A small faint nebula, about $15^{\prime \prime}$ diameter, round, pretty well defined, two bright stars south $\qquad$ |
| 540 | $17 \quad 54 \quad 7$ | 5136 | A very small round nebula, about $14^{\prime \prime}$ diameter, a little brighter to the <br>  |
| 541 | $18 \quad 353$ | 5157 | A very small and very faint round nebula, with a bright point exactly in the centre, resembling a very small star surrounded by an atmosphere or burr $\qquad$ |
| 542 | 181249 | 5154 | A small round or rather elliptical nebula, preceding a small star of the 10th magnitude $\qquad$ |
| 543 | 184256 | 516 | A very small round nebula, $10^{\prime \prime}$ or $12^{\prime \prime}$ diameter, pretty well defined, and sensibly brighter in the centre; in a line between two small stars 3 |
| 5 | 19150 | 5124 | A very |
| 545 | 22220 | 515 | Six or eight pretty bright small stars in the form of the letter T, about $4^{\prime}$ long.-Figure 22. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2 |
| 546 | $23 \quad 2612$ | 5146 | An extremely feeble nebula, ill defined; it appears rather elongated oblique to the equator; it is north following a star of the 7th magnitude, and also north of the small stars .......................... . . . |
| 547 | 31724 | 5213 | A small faint |
| 548 | 31737 | 523 | A rather bright round nebula, about $1 \frac{1^{\prime}}{2}$ diameter, gradually condensed to the centre. $\qquad$ |
| 549 | $5 \quad 2 \quad 27$ | 5217 | A faint nebula, about $2 \frac{I^{\prime}}{2}$ long, ănd fully $1^{\prime}$ broad, extended south preceding and north following; a very minute star near each extremity, not involved. $\qquad$ |
| 550 | 64056 | 5246 | A very small faint round nebula, with a very small star near the centre. The star is not exactly in the centre. $\qquad$ |
| 551 | 153112 | $52 \quad 2$ | Three or four small stars involved in faint nebula. I think there is rather a condensation of the nebulous matter near the following extremity |
| 552 | $1535 \quad 3$ | 5250 | A beautiful round pretty bright nebula, about $2^{\prime}$ diameter, pretty well defined .................................................................. . 3 |
| 553 | $16 \quad 20 \quad 7$ | 5223 | A very faint nebula of a round figure, about $2 \frac{1}{2}^{\prime}$ diameter, with two small stars in it $\qquad$ |
| 554 | 163516 | 52.44 | A very fine bright round nebula, $50^{\prime \prime}$ diameter, gradually condensed to the centre |
| No. | h ${ }_{\text {h }}^{\text {IR }}$ | S.P.D. | Description of the Nebulæ and Stars. | No.of Obs. |
| :---: | :---: | :---: | :---: | :---: |
| 555 | 165320 | ${ }^{5} 217$ | Two very minute stars involved in a small faint nebula. This precedes a very curious line of small stars $\qquad$ | $1$ |
| 556 | $16 \quad 54 \quad 35$ | 5218 | A curiously curved line of pretty bright small stars, with many very small stars mixt | 3 |
| 557 | 173830 | $52 \quad 59$ | A small well-defined rather bright nebula, about $20^{\prime \prime}$ diameter; a very small star precedes it, but is not involved; following $\gamma$ 'Telescopii | $5$ |
| 558 | $17 \quad 480$ | 5212 | A faint nebula, of an irregular round figure, about $2^{\prime}$ diameter, with several extremely small stars in it | 1 |
| 559 | $1853 \quad 0$ | 52. 2 | A singular dark space in the heavens, of an irregular figure, about $1 \frac{1}{2}{ }^{\circ}$ long, and $1 \frac{12^{\circ}}{}{ }^{\circ}$ broad; no stars except exceedingly minute stars in the greatest portion of this space. There is a bright star in each side.. | $\begin{array}{ll} \circ \\ \hline \end{array}$ |
| 560 | 191228 | 5251 | A very small star surrounded with faint nebula like an atmosphere; other stars in the field are not accompanied with this appearance; the nebula is very faint, and the star is very near the centre ...... |  |
| 561 | 212722 | 5245 | A small faint round nebula, | . 1 |
| 562 | 33739 | 5314 | A pretty large faint round nebula, about $3 \frac{1^{\prime}}{}$ diameter, gradual slight condensation to the centre, very faint at the margin | 2 |
| 563 | 8 | 5312 | A large cluster of stars of mixt magnitude, rather extended figure, not rich in very small stars | 2 |
| 564 | $\begin{array}{llll}9 & 8 & 17\end{array}$ | $53 \quad 53$ | A pretty large faint nebula of a round figure, $6^{\prime}$ or $8^{\prime}$ diameter; the nebulosity is faintly diffused to a considerable extent. There is a small nebula in the north preceding side, which is probably a condensation of the faint diffused nebulous matter; the large nebula is resolvable into stars with nebula remaining. | 2 |
| 565 | $13 \quad 0 \quad 17$ | 5315 | A very small and very faint elliptical nebula, north preceding $m$ Centauri (Bode); the nebula is in a line between two small stars, and is rather nearer the northern star of the two . . . . . . . . . . . . . . . . . . . . . | 1 |
| 566 | 13.40 | 5310 | A very extensive cluster of stars of the 8th and 9th magnitudes, with several stars of the 7 th magnitude in it; not rich in very small stars | $\begin{array}{ll} \mathrm{h} & 1 \end{array}$ |
| 567 | 17. 740 | $53 \quad 27$ | A very faint small ill-defined nebula, with a small star in it, with two small stars south of it, but not involved | $1$ |
| 568 | 172830 | $53 \quad 6$ | A very faint cluster of very small stars, resembling faint nebula; the stars are considerably congregated to the centre, irregular round figure $\qquad$ |  |
| 569 | 175414 | 5345 | A pretty large faint nebula, round figure, $5^{\prime}$ or $6^{\prime}$ diameter, resolvable into very minute stars, with nebula remaining ..................... | $2$ |
| 570 | 182420 | $53 \quad 9$ | A very faint nebula, with an extremely faint ray or tail, about $4^{\prime}$ long, proceeding from it south rather following; there are two very small stars slightly involved in the head, and also two very minute stars involved near the central line of the ray or tail.-Figure 23. ..... | $1$ |
| 571 | 183840 | 5316 | A pretty large faint nebula, ill defined, with a number of stars of small magnitude scattered in it | $1$ |
| 57 | 184553 | 5323 | A very small round nebula, with a very minute star in the north side. . | . |
| 573 | 184915 | $53 \cdot 10$ | A beautiful bright round nebula, about $3 \frac{\frac{1}{2}^{\prime}}{}$ diameter, moderately and |  |
| No. |  | S.P.D. | Description of the Nebulæ and Stars. <br> gradually condensed to the centre. This is resolvable. The moderate condensation, and the blueish colour of the stars which compose it, give it a very soft and pleasant appearance. This is rather difficult to resolve, although the condensation is not very great . . . . |
| :---: | :---: | :---: | :---: |
| 574 | 33120 | 54 23 | A rather faint, pretty well-defined elliptical nebula, about $1^{\prime}$ long, and $50^{\prime \prime}$ broad, a little brighter to the centre |
| 575 | $5 \quad 19 \quad 20$ | 54, 24 | A very small extremely faint nebula, with a bright point or nucleus in the centre |
| 576 | $\begin{array}{lll}5 & 24 & 19\end{array}$ | 54.40 | A faint small nebula, n. preceding s Columbæ . . . . . . . . . . . . . . . . . . 1 |
| 577 | $\begin{array}{llll}6 & 35 & 9\end{array}$ | 54, 29 | A very small elliptical nebula, about $15^{\prime \prime}$ or $20^{\prime \prime}$ diameter ........... 1 |
| 578 | 64222 | $54 \quad 11$ | A pretty bright round nebula, $3^{\prime}$ or $4^{\prime}$ diameter, moderately condensed to the centre. This is resolvable into stars. |
| 579 | $16 \quad 55 \quad 23$ | 54.3 | An extremely feeble small nebula, ill defined . . . . . . . . . . . . . . . . . . . . 1 |
| 580 | $\begin{array}{llll}17 & 39 & 30\end{array}$ | 54.49 | A very faint small nebula, rather extended. . . . . . . . . . . . . . . . . . . . . 1 |
| 581 | $\begin{array}{llll}17 & 43 & 35\end{array}$ | 54, 32 | A small round nebula, $10^{\prime \prime}$ diameter, bright at the centre . . . . . . . . . 1 |
| 582 | 1811140 | $54 \quad 2$ | A very minute group of small stars, about $1^{\prime}$ diameter, with a bright star in the centre, and extremely minute stars mixt, resembling faint nebulæ |
| 583 | 181723 | 54.43 | A very small exceedingly faint nebula, with a bright point a little on one side of the centre. The nebula is a very few seconds in diameter |
| 584 | 18200 | 54 30 | A very small nebula, $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter, pretty well defined, bright at the centre |
| 585 | 182652 | 54.53 | A round well-defined nebula, about $45^{\prime \prime}$ diameter, moderately condensed very gradually to the centre |
| 586 | $19 \quad 247$ | 54. 58 | A very small nebula, with a bright point near the centre, rather on the south side. I cannot say whether this be a star or not . .......... 1 |
| 587 | 192025 | 5425 | An extremely faint nebula, about $25^{\prime \prime}$ long and $8^{\prime \prime}$ or $10^{\prime \prime}$ broad, elongated in the parallel of the equator |
| 588 | $19 \quad 5830$ | 54 7 | A very curious nebula, very faint and well defined, with an exceedingly bright point in the centre, resembling a small star surrounded by an atmosphere about $30^{\prime \prime}$ diameter ; the bright point is exactly in the centre, a bright star $12^{\prime}$ or $15^{\prime}$ south . |
| 589 | $20 \quad 3 \quad 7$ | 54. 29 | A faint ray of nebula, about $30^{\prime \prime}$ or $40^{\prime \prime}$ long, with two very small stars in it; the stars are not in the centre, but nearer the south side .... |
| 590 | 023.7 | 5541 | A faint round nebula, about $2^{\prime}$ diameter . . . . . . . . . . . . . . . . . . . . . . 1 |
| 591 | $\begin{array}{llll}3 & 25 & 4\end{array}$ | $55 \quad 36$ | A very faint small ill-defined nebula . . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
| 592 | 5 34.32 | $55 \quad 24$ | A small round pretty well-defined nebula; another similar small nebula north |
| 593 | $5 \begin{array}{lll}5 & 34 & 39\end{array}$ | $55 \quad 27$ | A small round rather well-defined nebula . . . . . . . . . . . . . . . . . . . . . . 1 |
| 594 | 54040 | 5538 | A small faint nebula, with a ray shooting out on the north side...... 1 |
| 595 | $17 \quad 3212$ | 5511 | A round faint nebula, about $1^{\prime}$ diameter . . . . . . . . . . . . . . . . . . . . . . 1 |

| No. |  | S.P.D. | Description of the Nebulæ and Stars. No |  |
| :---: | :---: | :---: | :---: | :---: |
| 61 |    <br> 19 m 8 <br> 19 9  | $57{ }^{\circ} 28$ | A very small feeb |  |
| 616 | 62530 | 5840 | An ill-defined faint nebulosity of some considerable extent, with several small stars scattered in it | $1$ |
| 617 | 111035 | 5812 | A very faint pretty large nebula, about $2^{\prime}$ broad and $4^{\prime}$ long, very faint at the edges. The brightest and most condensed part is near the south following extremity ; a small star is involved in the north preceding extremity, and there are two small stars near the south extremity, but not involved | 2 |
| 618 | 16. $9 \quad 0$ | 5825 | A very small star of the 14th magnitude, surrounded by a considerable atmosphere or nebulous appearance, about $8^{\prime \prime}$ diameter. The star is perfectly in the centre. There are two small stars of rather larger magnitude, south following | $1$ |
| 619 | $18 \quad 3 \quad 30$ | $58 \quad 9$ | A pretty well-defined round nebula, about $2^{\prime}$ diameter, slight condensation to the centre | $2$ |
| 620 | $19 \quad 3054$ | 5835 | A beautiful large round bright nebula, about $6^{\prime}$ or $7^{\prime}$ diameter, gradually condensed to the centre, easily resolvable. | 2 |
| 621 | 1296 | 5940 | A very small round nebula, about $15^{\prime \prime}$ diameter, pretty well defined, bright at the centre | $1$ |
| 622 | 9390 | 5945 | A faint elliptical nebula, $2 \frac{1^{\prime}}{}$ long and $1 \frac{1^{\prime}}{2}$ broad, with a small star involved in the preceding margin. | 1 |
| 623 | $13 \quad 29 \quad 54$ | 5915 | A very small and very bright nebula, very much resembling a small star, surrounded by a very strong burr; this is a singular body .. | $2$ |
| 624 | $18 \quad 46 \quad 7$ | 59.18 | A very beautiful nebula, with a very bright round well-defined disk or nuclei, about $15^{\prime \prime}$ diameter, surrounded by a gradually decreasing light or chevelure, about $1 \frac{1^{\prime}}{4}$ diameter ; this is exceedingly bright immediately at the centre | 4 |
| 625 | $313-$ | 60 | (This is the place nearly), a round nebula, about $2^{\prime}$ diameter, very loright at the centre, and very faint from the centre to the margin, almost equally faint from the bright nucleus to the margin. There are two pretty bright small stars following the nebula rather north . | $1$ |
| 626 | 7470 | $60 \quad 27$ | A cluster of small stars, of an irregular round figure, with faint nebula, easily resolvable. The 257 Argûs is south following. ............ | $1$ |
| 627 | 16510 | 6011 | 160 Scorpii (Bode) is a pretty bright round nebula, considerably condensed, and rather suddenly bright at the centre, pretty weil defined at the margin. | 2 |
| 628 | $13 \quad 15 \quad 3$ | $61 \quad 2$ | 185 Centauri (Bode) is a very beautiful round nebula, with an exceedingly bright well-defined planetary disk or nucleus, about $7^{\prime \prime}$ or $8^{\prime \prime}$ diameter, surrounded by a luminous atmosphere or chevelure, about $6^{\prime}$ diameter. The nebulous matter is rather a little brighter towards the edge of the planetary disk, but very slightly so. I can see several extremely minute points or stars in the chevelure, but I do not consider them as indications of its being resolvable, although I have no doubt it is composed of stars | $5$ |
| 629 | $17 \quad 825$ | 6155 | A very small faint round nebula, about $8^{\prime \prime}$ or $10^{\prime \prime}$ diameter, bright in the centre. There is a very small star south of the nebula, distant about $10^{\prime \prime}$ from it, but is not involved or connected with the nebula | $\begin{array}{ll} \mathrm{n} & \\ \mathrm{n} & \\ \mathrm{a} & 1 \end{array}$ |


The Nebula Minor, to the naked eye, has very much the appearance of a small cirrus-cloud; and through the telescope, it has very much the appearance of one of the brighter portions of the milky way, although it is not so rich in stars of all the variety of small magnitudes, with which the brighter parts of the milky way in general abound, and therefore it is probably a beautiful specimen of the nebulosity of which the remote portion of that magnificent zone is composed.

Plate IV. is a very correct drawing of the nebula, which if faithfully represented by the engraver, will convey a better idea of it than I could possibly hope to do by words.

Its situation in the heavens is between $0^{\mathrm{h}} 27^{\prime}$ and $1^{\mathrm{h}} 6^{\prime}$ or $7^{\prime}$ in right ascension, and between $74^{\circ} 30^{\prime}$ and $72^{\circ} 53^{\prime}$ in south declination. Its position is oblique to the equator, south preceding and north following; and its form is nearly that of a parallelogram about two degrees long and fully one degree broad, and may be arranged according to its natural general appearance, into bright, faint, and very faint nebulosity. The bright nebula forms the south extremity and the preceding side, and is equal to the breadth of the nebula at the south end, and gradually diminishing in breadth and brightness till it terminates in an accumulation of the nebulous matter in the north extremity. The bright portion of the nebulous matter is not uniformly bright, but has something the appearance of small cumular clouds, although not very decidedly marked, and which I cannot well delineate. The faint nebula which is on the following side, is broad at the north extremity and gradually diminishing in breadth to where, with the other faint shade, it joins the following side of the brighter portion of the nebula, near the south extremity. The very faint shade is also on the following side, and extends from the northern to the southern extremity of the nebula, and is rather more strongly marked at what I would call its terminating border, than where it joins or blends with the faint shade; and I suspeet it is faintly connected with a patch of faint nebula which follows at a little distance, and is represented in the figure.

There are two pretty bright small nebulæ situated in the following margin of the bright shade, and a considerable number of faint nebulæ and accumulations of the nebulous matter variously situated throughout, and also in the patch which follows ; but they are described in the general catalogue.

The figure of the Nebula Major is so irregular, and divided into so many parcels, that without the assistance of letters of reference it will be impossible for me to attempt a description. However, the appearance and construction of the different nebulæ which compose it, are more minutely described in the general catalogue. I will here only attempt to describe the apparent connection of one portion or branch of the nebulous matter with another. I find the existence of extensively diffused faint nebulosity throughout a great portion of this quarter of the heavens, from the Robur Caroli to the Nebula Major, and I can even trace its existence in the vicinity of Nebula Minor.
The Nebula Major is situated between $4^{\mathrm{h}} 46^{\prime}$ and $6^{\mathrm{h}} 3^{\prime}$ in right ascension, and between $66^{\circ} 30^{\prime}$ and $71^{\circ} 30^{\prime}$ of south declination; but the body or principal portion of the nebula is situated between $5^{h} 7^{\prime}$ and $5^{\mathrm{h}} 40^{\prime}$ in right ascension, and between $69^{\circ}$ and $71^{\circ}$ of south declination, and is composed of very strong bright nebula, very rich in small nebulæ and clustering stars of all the variety of small magnitudes : I compared this portion of the nebula with Sobieski's Shield, which in this latitude is near the zenith. The observation says, "The Nebula Major very much resembles the brightness in Sobieski's Shield ; it is scarcely so large, but I think it is equally bright." Another observation says, "The ridge or brighter portion of Nebula Major is more condensed than the Shield." Plate V. is a correct representation of Nebula Major.

The bright ridge or body of the nebula is extended obliquely to the equator, north preceding and south following, and the following extremity breaks off rather suddenly, faint, decreasing in brightness in a south following direction to the distance of fully a degree and a half towards the star $\beta$, which is slightly involved in the narrow extremity : preceding the star marked $\gamma$, a considerable increase of the brightness of the nebulous matter takes place; another accumulation takes place at $\delta$ about $15^{\prime}$ diameter. There is a small star north with a small nebula preceding, but neither of them are involved in the accumulation of the nebulous matter. $\delta$ and $\varepsilon$ are connected by streams of unequal brightness, $\varepsilon$ is pretty large and is rich in small stars and nebulæ : opposite $\delta$ and $\varepsilon$, towards the principal body of the nebula, the nebulous matter is very faint and of unequal brightness; $\varepsilon$ is south following a beautiful group of nebulæ of various forms and magnitudes, on a ground of strong nebulosity common to all, with the 30 Doradûs (Bode) in the centre.



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& \text { * }
\end{aligned}
$$






+4x+exxy



(as)



South of the 30 Doradûs a pretty bright accumulation of the nebulous matter takes place, extended, preceding and following, and is joined by pretty strong nebula to the arm $\pi$, which proceeds in a northerly direction from the body of the nebula; the bright star near the north extremity of the arm is not involved in the bright nebula. Between the arms $x$ and $\lambda$ the nebula is very faint, and the bright accumulations of the nebulous matter on the north side are all connected together by nebulosity of various brightness, and are connected to the main body by the arms $x$ and $\lambda$; and I strongly suspect the nebula at $\varphi$ is connected by very faint nebula with the group surrounding the 30 Doradûs. The accumulation of the nebulous matter at $\xi$ is connected with the preceding extremity of the body of the nebula, by nebula increasing in brightness towards the neck of the body, but I cannot say that the $\psi$ is connected with the $\xi$. Two arms proceed from the neck towards the south, which are connected by faint nebula between them, which gradually increases in brightness towards the junction of the arms; between the arm $\eta$ and the body the nebulosity is faint, of various shades of brightness, and from the arms $\eta$ and $\nu$, to the head $\xi$, the nebulosity is of various degrees of brightness.

I have made a very good general representation of the various appearances of the milky way, from the Robur Caroli to where it crosses the zenith in Scorpio. Plates VI. VII. and VIII. This was generally made by the naked eye, except in particular places where I suspected an opening or separation of the nebulous matter, when I applied the telescope. However, the dark space on the east side of the Cross, or the black cloud as it is called, is very accurately laid down by the telescope: the darkness in this space is occasioned by a vacancy or want of stars; it contains only two or three of the 7th magnitude, and very few of the 8 th or 9 th magnitude. I may here remark that the Nebula Minor is not so bright as the Nebula Major.

Neither of the two nebulæ, Major and Minor, are at present in the place assigned to them by Lacaille; and it has been suspected that nebulous appearances change their form and also their situation. Yet, although the situation of these nebulæ, as given by Lacaille and compared with their present situation, would be favourable to such a surmise, still we must consider the dimensions of the instruments with which he made his observations, and make a reasonable allowance.

However, the 30 Doradûs is at present involved in pretty strong and pretty bright nebula, and is also situated very near the brightest part of the Nebula Major; and it would be singular if its relative situation was the same when Lacaile observed it as it at present is ; that he should have assigned to it a place in the Dorado and not in the Nebula Major, to which, from its nature, it was not only nearly allied, but in which it was actually involved. This circumstance, it must be confessed, is favourable to the conjecture; and the 47 Toucani is similarly situated, with respect to distance, from the Nebula Minor, although it is not involved in nebulosity or connected with the nebula.

When reflecting on these circumstances, I was led to examine the present state of these nebulæ, and find that scarcely any nebulæ exist in a high state of condensation, and very few in a state of moderate condensation towards the centre. A considerable number appear a little brighter towards the centre, and several have minute bright points immediately at the centre. Others have small or very minute stars variously situated in them, but many of those bright points in, or near, the centre may be stars, for the Nebula Major in particular is very rich in small stars. But the greater number of the nebulæ appear only like condensations of the general nebulous matter, into faint nebulæ of various forms and magnitudes, generally not well defined; and many of the larger nebulous appearances are resolvable into stars of mixed small magnitudes ; and a great portion of the large cloud is resolvable into innumerable stars of all the variety of small magnitudes with strong nebula remaining, very similar to the brighter parts of the milky way. And whether the remaining nebulous appearance may not be occasioned by millions of stars disguised by their distance, is what I cannot say.

But a critical examination of these nebulæ would not only be a valuable treasure for the present generation to possess, but an invaluable inheritance for them to transmit to posterity. For it must be by the comparison of observations, made at distant periods of time, that we can draw any satisfactory conclusions concerning the breaking up or the greater condensation of the nebulous matter. It seems beyond a doubt that stars must assume a nebulous appearance when situated at immense distances; but whether all nebulous appearances are occasioned by stars, is a problem apparently beyond the reach of man to resolve, without the assistance of analogy, which ought not to be

Distributton of Nebulae in the Southern Hemisphere, from the Pole to the Zenith

| 5 |  | 1. hour R. | 2. hows A. | 3.7ous . A. | 4.hous P. . | 5 5. hous . . . | 6. hous is. | 7. hauss R. | 8. hous A. | 9. Dusis AR. |  | -11. hous As. | 12, hausis R. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{12}$ |  |  |  |  | - |  |  |  |  |  |  |  |  |
| ${ }^{13}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{15}$ | -...0. | ::\%:... |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{16}$ |  | : \% : \% : | - |  |  |  |  |  |  |  |  |  |  |
| ${ }^{27}$ | -0. | -0.0 |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{18}$ | - | - |  |  |  |  | - |  |  |  |  |  |  |
| , |  |  |  |  | -8:80 | :\%:\%: $:$ |  |  |  |  |  |  |  |
| 20 |  |  |  |  | P0.0. |  |  |  |  |  |  |  | - |
|  |  |  |  |  |  | $\ldots$ | : $: 8: 8 \cdot$ |  |  |  |  |  |  |
| 22 |  |  |  | $\bullet \cdot \bullet$ |  |  | - |  |  |  |  |  |  |
| 23 |  |  |  |  | -•• | $\because \because \because \cdot$ |  |  |  |  |  |  |  |
|  |  |  |  |  |  | $\bullet \bullet \cdot{ }^{\circ}$ |  |  |  |  |  | - |  |
|  |  |  |  |  | - |  |  |  |  | - | - |  |  |
| 26 |  |  |  |  |  |  |  |  |  |  | - | - |  |
| 27 |  |  |  |  |  |  |  |  |  |  |  | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  | - |  |
| 29 |  |  |  |  |  |  |  |  |  |  |  | - |  |
| ${ }^{30}$ |  |  |  |  | - |  |  |  |  |  | - | - |  |
| 3 |  |  |  |  | $\bullet$ |  |  |  |  |  | - |  |  |
| 32 |  |  |  |  |  |  |  |  |  |  | - | - |  |
| 33 |  |  |  |  |  | - |  |  |  |  | - |  |  |
| 3 |  |  |  |  | -• |  |  |  |  | - |  |  | - |
| 35 |  |  |  |  | $\bullet$ |  |  |  |  |  |  | - |  |
| ${ }^{36}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{37}^{37}$ |  |  |  | - |  |  |  |  |  | - |  |  |  |
| ${ }^{38}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{40}$ |  |  |  |  |  |  |  |  |  | - |  |  |  |
| 4 | - |  |  |  |  |  |  |  |  |  |  |  | - |
| 42 |  |  |  | $\cdots$ |  |  |  |  |  |  |  |  |  |
| ${ }^{13}$ |  | - |  | - |  |  | - |  |  |  |  |  |  |
| ${ }^{4}$ |  |  |  |  |  |  |  |  |  |  | - | - |  |
| ${ }^{45}$ |  |  |  |  |  | - |  |  |  |  |  |  |  |
| ${ }^{66}$ |  |  |  |  |  | - |  |  |  | - |  |  |  |
| ${ }^{178}$ | - | - |  | - |  |  |  |  |  |  |  |  |  |
| ${ }^{78}$ |  |  |  | - |  |  |  |  | - | - | - |  |  |
| ${ }^{49}$ | - |  |  |  |  | - |  |  |  | - |  |  | - |
| 50 |  |  | - |  |  |  |  |  |  |  |  |  |  |
| ${ }_{5}^{51}$ | - |  |  |  |  | $\therefore \quad$. |  |  |  |  |  |  |  |
| 52 <br> ${ }_{5}^{53}$ |  |  |  | $\bullet \bullet$ |  | $\because$ | - |  |  |  |  |  |  |
| ${ }_{5}^{53}$ |  |  |  | - |  |  |  |  |  |  |  |  |  |
| ${ }_{35}$ |  |  |  | - |  | $\bullet$ | $\bullet$ |  |  |  |  |  |  |
| ${ }_{5}^{56}$ | - |  |  | - |  | $\bullet \cdot$ |  |  |  |  |  |  |  |
| ${ }^{56}$ | - |  |  |  | $\bullet$ | $\bullet$ |  |  |  | - |  |  |  |
| 57 <br> 58 |  |  |  |  |  |  |  |  | - |  |  |  |  |
| ${ }^{58}$ |  |  |  |  |  |  | - |  |  |  |  | - |  |
| $\frac{39}{60}$ |  | - |  |  |  |  |  |  |  | - |  |  |  |
| 6 |  |  |  |  |  |  |  | $\bullet$ |  |  |  |  |  |

- Lenith of Parramatta, in hours of R. and Degrees of Polor Distance.

This Yrans:MDCCCXXVIII. Plate IX.puor.



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trusted too freely, especially with objects almost equally beyond the reach of our hands and telescopes. Several of the very faint and delicate nebulæ can be resolved into stars, and also many of the brighter nebulæ are composed of stars : but there are a greater number which have not yet been resolved or shown to consist of stars; and it is not improbable, that " shining matter may exist in a state different from that of the starry."

James Dunlop.

P.S. Plate IX. has been added, at the suggestion of Mr. Herschel, to illustrate the distribution of the Southern Nebulæ. The nebulæ are laid down without any regard to their form, magnitude, brightness, or nature; and but little to their strict places, only so far as to cause every rectangular space on the map, which occupies one degree in Polar distance and one hour in Right ascension, to contain the same number of nebulæ as actually occur in the heavens, according to the observations detailed in this paper; the object of the plate being solely to give an idea of their arrangement generally in the heavens.





