XIX. *Observations of Nebulæ and Clusters of Stars, made at Slough, with a Twenty-feet Reflector, between the years* 1825 *and* 1833.

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THE following sheets contain the results of observations begun about the year 1825, and prosecuted with more or less assiduity from that time up to the commencement of the present year, in pursuance of a design to review the nebulæ and clusters of stars discovered by my father; and perhaps, in so doing, to add to their number, and to extend in some degree our knowledge of the nature and physical construction of that mysterious and interesting class of bodies. It was my original intention to have deferred the publication of these observations until I should have been able to have presented their results to the Royal Society in the more complete form of a general catalogue of nebulæ and clusters visible in this latitude; in which all my father's nebulæ should have been included, and their places determined by at least two observations. To have done this, however, would have required several years' additional work; and the want of an extensive list of nebulæ arranged in order of right ascension, having, since the recent improvements in the achromatic telescope, and the increased assiduity of astronomers in the detection and observation of comets, become continually more pressing, and the deficiency more and more complained of, I have thought it on the whole a preferable course to supply that deficiency so far as I am able, not by the production of a catalogue pretending to a precision and a completeness I am unable yet to give it, but by simply stating the individual results of such observations as I have hitherto made; with no other preparation than that of reducing them all to a common epoch, arranging them in order of right ascension, and bringing together, in every case where the same object has been more than once observed, all the observations of it which occur. By so doing, two distinct ends are accom-

plished. In the first place, the series of observations thus arranged can be used, as a catalogue, for reference, and may serve the purposes of one, until a more perfect one can be produced—(*valeat quantum*). In the next place, the results so stated, carry with them their own weight and evidence. Where several observations of one and the same object occur, their agreement or disagreement will enable every one to assign to them their proper degree of credit,—to appretiate the amount of error, both accidental and inherent, to which the system of observation adopted is liable; and being thus impressed with a due notion of the degree of latitude with which each result is to be interpreted, he will readily perceive what reliance can be placed on single observations, unchecked by the context.

My mode of observing,—the general character of the instrument employed, and the principal sources of error to which its determination of the places of objects is liable, are stated in considerable detail in my five catalogues of double stars discovered with it, published in the Memoirs of the Astronomical Society. To these, therefore, I will refer for the particulars in question: but it will be right here to mention, that a much greater latitude of error must unavoidably subsist in observations of nebulæ than in those of stars. Many of these objects present a large and ill-defined surface, in which it is not always easy to say where the centre of greatest brightness is situated. Vast numbers of them are so extremely faint as to be with difficulty discerned at all, or not until they have been some time in the field of view, or are even just about to quit it. In such cases the observations become hurried and uncertain; and this peculiar and fertile source of error and mistake is greatly increased by their excessively irregular distribution over the heavens,—crowded together in some places so as to allow hardly any interval between their transits,—while in others whole hours elapse without a single nebula occurring in the zone of the heavens under examination. In these crowded parts of the heavens, it is not only the number, but the variety and interest of the objects which distract attention and render it scarcely possible to proceed with that methodical calmness and regularity which is necessary to ensure numerical correctness, especially when the observer has continually present to his mind the rarity of his opportunities. It is only in the months of March, April, and May that the richer parts of the heavens can be advantageously observed, and

then only in the *complete* absence of the moon, and of twilight. When to these conditions we add those which arise from the variable and uncertain nature of our climate, it will be seen that a number of circumstances by no means frequently concurring, is necessary to produce a night in which it is possible to make any great progress in a review of nebulæ; and that in fact there is hardly any branch of astronomy which has a greater tendency to create a sense of hurry, of all things the most fatal to exact observation.

The observations which are here registered comprise, more or less, about 2500 nebulæ and clusters of stars, which is the number of those observed by my father; but of the two collections, only about 2000 are common to both, the remaining 500 of mine being new. It may serve to show the close and rigorous nature of my father's scrutiny, when I state, that among these 500 I can call to mind only one very conspicuous and large nebula, and only a very few entitled to rank in his first class, or among the "bright nebulæ." By far the greater proportion of them are objects of the last degree of faintness, only to be seen with much attention and in good states of the atmosphere and instrument. This is so far satisfactory, that it shows pretty evidently our knowledge of the nebulous contents of the northern hemisphere to be at length nearly complete, and that to make a further step, the powers of an instrument like the 40-feet reflector will be required.

It has generally been my practice to make some kind of sketch or drawing, sometimes more, sometimes less elaborate, of any nebula at all remarkable which presented itself. In many instances careful drawings have been made and repeatedly compared, at distant intervals, with the objects they have been intended to represent. The difficulty of making satisfactory representations of such objects is, however, extreme; and of those which accompany this paper, as specimens of the various classes of objects which the heavens present, I am rather disposed to apologize for the incorrectness than to vaunt the accuracy. General resemblance, however, I can vouch for; and where fidelity in details has been attempted, I should hope that glaring departures from nature will hardly be found to subsist. Among the figures will be found representations of some very extraordinary objects, which have not hitherto been sufficiently pointed out to the notice of astronomers, and of which indeed some of the

most remarkable peculiarities have escaped every former observer. These are briefly noticed in the descriptions appended to each observation, and more distinctly and at large in the explanations of the plates. Meanwhile it is only necessary for any reader to cast his eye over the figures, to be satisfied that many of these mysterious objects possess a symmetry of parts, and a unity of design, which, singular as their constitution must appear, strongly mark them as systems of a definite nature, each complete in itself, and subservient to some distinct purpose of which it is in vain for us to conjecture the nature.

The manner in which the observations are presented in the following pages requires little explanation. The first column contains a general number for convenience of future reference; the second, the number or name under which each nebula is to be found, either in my father's catalogues (in which case his class and number is set down,) or in the brief but important list furnished by MESSIER in the Mémoires de l'Académie des Sciences for 1771, and the Connoissances des Temps for 1783 and 1784, which are indicated by the letter M. When no previous mention of a nebula or cluster could be found in the writings of former observers, it is designated as *Nova*. A very few are due to STRUVE. These are noted by Σ.

The third column contains the right ascension, and the fourth the north polar distance, for 1830·0. The manner in which these elements are obtained from the rough observations, or the process of reduction employed throughout the work, will be fully stated in an Appendix annexed to the observations, as well as other matters of detail which may be advantageously deferred. Under the head of each nebula, as above mentioned, all its observations are brought together, and for distinctness' sake, the hour and minute in $\mathcal{R}$, and the degree in N.P.D. are only once set down for each, viz. in the upper line, or that which contains the earliest $\mathcal{R}$ of each. When the subsequent observations in $\mathcal{R}$ fall into the next minute, the seconds are counted on beyond 60; and when those in polar distance pass into the next degree, the same contrivance, i. e. counting the minutes beyond 60, is resorted to, to avoid doubling the initial entries and so misleading the eye. When no $\mathcal{R}$ or no P.D. has been observed, the fact is indicated by dotted lines. When only a rough approximation has been obtained (a case unfortunately too common), or when, none having been procured, the

necessary datum has been taken from the working list book, this is indicated by the sign ±. What is here meant by the working list will be explained in the Appendix.

The column headed "Description and Remarks" contains the abbreviated description taken down, at the time of observation, from the sweeping book. The following is the system of abbreviation used.

B	denotes	Bright.	l	denotes	long *or* little.
b	———	brighter.	M	———	in the middle.
br	———	broad.	m	———	much.
c	———	considerably.	N	———	nebula.
Cl *or* cl	———	cluster.	neb	———	nebulous *or* nebulosity.
comp	———	compressed.	n	———	north.
D *or* d*	———	double star.	p	———	pretty, preceding.
E	———	extended, elliptic, *or* elongated.	pos	———	angle of position.
e	———	extremely, excessively.	R	———	round.
F	———	Faint.	r	———	resolvable.
f	———	following.	S	———	small.
fig	———	figure.	s	———	south, suddenly.
g	———	gradually.	st	———	star, stars.
i *or* irr	———	irregular.	sc	———	scattered.
L	———	large.	v	———	very.

* Star.
☾ Moon above the horizon.
☾☾ Moon very troublesome.
⊕ Globular cluster.

In all the descriptions the following order is, or ought to be, adhered to. First the degree of brightness is mentioned, characterized by e B, v B, p B, B, p F, F, v F, e F. Next, the size, generally indicated by L and S with their adverbial adjuncts e, v, p. Thirdly, the general form, as R, E, m E, &c. Fourthly, the degree and rate of condensation, as b M, s b M, v g l b M, &c. If the nebula be resolvable, it is next expressed by r. After these come more distinct numerical particulars, as the estimated diameter, indicated by the number of seconds it was judged to subtend; the measured, or estimated length, breadth, or position with the meridian, &c.; and any other remarks which may have appeared desirable to note at the time. Clusters are characterized as Rich, or poor, or compressed, loose, or scattered, &c. For example:—

"v B; v L; l E; v g p m b M; 50″ l; 45″ br; pos 29°·3 by microm. a ✳ 9 m 45° n p dist 80″." Which expanded runs thus:

"Very bright; very large; little extended; very gradually pretty much brighter in the middle; 50″ long; 45″ broad; angle of position (reckoned always from the north, and from a meridian, in the direction north, following, south, preceding,) measured 29°·3 by the micrometer. A star of the ninth magnitude is situated 45° north preceding the centre of the nebula, and at a distance from it of 80″, (both by estimation)." *Measured* angles are always marked as above, in degrees and decimals.

Finally, the last column contains the sweep in which the observation occurs, numbered regularly on in order of time up to sweep 427, with only one interruption of the order, viz. that the sweeps marked 43, ... 49 precede sweep 1 in order, having been written down on separate sheets in the year 1823, before the commencement of my more regular plan of observation, and mislaid.

Observations of Nebulæ and Clusters of Stars.

No.	Synonym.	*R* 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1	III. 868	0 0 1·6	86 19 58	Very Faint (v F); Large (L); very gradually a little brighter in the middle (v g l b M); 40″ in diameter (40″).	95
		2·5	19 21	Bright (B); Small (S); very suddenly much brighter in the middle (v s m b M); 12″ long; much extended (m E); a star precedes.	300
2	III. 866	0 0 2·0	57 30 40	No description	102
		4·7	30 51	Small stars and nebulosity	104
3	II. 591	0 0 3·0	75 8 37	e F; R; b M; a star 10 m, n p, dist. 5′	174
		3·6	7 41	e F; R; v g v l b M; 40″	175
		7·5	7 23	F; R; v g b M; 60″	11
		...	.....	v F; R; l b M	1
4	Nova?	0 0 19·6	63 13 29	p B; R; b M; 20″ (? if not IV. 15)	172
5	IV. 15	0 1 50±	63 15 0	A star 15 m with a burr *R* from Cat	178
6	II. 853	0 1 58·5	57 35 27	p B; p L; irreg fig; (very clear sky)	106
		59·8	35 33	p B; E	100
7	III. 861	0 3 32·6	59 54 15	No description	102
		36·9	53 31	p F; L; R; (very foggy)	104
		...	54 30:	e F; S; R	178
8	IV. 58	0 3 52·5	18 25 17	A ✱ 10 m with strong neb atmosph 15″ diameter. Exactly R and p suddenly fading away makes a D ✱ class 5 with a ✱ preceding.	378
		55·5	25 24	The L ✱ of a D ✱ strongly affected with a neb burr. Pos 241°·4; Δ *R* = 25ˢ; 10 and 12 m.	380
		59·4	25 43	A star 11 m with a luminous atm 30 or 40″ diam.	228
9	Nova.	0 4 12·4	60 1 48	e F; has ✱ 12 m 45″ dist; pos 325°?	100
10	Nova.	0 4 26·5	59 39 22	e F; v S; not to be seen but in the clearest night	106
11	III. 183	0 6 23±	72 24 21	v F; S; E	92
12	Nova.	0 6 36·4	78 30 ±	About this place a considerable space seems affected with nebulosity.	14
13	II. 241	0 6 45·4	73 36 50	B; S; s b M	92
14	III. 428	0 7 42·6	97 15 48	F; R; p s b M; 15″	186
15	V. 16	0 9 32·8	60 52 10	An extr F cluster with neb 5′ diam. Several ✱ s 15...18 m. Seen distinctly, but there is also unresolved neb.	178
16	Nova.	0 12 21·6	68 34 46	F; S; R; p s b M; 15″	166
17	Nova.	0 12 32·1	68 29 16	E; perhaps bicentral; makes trapezium with three B stars.	166
18	Nova.	0 13 36·8	61 11 30	F; R; g b M; 15″	178
19	II. 257	0 13 37·2	80 27 49	v F; p L; R; g b M	15
20	Nova.	0 16 0·2	29 36 39	A p S, p compressed cl; 3′ diam st 11...18 m in 2 or 3 principal branches. If this be VI. 35, there must be a mistake in my father's obs or mine of 6^m in *R*.	216

No.	Synonym.	$\mathcal{R}$ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
21	III. 148	0 17 5·4	61 43 52	Not v F; p L; R; b M; 40″. Seen in moonlight	114
		5·8	43 46	p B; R; p s b M; 20″	178
22	Nova.	0 17 36·6	19 33 2	A v loose, p rich cl; ✻s 9...12 m; ✻ 9 m in M taken	378
23	III. 869	0 20 6·5	88 5 38	v F; S; close to a d ✻. The s p of two	95
		9·0	6 27	F; S; b M; n f a d ✻; the s p of two neb	93
24	VIII. 79	0 20 27·1	30 43 3	A ✻ 9 m about M of a v L, coarse sc rich cl of ✻ s 9...13 m which more than fills field.	213
25	II. 854	0 20 31·5	88 4 18	p B; l E in meridian; the n f of two	95
		33·4	4 57	B; E; b M; 20″	93
26	II. 855	0 21 27·3	88 51 16	p B; R; b M; ☾, yet a p good obs	108
		27·8	51 14	e F; b M; has a s ✻ 3′ dist; pos 150° ±	110
		28·7	51 4	p F; R; l b M; 25″; a good obs	113
		...	54 4::	Excess F ☾ and haze. P D no reliance; much past meridian when taken, and wanting a great correction.	93
27	Nova.	0 23 5·8	96 5 43	F; p L; R; v g l b M; 30...40″; has a ✻ 8.9 m, dist 5′; pos 75° ±	186
28	Nova.	0 23 31·7	27 39 17	A loose cl; ✻ s 11 and 12 m; 10′ diam; place that of a double ✻ (h 1033) whose $\mathcal{R}$ is erroneously stated in my 4th Catalogue.	219
29	Nova.	0 23 53·3	42 26 30	v F; v L; irr R; 4..5′ diam; loses itself insensibly; has a ✻ 11 m in centre.	207
30	II. 478	0 25 26·2	100 38 31	v F; p L; E; v g l b M; 60″	310
31	III. 467	0 25 43·0	103 35 56	e F; S; R; 15 or 16″	373
32	III. 476	0 27 8·6	66 58 46	Has a ✻ 7 m, 5′ dist; pos of neb from ✻ 195°·5	166
33	III. 871	0 28 28·6:	88 57 23::	e F; a doubtful observation	112
		29·2	59 59	v F; R; b M; 20″. A star 11 m pos 225° ±, dist = 80″	113
34	Nova.	0 29 13·5	5 36 24	Cl v L p Rich 150...200 st 10...18 m; more than fills the field	381
35	II. 707	0 29 33·1	42 35 56	p B; L; R; g b M; full 60″ diam.	390
36	Nova.	0 29 58·5	29 52 27	Cl L; p rich; irreg R; 8′ diam; straggling; ✻s 11...15 m	219
37	Nova.	0 30 17 ±	87 35 0:	v F; L; close to a ✻ 15 m. $\mathcal{R}$ by III. 595, which this precedes 25ˢ·5.	95
38	II. 479	0 30 22·2	99 56 21	v F; R; sky rather dull	310
39	III. 872	0 30 29·2	90 4 37	p F; p s b M; 25″	113
		29·2:	4 5	The s p of two, and probably a third. Cloudy	112
		29·3	4 45	p B; p m E; b M; 40″ l.	371
		30·1	3 49	F; R; b M; ☾, but certainly seen	108
		32·8	4 42	F; p L; R; b M.	110
40	II. 856	0 30 33·2	87 52 50	p B; S; R; b M.	95
41	II. 860	0 30 33·8	90 1 50	p B; R; b M; 30″	371
		34·2	1 49	F; R; p s m b M; 30″	113
		35·1	0 9	F; ☾, but certainly seen; a stellar centre	108
		35·2	1 28	v F; R; l b M; 40″; the n f of 2; hazy	112
42	III. 595	0 30 42 ±	87 37 ±	p B; R; the f of 2. $\Delta\mathcal{R} = 25^{s}\cdot5$; Δ P D = 2′	95

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
43	III. 873	0 30 47·7	90 4 37	v F; L; E; 60″. The last of 3 on the parallel of the first ..	113
		50·7	5 30	v F; E; v g l b M; 60″	371
44	V. 18	0 31 8·1	49 14 45	p B; v L; m E; pos 160...170°; 15′ l; 7′ br; a faint suspicion of a nucleus; ☾.	183
45	V. 36	0 31 10·7	50 11 30	A very large space filled with neb	180
46	II. 452	0 32 1·2	104 48 51	B; R; p s b M; 25″	307
		1·5	48 21	B; R; p g b M	373
		2·7	47 32	p B; R; p s b M; (a thick haze)	308
47	II. 209	0 32 30·4	65 25 47	p B; R; g b M; 25″	172
		...	26 15	p F; R; g b M; 20″	392
48	II. 480	0 32 59·2	100 56 56	not v F; S; g b M; 10..15″.....	310
49	III. 244	0 32 59·2	111 58 54	e F; l E, n f to s p	293
50	M. 31	0 33 26·3	49 39 40	The great nebula in Andromeda	180
51	M. 32	0 33 27·8	50 4 7	The companion of the great nebula. e B; p L; s b M to a * 10 m; 40″; a small star follows it 11ˢ·5.	183
		.....	.....	Viewed. v B R; p s b M; 30″; a * 13 m follows 11ˢ·0	180
52	VIII. 78	0 33 35·5	29 8 37	A fine L, loose cl; stars 9.10 m on a dark ground; no small stars. Place that of a D (h 1046).	219
53	Nova.	0 33 47·9	58 20 49	e F; S; R; has a * 13 m to s, dist 20″	106
54	III. 146	0 34 29·2	60 20 26	not v F; R; b M; 15″	177
		29·4	21 17	F; R; l b M; 30″; ☾☾, yet distinctly seen	114
55	III. 485	0 37 14·9	106 30 51	v F; S; R; has * 10 m 3′ s	307
56	V. 25	0 38 30·5	102 48 36	v F; diffused neb involving stars	373
		31·2	47 57	A small constellation in a v diffused neb	308
57	V. 20	0 38 44·8	111 40 49	e F; v L; v m E; v g l b M; 10′ l; pos 172°·0. Has no B * in it, but a * 8.9 m at some dist n p.	293
58	III. 204	0 38 54±	71 19 40	v F; R; follows a * 6.7 m 40ˢ and is 1½′ n of it. It is near 2 v s st. If this be III. 204, my father's P D is 5′ wrong Æ by working list.	312
59	II. 609	0 38 55·4	63 18 17	F; R; b M. A coarse D * precedes	114
		57·5	18 5	p B; R; s b M; 15″	178
		57·6:	18 35:	v F; R; b M; 15″	392
		57·7	18 51	p B; R; p s b M; 20″	172
60	II. 611?	0 39 3·4	63 18 6	Not v F; R; b M; 15″. Query if not the same as II. 609	177
61	V. 1	0 39 11·7	116 12 55	A v L, m E, v B neb. (See figure 52.) Observed also in sweep 292, but no place taken.	306
62	II. 472	0 39 12·9	102 24 31	v F; L; R; g b M; 30″.....	373
63	Nova.	0 39 24·0	93 47 14	e F, (through fog.) Makes obtuse-angled triangle with 2 st ..	97
64	II. 621	0 39 24·4	93 42 32	F; E; 30″ l; barely seen through fog	96
65	III. 153	0 40 36·2	58 39 26	F; S; R; b M; has a * 8 m nearly s, 4 or 5′ dist	104
		36·4	39 12	p B; p L; R; p s b M; has * 9 m, s f, dist 3′	100
		37·0	38 59	p B; E; b M; has * 7 m 3ˢ·5 f, 4′ s	106
		37·6	39 20	p B; S; R; b M; a * 8 m to s, dist 5′.....	102

No.	Synonym.	$\mathcal{R}$ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
66	III. 463	0 41 28·8	96 7 37	Very doubtful; ☾	40
		31·1	8 3	No description.	186
67	II. 446	0 42 2·5	92 49 50	Not v F; R; p s l b M; 30″; a * 8·9 m follows rather to s Δ $\mathcal{R}=5^{s}\cdot5$.	371
68	III. 955	0 42 7±	99 35 1	F; S; R. $\mathcal{R}$ from my father's obs	310
		.....	36 0	v F; R; p g b M	315
69	III. 429	0 42 25·7	97 58 53	A fine double neb; the preceding only seen by my father. p B; S; s m b M. The f is v F; S; R; pos = 60° (30° n f); dist of centres 40″. The neb join at borders.	186
70	Nova.	0 42 28·0	97 59 13		
		.....	.....	The prec p B; the foll v F. They form a double nebula, which is described by my father only as an extended single one.	187
		.....	.....		
71	I. 159	0 42 29·6	43 22 6	B; S; R; v g l b M; 20″. Approaching to planetary; makes a v obtuse-angled triangle with 2 st 10 m.	390
72	III. 477	0 43 24·6	66 34 36	e F; R; has a * 15 m f dist = 30″	166
		...	35 51 : :	e F; S; has a * near	172
73	III. 439	0 43 27·4	93 9 5	v F; S; R; b M; seen, but hardly discernible	96
		28·0	8 56	Not e F; S; R; g b M	97
74	VI. 20	0 43 50·7	117 30 30	(nisi $\mathcal{R}=44^{m}\ 25^{s}\cdot7$.) A fine rich, not v comp L cluster	292
75	Nova.	0 44 14·9	58 26 49	e F; S; R. The faintest object imaginable; (night wonderfully clear.)	106
76	Nova.	0 47 25·7	78 50 39	A small cluster of p closely scattered stars	15
77	Nova.	0 47 53·2	92 41 15	p F; S; E; 15″	371
78	Nova.	0 48 18·3	60 38 30	p B; R; g b M; 10″	178
		18·8	37 46	F; v S; R; b M; 6″	177
79	II. 210	0 48 33·4	60 34 57	p B; R; g b M; has * 9 m 45° s f, dist. 3′	114
		34·3	33 45	B; R; p s b M; 20″	178
		35·3	33 54	B; p L; g b M; 25″	177
80	II. 433	0 51 15·3	98 29 36	F; L; E; 50″. Sky not very clear	186
		15·4	29 36	Not v F; L; E; g l b M; has * 10 m $20^{s}\cdot5$ f in the parallel.	187
81	III. 191	0 53 32·0	95 9 41	v F; S	96
		35·9	9 26	Precedes by $1^{m}\ 37^{s}$ a star 8.9 m; a * 10 m between	97
82	II. 434	0 54 45·4	97 15 35	F; R; s b M, to * 13 m; 20″; a * 14 m 10° n f 20″ dist	187
		...	15 2	F; S; r	40
		...	16 ±	p B; R; 20″; hazy	186
83	Nova.	0 55 54·8	28 43 47	A small cl 2′ in diam. Place that of the D * h 1070 whose $\mathcal{R}$ in my 4th Catal is 2^{m} wrong.	219
84	II. 215	0 57 52·6	58 23 50	p B; R	100
		54·0	23 55	p B; not v S; b M	106
		54·2	23 46	F; R	104
85	II. 216	0 57 54·6	58 27 ±	p B; R	100
		56·0	25 55	p B; S; s b M	106
		56·2	26 11	F; p L; R; b M	104

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
86	II. 217	0 58 0·2	58 30 ±	F; R; b M; 5 or 6′ s of II. 216	104
		1·6	32 ±	p B; R. P D requires an uncertain correction, being taken much out of the meridian.	100
		3·5	29 55	p B; p L; g b M	106
87	II. 218	0 59 0·6	57 46 50	p F; b M nearly to a ✳; between 2 stars	102
88	I. 54	0 59 0·6	51 15 8	F; S; R; s b M. It is bright 3ᵈ or F 2ᵈ class (sky perfectly clear), and = ✳ 14 m. One of a group of 5 or 6 st 15 m.	188
		4·6	15 3	v F; v S; 1 E; g b M; 10″. Allowing for the ☾ &c. this cannot be a 1st class neb; no other near it.	183
89	II. 224	0 59 58·9	55 12 6	B; R; g b M; 30″	105
		59·5	11 41	p B; R; p g b M; 30″	168
90	III. 154	1 2 46·6	58 46 50	p B; S; R; b M	102
91	III. 592	1 4 9·2	91 12 44	v F; R; s b M	113
92	III. 593	1 4 14·4:	91 13 59::	No desc. Place estim from II. 447	113
93	II. 447	1 4 19·7	91 8 59	F; R; v s b M to a ✳	113
94	Nova.	1 4 35·6	30 46 28	A star 8 m the chief of a small loose cluster	213
95	Nova.	1 4 36·4	57 11 26	F; S; v s b M	106
96	Nova.	1 6 50·1	59 52 16	v F; E; a ✳ 9 m n p and a S ✳ n f at the extremity of the nebula	106
97	VII. 42	1 8 33·1	32 34 8	a D ✳ 10 m, pos 324°·5, dist 12″, in the midst of a p rich L cl which fills the field. The stars are 10 m; one of 7 and 1 of 8 m in the s f part.	213
98	Nova.	1 10 22·8	58 11 27	v F; e S; stellar	106
99	III. 250	1 10 23·9	87 34 48	No description	95
100	III. 577	1 11 37·1	50 23 49	e F; S; R; v g l b M; 15″; ☾	183
101	Nova.	1 12 13·7	83 52 32	e F; p L; R; has a red ✳ 7.8 m 45° s p	118
102	III. 156	1 12 25·5	57 27 ±	v F; so that I had difficulty in finding it again when it had quitted the field.	100
103	III. 252	1 12 57·7	85 37 58	p B; L; R; b M; 30″	95
		58·2	37 51	B; L; s v m b M, and losing itself imperceptibly; r in centre with 320; ✳ 7 m in parallel 1ᵐ f.	300
104	Nova.	1 13 23·8	57 42 47	v F; E; has a D ✳ to s	106
105	III. 594	1 13 27·2	89 56 36	v F; L; E; pos by diag 60°·0 ±; l b M; 90″ l	113
106	III. 158	1 13 38·5	57 26 20	p B; p L; R; through fog	102
		39·5	26 9	p B; R; b M. N.B. nebulæ numerous hereabouts	100
107	Nova.	1 13 56±	57 46 ±	It precedes III. 159 by about 10ˢ, and is half a field to the south of it	106
108	III. 159	1 14 6·1	57 38 17	p B; p L; b M	106
		8·7	37 56	e F; R	104
109	III. 160	1 14 8·4	57 36 21	v F; pos from III. 159 = 15°·0; dist = 2′±	106
110	Nova.	1 14 26·9	56 59 21	v F; v S	105
111	III. 169	1 14 53·5	57 5 56	F; S	105
112	II. 252	1 14 58·4	77 59 19	v L; irr R; v g l b M; by diagram at least 3′ in diameter; a remarkable object. Is closely followed by the D ✳ h 13; see fig 38.	15
		63·0	57 57	e F; L; R; 60″; has a ✳ 9 m 20° s f, dist 100″. (N.B. This place and the former description to be preferred.)	173

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
113	III. 167	1 15 4·5:	57 26 5:	Precedes III. 168, and is 2′ north	102
114	III. 168	1 15 8·0:	57 28 5	p B; R.	102
115	II. 461	1 15 43·4	89 9 52	B; p L; R; b M.	110
		51·7	9 44	v F; R; b M. This or the Æ of sweep 110 mistaken 10^s	113
116	III. 253	1 15 46·5	87 4 43	p B; E like a comet, pos 135°·0 ±; 60″ l	95
117	I. 151	1 15 52·5	81 21 17	v B; p L; R; p s m b M; 60″; 4 st near	118
118	Nova.	1 16 3·2:	56 10 58::	p B; v S; s b M. The preceding of two	105
119	III. 556	1 16 25±	81 38 57	Not v F; L; R; b M. 40″. Æ brought up from my father's obs not having been taken.	118
120	III. 171	1 16 43·2	56 11 28	p B; p L; g b M; the following of two	105
121	II. 462	1 16 46·4	89 7 33	Barely, but certainly seen; ☾	108
		47·8	7 30	B; p L; R; b M	110
122	II. 463	1 17 59·2	88 52 9	p F; R; p s b M; 30″	113
		62±	52 27	p B; S; E from p to f; b M; "has a granulated" (i. e. a resolvable) "appearance".	110
123	III. 560	1 18 0·4	53 41 53	v F; E; v g l b M; near a * 13 m	188
124	Nova.	1 18 12·2	28 35 19	A fine rich cluster 5′ diam; irreg fig; (windy)	216
125	Nova.	1 19 29·1	58 33 21	v F; S; R	106
126	Σ. 131	1 21 58·9	30 11 18	A fine cl; R; rich; rather coarse; 6 or 8′ diam; stars 10 ... 11 m. One of STRUVE's "acervi".	213
		65·7	11 42	The chief * in a cl VI or VII class 8′ diam, which has one v red * near the middle; stars 9 ... 12 m.	219
127	Nova.	1 22 6·1	57 15 53	v F; p L; g b M	106
128	I. 100	1 22 48·4	97 44 18	B; R; p g m b M; 15 ... 20″	318
		48·5	45 13	B; R; g m b M; 60 ... 90″; between clouds and in thick haze. Must be v B in clear weather.	39
		48·6	44 48	v B; R; p s b M; 25″. (Seen also sw 40, but no determination of the place obtained).	186
129	Nova.	1 23 1·6	91 48 7	v F; R; b M; 25″	113
130	III. 431	1 23 5·5	97 46 8	v F; R; 15″	318
131	V. 17 } M. 33 }	1 24 15·6	60 13 9	Enormously L; v g b M. The nucl taken; has * 12 m, n f the nucl. The diffused neb extends 15′ s and as much nearly to n. It has irregularities of light, and even feeble subordinate nuclei and many small stars. Probably V. 17 is part of the diff neb of M 33.	177
132	II. 4	1 24 23·9	97 53 32	p B; R; a * 6 m follows $47^s·5$ and is 40″ n	40
133	III. 150	1 24 36·2	60 7 6	v S; almost uniformly B. Place by rough comparison with the nucl of M 33, with which its pos = 51°·1 Δ P D = 6′ 3″ ±.	177
134	Nova.	1 25 41·6	57 13 29	v F; p s b M. Stellar	106
135	III. 174	1 26 11·1	57 11 34	p F; p s b M. Stellar, or like a star blurred	106
136	Nova.	1 26 37·5	57 28 43	p B; p L; b M; precedes a * 2^m $51^s·0$	102
137	II. 282	1 26 48±	98 12 0:	p B; R; is s f a * 8 m distant 10′	186
138	III. 454	1 27 16·7	90 12 22	v F; not v S; not b M	110
		...	11 ±	The faintest thing imaginable	113

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
139	I. 281	1 27 22·9	120 21 53	v F; R; l b M; 20″. This is probably Mr. Dunlop's No. 479, but one or the other R requires correction.	292
140	III. 471	1 27 26·1	100 52 50	e F; S; among 2 or 3 v F st very difficult	315
141	Nova.	1 27 27±	57 17 ±	v F; R; another precedes, which must be III. 174. The R conjectural, and P D liable to some error.	100
142	M. 74	1 27 34·8	75 4 46	e F; 5′ with a brighter mass = 1′ in centre, and this again p s b M to a suspected *. Several v s st near.	319
		34·8	5 17	B; L; R; p g m b M; 90″ diam; resolvable	173
143	Nova.	1 28 26·0	84 59 29	p B; S; R; p s b M; 15″	300
144	II. 283	1 30 36·9	98 22 33	F; v S; R; v g b M; 10″	318
		38·6	22 18	p F; S; R; p s b M; 20″	186
145	VII. 46	1 32 25·9	28 58 17	A cluster of the 6th class, (i. e. very rich)	219
		26·3	58 44	A fine rich cl; st 11....14 m; 3′ diam; irreg fig; place that of the most comp part; one star 6.7 m, s f the centre, is ruddy.	216
146	Nova.	1 32 45·9	34 59 2	A D * (h 2070), the chief of a p rich loose cl; st 12 m.	386
147	II. 610	1 34 42·8	62 9 6	p F; S; R; p s b M	177
		...	10 ±	F; v S; R	181
148	Nova.	1 34 57·6	86 37 45	v F; R; 20″	300
149	II. 611	1 37 51·3	62 58 15	v F; R; 15″	392
		53·0	57 51	not v F; S; E nearly in Mer; 15″ C; 10″ br	177
150	I. 157	1 38 19·4	63 25 20	Between two stars	181
		20·6	25 40	e F; l E; sky not perfectly clear. Taken while looking for Encke's comet.	392
		...	25 30:	p F; E; v g l b M; pos n f to s p; between two stars; 6′ l; 3 or 4′ br	178
151	IV. 42	1 40 4·0	84 56 15	A * 9 m with a v F neb ray. A * 17 m p	95
		4·2	56 16	A * 9 m with a v F narrow ray of neb; a most curious object. See fig 58.	300
152	II. 612	1 40 22±	63 12 35	v F; R; near a * 15 m. R per working list	392
153	Nova.	1 40 42±	79 9 19	e F; R may be a whole minute wrong	15
154	II. 501	1 40 51·0	105 48 56	v F; R; v g b M; 15″	307
155	III. 459	1 40 57·7	114 38 19::	v F; R; g b M; 15″ a * 8 m, s p. (N.B. Both this P D and that of sw 292 are open to much error.)	306
		59·4	40 37::	v F; R; makes obtuse triangle with 2 st 8 and 9 m nearly in merid and 6′ asunder.	292
156	II. 859	1 41 37·0	84 42 7	p B; E; v g b M; a * 10 m, n f	300
157	III. 562	1 42 42·4	54 40 58	v F; the n p of two, dist 90″ ±	105
158	III. 192	1 42 45·0	94 53 48	e F; 90″ n of a * 11.12 m	96
		47·6	53 38	e F; l E in Mer; has * 14 m 90″ s	97
		...	54 24	e F; R; the transit missed	39
159	III. 563	1 42 49·4	54 42 1	p B; p L; l b M; 40″	105
160	I. 62	1 42 54±	100 32 56	v F; R; v g v l b M. Aurora in sky even so far south, strong enough to illuminate the field of view and render the wires visible without a lamp.	310
161	II. 596	1 42 56·8	84 33 17	p B; 30″; a * 13 m 1 radius of neb dist from edge	300

No.	Synonym.	Æ 1830·0.	N. P. D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
162	55 Androm.	1 43 8·6	50 6 40	55 Androm. A fine nebulous * with a strong atmosphere losing itself imperceptibly; diam 90″. It is also a double * h 1094; called "nebulosa" by Piazzi.	183
163	Nova.	1 43 10·9	54 1 18	v F; R; among several p B stars	188
164	II. 270	1 44 22·9	86 38 10	p B; R; p s m b M; 30″	95
		24·4	38 32	B; R; p s b M; 25″	300
165	I. 105	1 44 44·7	104 34 27	v B; E; p s p m b M; 40″ l; 30″ br	308
166	III. 460	1 45 49·8	114 35 22:	not v F; R; v g b M; 30″; has a * 13 m 90″, s	306
167	Nova.	1 45 50·7	114 42 17:	v F; p L; R; g b M; has a small * 75° s p. It is *barely possible* that this may be III. 460 with a mistake in reading the P D.	292
168	Nova.	1 46 14·6	86 38 10	A suspected nebula	95
169	II. 221	1 46 49·9	57 48 1	p B; has a S * or stellar neb to the n	106
		50·1	47 38	p B; R; b M; has * 13 m n p	100
		50·1	47 45	F; R; has a * near it	102
170	Nova.	1 47 2·5	30 39 43	A D * in the f part of a L, poor, triangular cl of 15 or 20 st 10…13 m.	213
171	Nova.	1 47 9·0	35 22 7	p rich, irreg fig^{d} cluster of *s 11…13 m 8′ diam	386
172	II. 271	1 47 29·0	85 12 23	The prec and brightest of a fine double nebula; p F; R; p s b M; 20″; pos of the other = 102°·4.	300
173	II. 272	1 47 29·4	85 12 35	The f and fainter of a double neb; v F; R; s b M; 12″	95
174	VII. 32	1 47 39·6	53 10 8	An enormously L, p rich, sc cluster. Place that of a conspicuous *. The densest part is 10′ n.	188
175	II. 222	1 47 43·6	57 38 35	p L; E; precedes a p B * by 18^{s}·0	102
		...	40 ±	p B; R; Æ not taken; P D rough	100
176	III. 193	1 47 48·9	95 18 9	e F; is 45° s f a * 9 m; Δ Æ = 6^{s}·0	96
		51·0	18 5	e F; 45° s f a *; Δ Æ = 6^{s}·25	97
177	III. 265	1 48 10±	99 51 56:	F; S; R. Transit missed; P D imperfect	310
178	III. 464	1 48 25·6	96 14 0	e F	39
		26·1	14 18	F; l E; v g b M	318
179	50 Cassiop.	1 49 6·2	18 24 27	I suspect this star to be nebulous	378
180	Nova.	1 49 43·1	82 29 4	v F; S; R; 15…20″; a * 10 m 15° n p; 2′ dist	118
181	I. 112	1 49 59·5	71 49 6	p B; R; g b M; 40″	319
		61·6	49 0	L; R; through thick cloud. Obs so doubtful that but for the agreement of the transits over both wires I should not have believed I saw it.	312
182	II. 233	1 50 26·5	59 23 53	B; R; g b M; 40″; a considerable neb	106
183	I. 101	1 51 8·6	96 47 47	B; E; b M	39
		11·2	46 28:	p B; p L; E; pos about 160° by diag	40
		11·9	47 28	p B; m E; pos = 163°·0; b M to nucleus	318
184	III. 583	1 51 10·1	62 35 18	e F; 3 st in Mer precede it; the largest 10 m is 20° s p the neb	177
185	II. 435	1 52 43±	97 39 10	B; p L; R; b M. Transit missed; Æ by working list. Also observed sw 40, but no descrip, and place only roughly set down.	39
186	III. 433	1 52 50·4	96 11 53	F; p L; R; b M; 25″	318
		...	13 +	No descrip; taken much past merid	39

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
187	Nova.	1 53 2·0	75 6 22	e F; S; R; has a * 11 m 15° n f	173
188	III. 207	1 53 10·8	72 26 41	F; S; R; g l b M; 12″	319
189	III. 566	1 53 21·4	52 42 38	v F; R; s b M; near a *	188
190	III. 208	1 54 31·1	74 46 46	v F; not v S; g l b M; follows * 10 m 3ˢ·5	319
191	III. 151	1 55 12·1	61 49 31	v F; v S; 6″; has * 12 m, 1′ n, and another about 20° s p	177
192	Nova.	1 56 3·7	114 6 42	v F; R; v g b M; 40″	306
193	I. 152	1 58 15·3	79 49 27	Not v B; R; s b M to nucl; has * 10 m s p, dist 55″. P D by obs 78, but no doubt should be 79.	121
194	II. 604	1 58 30·9	52 3 1	p B; E	188
195	Nova.	1 59 12·5	76 27 37	F; R; b M; 15″	173
196	Nova.	1 59 34·5	116 15 37	A v F double * inclosed in a v F neb	306
197	II. 605	1 59 51·8	51 37 31	p B; R; g b M; 25″; has a D * 15ˢ foll	188
198	III. 227	1 59 59·2	82 50 22	v F; R; b M; 20″	118
199	II. 482	2 1 1·6	100 56 10	v S; R; the first of a group of 4	315
		1 1·7	56 21	F; S; R; the first of 4 in a crooked line	310
200	II. 483	2 1 4·6	100 56 25	The 2nd of 4. It makes a double neb with the first	315
		5·2	56 31	F; S; R; the second of 4 in a crooked line	310
201	II. 484	2 1 19·5	100 57 6	F; S; R; the third of 4	310
		19·6	57 0:	The third in order and in size	315
202	II. 485	2 1 23·5	100 59 56	F; S; R; the last and largest of 4	310
		...	60 ±	Seen. Place estimated by the others	315
203	Nova.	2 1 25·9	98 33 43	v F; R; p s b M; 12″	318
204	III. 604	2 2 8·9	53 19 30	v F; irreg fig	188
205	III. 260	2 5 52·7	91 33 11	v F; R; b M	108
206	III. 457	2 6 32·2	84 48 1	e F; R; attached to and n p a * 11.12 m. Clouded before it could be fully verified.	300
207	VI. 33	2 7 8·2	33 37 3	The splendid cl in Perseus. A most noble group. Much more than fills field. 2 st 7 m, the rest 8 ... 14; one of 7 m taken, at the circumf of an ellipse of stars.	213
		12·4	39 42	v superb cl. Has 2 st 8m, the rest 11 ... 13. Fills the field and has many stragglers. In centre is the D * h 1114 and an ellipse of stars.	387
208	III. 201	2 7 55·5	76 14 19	v F; E; has a * 10 m 4′ s f	173
209	II. 474	2 8 14·2	102 8 57	F; R; fog thick. (N.B. The obs makes P D 104°, which must be a mistake.)	308
		16·7	8 1	p F; p L; R; v g b M; 60″; by a strange conflict of errors *this* obs makes the P D 101°. Both are obviously wrong.	310
210	II. 246	2 8 45·0	76 14 37	p B; R; p g b M; a small * s f; dist 1′ and a * 9 m 5′ dist nearly s, a little foll.	173
211	II. 436	2 9 45·1	97 25 49	e F; b M; hardly visible (cloudy)	39
212	VI. 34	2 10 0·7	33 37 13	A noble cluster which just fills the field. It is the following of the two great clusters in Perseus; loose, but more condensed in middle. The borders graduate away.	213
		28·6	41 12	A fine cl; v L; the foll of two clusters which are quite separate. A fine ruby * in the centre.	387

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
213	Nova.	2 10 21·1	74 57 21	e F; R; g b M; 12″; near a * 16 m	319
214	Nova.	2 10 30·5	27 0 42	A coarse straggling cl; not v rich; 10 or 12′ diam. Stars 9 ... 13	221
215	II. 437	2 10 37·9	97 34 28	p B; R; g b M; 15″; a coarse D * in field	318
		40·9	33 46	F; R; b M	40
216	III. 486	2 11 28·7	106 50 26	p B; R; p g b M; 25″	307
217	II. 225	2 11 53·0	57 31 40	p B; R; b M; 25″; bad fog	102
		54·7	31 6	B; R; p s b M	106
		55·2	30 54	p B (in spite of a fog); R; b M; 3 small st in a curve to s p	104
		56·5	30 57	p B; R; g b M; has 3 or 4 S st p in a curve	100
218	V. 19	2 11 58·3	48 25 8	An extr F ray 3′ or 4′ l; 40″ br. Pos with mer = 23°·5 bad meas, the neb being too F to illuminate the wires.	389
		...	30 ±	Place hardly more than conjectural, being too late to get it on merid; v L; vm E; p F; has a chink or dark division in the middle and two stars. Pos with merid 21°·2. A wonderful object. See fig 28.	182
219	II. 438	2 13 5·9	96 18 28	v F; v L; R; v g l b M; 90″	318
		...	20 ±	F; v L; b M; viewed much out of meridian	39
220	Nova.	2 16 4·3	58 31 48	v F; S; R; forms a semicircle with 4 st	106
221	Nova.	2 16 9·8	72 16 1	p F; L; R; 60″; n p a * 10 m dist, 3′	319
222	III. 177	2 17 8·2	57 11 46	v F; E; two st 13 m n p near	104
		9·1	11 31	p B; L; E; v g b M; among stars	100
223	IV. 23	2 18 57·6	91 54 29	v B; v L; R; p s m b M; 2′ diam; fades away insensibly	108
224	III. 261	2 19 50·0	91 55 46 : :	v F; L; R	108
225	II. 487	2 20 18·9	101 18 25	v F; cloudy. Doubtful obs	315
226	I. 154	2 20 29·0	53 37 59	B; E in merid; g b M; 30″ long	188
227	Nova.	2 21 20·3	33 13 52	A p rich, p L, cl; st 13 ... 15 m; not comp at the centre. Fig an irregular parallelogram.	387
228	Nova.	2 21 32·4	46 7 43	p rich cl; 2 or 3 B and about 20 st 13 ... 15 m; a star 9 m taken	389
229	II. 278	2 21 53·1	91 51 16	p B; S; E; b M	108
		...	51 ±	p B; S; E; p s b M	113
230	II. 237	2 22 8·1	93 42 2	p B; R; or irreg fig; b M	96
231	Nova.	2 23 56·8	57 48 47	S; R; p s b M. The first of 3	106
232	II. 211	2 24 2 ±	61 25 ±	p B; l E; p g b M. Æ from working list; P D uncertain	178
233	Nova.	2 24 13·3	57 48 17 :	v F; R; b M. The second of 3	106
234	Nova.	2 24 33·8 :	57 54 25 : :	p B; R. Place by rough comparison with the first of the three.	106
235	III. 572	2 24 40·5 :	49 55 25 :	v F; S; the preceding of two. Dist 3′; pos from the next = 337°·0.	182
236	III. 573	2 24 44·8	49 52 39	p F; S; l E	182
237	III. 161	2 26 33·8	57 25 11	v F; R; S; b M; 2 st 14 m n p point to it	104
		36·6	25 20	p F; R; S; p s b M	100
238	III. 557	2 27 6·8	79 6 32	p B; R; p s b M; 25″; ☾	121
239	III. 434	2 27 17·3	97 54 28	e F	318

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
240	II. 238	2 28 32·1	49 51 49	p F; p L; 1 E	182
241	III. 152	2 29 10·4 :	60 35 40	p B; irreg R; b M; 18″; r. Æ doubtful	178
242	I. 156	2 29 46·4	51 40 39	v B; v m E; v s m b M, to a ✳. Lenticular; 5′ long; pos by diagram 20° n f to s p. See fig 56.	188
243	II. 592	2 30 1·8	79 53 40	F; R; b M; 20″; has ✳ 11 m 40° n f; 25″ dist	121
244	I. 102	2 30 4·3	97 25 40 : :	p b; p L; irreg R; 2′ diam; r	38
		7·2	25 33	No description	39
		9·5	24 23 :	No description	40
245	III. 581	2 30 22·2 : :	72 42 1 : :	Doubtful obs. Clouded	319
246	II. 5	2 30 37·3	89 37 46	p F; R; b M; forms a trapezium with 3 st	108
		41·2	38 49	B; R; S; 1 E; forms a trapez &c.	113
247	III. 475	2 31 1±	71 27 30	F; R; 1 b M; 15″. Æ by working list	314
248	M. 34	2 31 6·1	47 56 43	Fine cluster; about 20 st 9 10 . . . 11 m and as many less. Fills field, coarsely scattered. Place that of a D (h 1123).	389
		8·7	57 50	Poor; coarse; very badly seen through haze	190
249	II. 284	2 31 7·4	98 52 13	p B; m E; has a ✳ 17 m at the s f end	318
		. . .	52 36	No description	310
250	Nova. Polarissima.	2 32 0	0 5 10	v F; R; g b M; 25″; has a ✳ 11 m 2′ s. This nebula is remarkable for its proximity to the pole. Owing to this the Æ cannot be determined exactly, and the P D is open to correction.	374
251	III. 228	2 32 0·5	81 59 57	v F; the p of two; a ✳ 10 m, p in same line	118
252	III. 229	2 32 8·0	82 1 12	e F; the f of two	118
253	II. 488	2 32 14·7	102 1 22	F; R; b M; 20″; fog	308
254	I. 63	2 32 41·3 :	98 59 36	B; irreg R; p g b M; r	310
		44·9	58 38	B; S; R; 20″; g b and p s m b M to ✳ 12 m	318
255	II. 633	2 32 48·9	53 24 9	p F; L; R; g l b M; 50″	188
256	III. 584	2 32 49·4 : :	62 9 5	p B; S; R; p s b M; 12″. Æ precarious	178
257	III. 162	2 33 0·7	58 17 41	p L; R; has a red ✳ 7.8 m 43ˢ·5 p; fog. A p good obs however in Æ.	104
		1·8	18 32	p B; p L; b M	106
		3·1 :	20 ±	F; S; R. (Place not to be depended on)	100
258	I. 1	2 33 2·4	90 16 36	F; L; E; a p B ✳ near	108
		3·6	17 29	F; p L; E 10° n f to s p; 2′ long	113
259	Nova.	2 33 4·4	72 43 15	e F; hardly sure	395
260	III. 163	2 33 35·7	58 15 22	v F; p L. The s p of two	106
261	Nova.	2 33 38·2	58 12 22 :	e F; S; the n f of two. Δ P D estim at 3′	106
262	M. 77	2 33 58·2	90 43 43	v B; not v L; R; p s b M; has ✳ 2′ dist 40° s f	108
263	II. 273	2 34 26·2	85 45 5	p B; R; g b M; 15″	95
264	I. 64	2 37 38·4	98 17 33	v B; L; E; 100″ l; 40″ br; v g l b M	318
265	II. 466	2 37 43·7	91 13 34	F; p L; b M	107
266	II. 465	2 37 49·3	90 56 46	e F	108
267	III. 462	2 38 46·6	90 58 36	e F; R; is pointed to by 2 st n a l p the neb	108

No.	Synonym.	$\mathcal{R}$ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
268	Nova.	2 40 43·8	49 2 39	Query whether a nebula or a knot of minute stars indistinctly seen.	182
269	III. 449	2 41 11·9	107 41 16	p B; pL; R; g b M; 40″	307
270	II. 601	2 41 48·8	48 29 54	v F; R; v g b M; 25″	182
271	II. 602	2 43 30·3	49 7 32	v F; R; v g l b M; 30″	182
272	III. 450	2 43 44·9	107 20 21	v F; S; R; g b M; 15″	307
273	Nova.	2 44 13·1	91 58 54	e F; p L; g b M; has * 8 m f	107
274	III. 580	2 45 32·7	47 38 48	v F; v S; R; g b M; 10″; makes isosc triangle with 2 st 15 m	389
275	II. 470	2 46 19·7	100 43 26	p B; S; R; nearly stellar	310
276	II. 274	2 49 19·3	87 18 28	F; S; R; s b M; 12″	95
277	II. 239?	2 49 56·2	45 47 43	F; R; g b M; 20″; follows the D * h 2167, $6^{s}\cdot5$	389
278	Nova.	2 50 54·1	48 5 59	e F; S; 5″	182
279	II. 620	2 52 7±	44 18 ±	v F; irreg fig. Suspected to be only a few stars. $\mathcal{R}$ from working list; P D approx.	390
280	II. 502	2 53 35·7	105 30 21	p B; p L; R; p s b M; 40″	307
281	IV. 43	2 54 22·3	47 50 43	A star 14 m with some kind of faint nebulous appendage	389
282	II. 503	2 55 41·7	106 16 8	B; R; s b M; 40″	307
283	I. 109	2 56 45·6	116 42 53	B; R; p s b M; 30″. My obs makes the P D 115°, but this must be a mistake, as my father has three observations agreeing in 116.	306
284	III. 578	2 57 25·4	52 16 29	F; v S; R; p s b M; 12″	188
285	II. 285	2 57 57·3	100 12 5	p B; irreg R; p s b M; 20″	315
		58·2	12 16	Not v F; S; R; v g v l b M	310
286	II. 504	2 58 6·2	106 15 44	v B; E; p s b M; 30″ l; 20″ br	307
287	Nova.	2 59 19·1	37 18 57	A v S, close-packed group of 8 or 10 st 14 . . . 15 m in a space of 30″ diam, so as easily to be taken for a p B nebula.	386
288	III. 262	3 2 59±	93 12 ±	Scarcely seen through thick haze. $\mathcal{R}$ per working list; P D approx	96
289	II. 286	3 2 58·7	99 34 35	e F; R; a B * 9 m n p	315
		60·2	34 41	p B; R; night hazy and bad	310
290	VI. 25	3 3 3·1	43 24 16	A rich, L, cl not v comp; irreg R with stragglers; stars 12 . . . 15 m; brightest part 5′ diam. The middle taken.	390
291	III. 591	3 3 8·7	99 36 50	e F; v S	315
292	Nova.	3 4 18·8	95 52 21	F; S; l E; has a * 9 m 5′ dist nearly n	39
		19·3	51 50:	v F; S; E; b M; 15″ long	38
		23·3	51 39	F; R; b M	40
293	II. 603	3 8 34·6	49 6 49	p B; R; g b M; 40″	182
294	III. 574	3 10 25·8	49 18 22	e F; R; b M; the n p of 2. Pos from the following, which is the largest, $352^{\circ}\cdot4$; dist = 100″.	182
295	III. 575	3 10 26·9	49 16 44	e F; b M; the n f of two	182
296	II. 287	3 11 43·3	96 52 0:	p B; b M; r; 60″	38
		46·4	52 53	v F; R; g b M; 12″	318
		47·8	53 19	v F; R; S	39
		48·3	52 11	F; R	40

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
297	III. 196	3 16 16±	93 37 ±	The northern of two in same merid	96
298	III. 197	3 16 16±	93 39 ±	The southern of two. Δ P D = 2¼′	96
299	III. 445	3 16 33·8:	96 20 0::	e F; irreg fig; scarcely discernible	38
		37·4	21 18	v F; p m E; 20″ l, 12 br	318
300	III. 694	3 19 42·9::	18 0 23	No description	380
		47·4	0 52	F; R; g b M; 15″. Close to the D ✻ h 2190	378
301	VIII. 88	3 20 45·4	53 15 56	The chief ✻ (10 m) of a cl of about 60 st which fills the field of view.	188
302	III. 446?	3 25 14·8	95 39 48	v F; between a ✻ p and a D ✻ f	96
		15·6	39 31	No description. Clouded before obs could be completed	40
303	II. 288	3 28 36·1	95 35 40:	v F; L; R; 3′	38
		39·7	36 28	L; the faintest thing imaginable	96
304	III. 263	3 32 42±	91 50 ±	No desc. Æ from working list; P D approximate	107
305	III. 569	3 33 3·0	95 13 ±	No desc. The first of 3	96
306	II. 455	3 33 12·2	95 14 46:	R; n p a ✻. The second of 3	96
307	II. 456	3 33 31·7	95 17 ±	P D very doubtful	96
		33·0	15 33	p B; S; seen between clouds; has a B ✻ 1′ dist, 45° s f	39
		34·4:	15 46::	F; S	38
308	VIII. 80	3 36 36·1	37 52 0	A cl of about 20 st; place that of a superb D ✻ (Σ 446); the rest 12 m.	384
		38·5	52 7	A D ✻ Σ 446; the chief of a cl of 30 st more or less; 14…16m..	386
309	I. 155	3 38 2·7	94 30 22	e F; R; has a ✻ 17 m in middle	233
310	Nova.	3 51 30·9	37 50 57	A curious knot of stars forming a cluster in form the segment of an elliptic ring.	384
311	IV. 69	3 58 35·8	59 40 46	A ✻ 9 m with a dilute, F, equable nebulous atmosphere 60″ or 90″ diam. Other st 9 m have no such atm. A ✻ susp n p. See Fig 31.	56
		36·0	40 10	A ✻ 8 m with a fine atmosphere; diam 12ˢ of time; perfectly nebulous and fading away to nothing; a F ✻ following; strongly suspected to have a slight *chevelure*, but several 8 m near, not the least.	106
312	Nova.	4 9 47·0	53 30 21	The chief ✻ of a v loose poor cluster 30′ diam; 1 comp; stars 10…12 m.	399
313	III. 490	4 11 37·9	91 6 54	F; v S; a ✻ 11 m s p	110
		39·7	6 36	F; p L; v g b M	107
314	III. 587	4 17 54·6	94 1 12	e F; among small stars	233
315	I. 217	4 19 4·4	55 6 32	B; visible in full ☾ light; a ✻ 9 m dist 3′, 80° s p (afterwards corrected to n p. See Sw. 51).	42
		5·2	6 48	Place only taken. No descr. This obs makes the Æ 18 m, but this is an obvious mistake.	50
		5·4	6 21	p B; v L; irr R; it is inclosed among 6 stars, two of which point across its centre to a third. A ✻ 7 m precedes about 1 m.	105
		…	…	A ✻ 9 m is about 75° n p, not s p as in Sw. 42, and 2′ dist	51
316	II. 8	4 21 56·7	89 43 18	The s p of a double nebula; R; p L; distance of centres 60″..	107

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
317	II. 9	4 22 0·2	89 42 40	The n f of the double nebula; F; S; R. Pos by a drawing made at the time 30 . . 40° n f.	107
318	II. 7	4 22 0·9	89 31 14	p B; b M; E from s f to n p; has * 50° n f, 1′ dist; its situation is nearly at right angles to the longer axis of the nebula.	110
		...	30 ±	p F; R; p L; has a * 45° n f, dist 90″	107
319	I. 158	4 23 14·8:	95 26 0::	F; R; b M; 40″	38
		15·8	27 29	F; R; b M; cloudy	39
		16·4	27 22	p B; R; b M; 18 . . . 20″	233
		18·4	27 22	p B; R; g b M; 15″; sky perfectly clear	232
320	II. 524	4 27 36·8	93 30 28	No description; observation marked as doubtful	109
321	II. 514	4 27 52·2	90 29 39	v F; p L; irreg fig; 90″; has a coarse B double star n f	107
		56·0	26 ±	v F; L; m E; 3′ L; 90″ br; v l b M. P D merely estimated by means of a star near it.	110
322	Nova.	4 28 38·0	93 39 33	v F; E; 45° n t s f; s b M; follows ν Eridani 41ˢ·0	109
323	III. 952	4 30 58·0	82 59 44	The n p of a double neb; F; has a * 8 m s p. Pos of the nebulæ about 65° s f by diagram.	119
		61·0	59 55	e F; p L; E towards the s f side, and has either a * or a second nucl s f.	118
324	III. 953	4 30 59·7	83 0 44:	The s f nebula of the double neb	119
325	II. 515	4 31 29·7	90 53 19	v F; R; has a * 9 m about 12ˢ·5 f to the n	107
326	II. 522	4 32 31·8	98 56 40	e F; R; v g b M; 30″	315
		...	56 58	No Æ observed; no description	318
327	I. 122	4 32 55·7	93 11 48	B; v L; R; b M; 2′ diam	109
		57·1	13 12	p F; L; nearly R; v g b M; 2′ diam	233
328	III. 588	4 35 23·1	95 39 14	e F; irr R; b M; 10″	232
329	II. 523	4 36 15·0	98 50 43	p F; R; has a * 7 m, 3 or 4′ dist n p	318
330	Nova.	4 37 32·3	95 27 44	e F; irreg fig, if not a double or triple star, seen indistinctly	232
331	III. 589	4 38 7·8	95 6 2	p F; v S; v l b M; 15″	233
332	VII. 1	4 39 5·6	79 22 40	A cluster of stars 11 and 12 m, three L and 5 small stars. Query if the right object.	121
333	II. 457	4 39 55·3	95 44 32	v F; p L; R	233
334	II. 527	4 44 1·8	93 23 50	p B; R; b M; has a * 7 m 45° s p; very well observed.	109
		2·9	24 2	p F; S; R; 12″; has a * 9 m dist 5′ s p	233
335	III. 453	4 45 33·6	88 38 55	e F; among v S stars; has one v L * s p	322
336	IV. 32	4 48 33·1	95 8 42	p B; R; like two or three stars 19 m with an atmosphere 60″ diameter.	233
337	Nova.	4 49 9·8	37 22 45	v Loose; p Rich; fills field; the largest * 10 m; mixed magnitudes	327
338	Nova.	4 49 38·0	82 1 34	A resolved nebula or a small round group of very small stars, 30″ diam.	118
339	Nova.	4 50 15·3	90 45 47	F; S; R; b M	110
		15·6	45 31	F; R; b M; the preceding of two.	107
340	Nova.	4 50 47 ±	90 31 ±	p B; R; p s b M; has a B * n f; the fol of 2	107
341	Nova.	4 51 30·4	98 1 3	F; R; about 30″ n of a * 13 m.	318
342	III. 503?	4 53 28·4	93 33 12	e F; S; 4″; has a * 12 m n f	233

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
343	Nova?	4 54 16·1	94 58 20	A very large space affected with nebulous streams in zigzags up and down. (N.B. Such observations require several verifications. The opportunity has not occurred in this case.)	235
344	VIII. 61	4 56 34·5	52 50 56	A double * in a pretty close cluster of 20 or 30 stars.....	399
345	III. 500	4 57 11·7	99 23 20	not v F; R; g p m b M; 25″.....	315
		13·4	22 53	p F; S; R	318
346	Nova.	4 57 50·9	38 9 40	A group of 8 or 9 stars 10 m, nearly in a parallelogram. A pretty object.	327
347	V. 32	4 58 24·0	93 34 22	A * 10 m with a neb s f; pos 138·0 from *; the centre of the neb is like a misty * 12 or 13 m, or perhaps 2 or 3 st 15 m; a small * to the s of neb makes an isosceles triangle. Place that of the * 10 m.	233
		28·2	36 45	B; L; R; p s b M; diam 3′; has a * n p (about 45°) at the edge, if not involved.	235
348	Nova.	5 0 53·9	73 42 5	A cluster of 10 or 12 large and a good many small stars. The place that of a D *. It is perhaps an *outlier* of VII. 4.	395
349	VII. 4	5 2 11·6	73 28 5	L, rich cl; st 12...15 m; fills field. Place that of a D *. The most compressed part is 42ˢ·5 foll the D * and 3′ south of it.	395
		19·3	34 6	v L; p Rich; the prec border the brightest, consisting of st 10...12 m, but the foll the richest, consisting of st 12....18 m. Place of a * 10 m in prec border.	396
350	VII. 33	5 8 21·9	50 50 36	A * 7 m, very ruddy, almost orange-coloured, in a p rich cl of v s st.	399
351	Nova.	5 14 34·2	56 46 24	Rich coarse cl of sc st 9...15 m; more than fills field	51
352	II. 289	5 14 40·3	101 39 40	p B; R; r; 30″	315
353	VIII. 4	5 15 14±	61 0 ±	The most condensed part of a poor cl divided into two. It consists of 20 or 30 st 9....12 m.	115
354	VII. 39	5 16 41·0	54 50 36	Rich p comp cl s stars; roundish with straggling borders of larger stars.	51
		41·9	49 52	p Rich; irreg R; stars 9....12 m, 50 or 60 counted; b M; the place that of the most comp part.	42
		44·9	50 11	p Rich; scattered cl of * s 12 m, and some larger, the most comp part = 3′ diam.	105
355	I. 261	5 20 7·9	55 53 54	A nebula including a triple star, forming an equilateral triangle; sides = 4″; stars = 11, 12, 14 m. See fig 49.	51
		11·3	53 22	A triple * in a neb. A most curious object (see description of the d * h 367 in my 2nd Catal.) The neb surrounds the stars like an atmosphere.	42
		13·9	53 41	A triple * in a neb &c. &c.	105
356	V. 38	5 20 34·4	98 31 18	All about this place there exists diffused nebulosity.....	318
357	M. 1	5 24 15·7	68 6 36	v L; E; v g l b M; r; 4′ l, 3′ br; pos of longer axis n p to s f. A fine object. See fig. 81.	59
358	M. 36	5 24 56·5	55 57 52	A coarse straggling cl which fills the field; a v pretty object; place B * in M.	42
		65·5	59 24	Rich; B; straggling stars; place of a D * h 368 whose place in my 2nd Catal is set down very erroneously by a mistake of copying.	51
		70·4	59 16	A considerable rich cl of L st 9...11 m; fills the field. The chief * is double.	105

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
359	III. 865	5 26 44·2	58 7 57	F; R; S; p s b M.....	106
360	θ Orionis	5 26 55±	95 30 30±	Observed in sweeps 16, 38, 40, 110, 172, 173, 232...235, 309, 318, &c. See description and figure in Mem. Astr. Soc. 1826.	....
361	V. 31	5 27 6·9	96 2 18	ι Orionis involved in a feeble neb 3′ diam	318
362	Nova.	5 27 7·4	94 28 10	A coarse and poor but v splendid cl of L st; a beautiful object	41
363	V. 34	5 27 35·3	91 19 3	ε Orionis. Place by Catal a v brilliant * involved in an immense nebulous atmosphere, whose n and s limits are 91° 7′ 29″ and 91° 31′ 29″. Viewed also and shown to Mr. DUNLOP in sweep 110.	107
364	Nova.	5 29 42·5	34 17 57	A poor cl of 8 or 10 st 11 m.....	324
365	IV. 34	5 32 47·6	80 59 57	A circular disc 12″, a little mottled and of a pale light; a little ill-defined, but not hazy; a planetary nebula.	118
		48·3	60 19	Planetary neb a little indistinct at the edges; rather oval and perhaps of a mottled light.	121
366	VIII. 2	5 34 47·5	81 26 37	A large tract of stars filling many fields. It extends much further in Æ.	121
		...	18 ±	VIII. 2 viewed. A L ill-defined tract of loose stars, neither rich nor condensed.	118
367	Nova.	5 35 27·0	77 11 40	A * 8.9 m with F neb	393
368	M. 78	5 38 1·3	90 0 10	Two stars 9 = 9 m; pos 60° n f; dist 50″ in a wispy nebula. See fig 36.	113
		2·6	1 59	A v L wisp-shaped neb involving 3 st. It extends 5′; terminating abruptly to n, but extending s f beyond the 3rd *.	107
369	M. 37	5 41 8·2	57 30 56	v fine L cl, all resolved into st 10...13 m. It fills 1½ field, but the straggling stars extend very far. There may be 500 stars.	52
		10·3	29 54	Splendid cl st 11...15 m; no unresolved neb; p comp but not m b M; fills field.	51
		10·8	30 20	Irregular; not *very* rich; fills field	56
370	III. 510	5 44 32±	97 30 38	v F; R; p s b M. Æ from working list; P D approximate.....	318
371	VII. 24	5 45 4·7	89 39 29	The 2nd and brightest * of a poor straggling cl 10 or 12′ long	107
372	VIII. 26	5 50 45·2	66 42 40	About 40 or 50 st. The largest 8 m taken. The rest are 10...15 m	59
373	Nova?	5 53 50·8	100 36 25	3 Monocerotis. I am sure this star has a F neb atm 2′ or 3′ diam. Eye-glass examined, not dewed.	315
374	Nova.	5 54 2·8	84 16 53	L; p rich; very scattered; place of * 10 m in M.....	320
375	VI. 17	5 56 59·2	65 53 46	Rich; m compressed almost to nebulosity; stars very small; irreg triangular figure.	59
376	Nova.	5 57 36·5	38 17 51	A poor cl 7′ l, 3′ br; about a dozen st 11 m	325
377	M. 35	5 58 22·2	65 39 13	a L, coarse, p rich cl of st 9...16 m, which fills 2 or 3 fields, but chiefly one in which are about 100 stars.	58
378	IV. 44	5 58 40·9	96 11 43	A star 7 m with a p strong neb atmos.	318
379	VIII. 24	5 58 51·2	76 1 34	A pretty cluster of 20 or 30 st 10...11 m with one 9 or 9.10 which is double (Σ 848).	393
380	VIII. 6	6 0 36·5	85 15 48	A fine cluster; coarse; p rich; place of a * 9 m.....	320
381	IV. 38	6 1 13·9	96 18 48	The large star of a double star has a very strong nebulous burr	318
382	Nova.	6 2 30·2	93 29 52	A large loose straggling cl of 8th class. The place is that of a double star.	234

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
383	IV. 20	6 2 48·9	96 11 33	A ✱ 10.11 m has a very sensible nebulous burr, and 3 more are rather nebulous; others in the field are not so.	318
		51·3	12 10	A ✱ 10 m with a v F atmos. Two others s p are free from such atmos. A very F neb suspected s p this object. (N.B. The obs gives Æ $24^{s}\cdot8$, but this is a manifest mistake of the wire which corrected = 51·3.)	235
384	VII. 25	6 3 3·8	84 31 38	A p rich, comp cl; one st = 9 m, 3 or 4 = 11 m, and many 12 . . . 15 m. Place that of the D ✱ h 2288.	320
385	Σ. 885	6 7 46·6	83 57 43	The chief of a tolerably neat cl of L stars	320
386	VII. 20	6 12 35·9	97 13 49	Coarse scattered cl; irreg R; st 11 . . . . 15 m	16
		40·0	13 38	Very pretty scatt cl 8 . . . 10′ diam; p rich; stars = 11 . . . 14 m	318
387	Nova.	6 15 0·0	94 36 34	The first ✱ 6 m of a coarse poor cl; st 11 . . . 12 m.	234
388	VII. 26	6 18 32·2	99 33 26	A poor cl of v S stars; rather comp in M stars 12 . . . . 15 m . .	309
389	VIII. 9	6 20 0±	73 12 35	A p rich v loose cl; fills 2 or 3 fields; not b M; st 10 . . 13 m . .	395
390	VII. 5	6 20 34·0	83 3 22	Irreg fig^{d} cl like a hollow triangle in the crowded part of Milky Way; st v S; 12 . . . 15 m; one star 10 m. The surrounding loose stars are all large.	118
391	VIII. 49	6 21 24·5	54 40 24 :	Hardly to be called a cluster	51
		38·2 :	42 0 : :	A v coarse straggling cl 10′ diam; 30 or 40 stars 10 . . . 15 m. A ✱ 10 m taken, but one of 7 m precedes to the n.	124
392	VII. 2	6 21 53·1	84 56 28	The place of ✱ 8 m in most comp part of a L, poor, but brilliant cl.	237
393	IV. 3	6 23 17·1	79 43 40	A ✱ 11 m with a milky neb surrounding it, but chiefly on the sp side. The star is not sharp—not stellar, and the neb fades gradually away from the ✱; 70 or 80″ diam; has a ✱ 7 m 30° n f.	120
		20·1 :	43 30	A neb with nucl near the n f edge, which has not the sharpness of a ✱, but is dull and dead; = ✱ 13 m; has a ✱ 8 m $6^{s}\cdot55$ foll^{s} to n.	121
394	Nova.	6 25 36·3	94 56 40	Place of a ✱ 8·9 m in foll part of a L p rich loose cl; irreg oblong fig; st 12 . . . . 14 m.	235
395	VIII. 3	6 25 40±	81 30 ±	A large tract full of stars; v rich; place from working list. Viewed	118
396	VIII. 50	6 25 52±	84 31 ±	L, p rich; st small; place by working list	237
397	VII. 22	6 26 47·5	82 12 27	A p rich, S cl; irreg fig; st 11 . . . 15 m	118
398	VIII. 48	6 29 31·1	91 19 19	Very coarse; v poor; v straggling; the chief ✱ 8 m taken . .	107
399	IV. 2	6 29 51·1	81 7 18	A ✱ 11.12 m with a p B cometary tail. See fig 64	120
		54·0	6 32	✱ 12 m with B cometic branch 60″ l whose axis is 60° n p. The ✱ is a little ill defined. The apex of the neb comes exactly up to ✱, but does not pass it.	118
		54·3	6 54	Cometic. Has a ✱ 9.10 m 50° n f dist 2′	121
400	VII. 37	6 30 51·0	88 42 20	A great many sc st; and a strong suspicion of a more comp part —(thick haze).	322
401	15 Monoc VIII. 5 V. 27	6 31 36·8	79 57 55	A ✱ 5.6 m enveloped in a neb haze. Has about 15 or 16 small stars about it, one of which is a neat D ✱ to s f. (N.B. This is a most remarkable object, being at once a close D ✱, a cluster and a nebulous star.)	120
402	Nova.	6 31 59·9	77 55 32	A poor cl 30 or 40 S st 12.13 m	393
403	VI. 21	6 32 40·2	62 52 2	The most condensed part of a p rich, p comp cl st 11 . . . . 15 m; irreg fig; diam of most comp part = 3 . . . 4′; triangular.	115

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
404	VI. 3	6 34 56±	85 16 3	Close cl of v small st; poor; twilight; preceded by a coarse cl of large ones.	237
405	VIII. 36?	6 35 0·9	86 23 13	Coarse sc cl; not v rich; place of * 9 m	320
406	II. 614	6 36 3·2:	56 15 50:	F; S; b M; the southern of two	124
		5·5	16 9	F; forms a D neb with another exactly n	51
407	II. 615	6 36 3·2:	56 13 50:	e F; v S; the northern of two	124
		5·5	14 39	e F; the northern of a d neb	51
408	VIII. 31	6 39 9·3	92 58 10	Loose L irreg sc cl of about 100 st 9 . . . 15 m	41
		. . .	61 +	Viewed; p rich; v coarse; a few st = 9 . . 10 m	235
409	III. 897	6 39 41±	56 19 24:	e F; the northern of two, 3 or 4′ apart	51
410	III. 898	6 39 41±	56 23 24:	e F; the southern of two	51
411	M. 41	6 39 43	110 34 13	Coarse; fills field. The chief, 8 m, is red; a poor cl. (The place is estimated from a D * in the cl.)	236
412	Nova?	6 42 49·8:	96 46 37:	A coarse cl; not v rich; 30 or 40 st; probably only an outlying portion of VIII. 39.	122
413	VI. 27	6 43 1·1	89 20 39	A D * in the chief group of a p rich coarse cl not v comp. Broken into 3 groups. The s p group is the richest. The P D mistaken 5′ in reading off; corrected.	397
		3·9	20 50	The principal D * in a cl; p rich; irreg fig; not m comp	113
		. . .	20 ±	The brightest * (D h 740) of a fine cl; rich; not v comp; irreg fig.	107
		. . .	20 45	A fine rich cl 10′ diam; irreg fig; place of a D star	322
414	VIII. 39	6 43 33·5	96 53 30	A v poor S cl; about a dozen st 11 m in a rich region	135
		36·0	53 43	Coarse; p rich; 15 or 20 st in middle, p comp; with stragglers which fill the field.	318
		37·7	52 27	Poor cl; 12 or 15 S stars, and 2 or 3 larger; place of the 2nd star 10 m in cl.	136
415	VI. 2	6 45 2·6:	71 45 28:	A p L comp cl 5 or 6′ diam; irreg fig; p g l b M; place doubtful from temporary instability of the zeros.	333
		18·2	48 53	P rich cl; acutangular, the acute angle precedes; the p side is bounded by a remarkably definite line; pos 223°·4; st 14 . . . . 16 m. See fig 91.	313
416	VIII. 51	6 46 19·8	96 59 19	Very poor cl; is only an outlier of VIII. 39, the st being more sc, less rich, and larger.	136
		. . .	. . . . .	Viewed. Has no title to be called a cluster.	135
		. . .	. . . . .	Viewed. An outlying portion of VIII. 39	318
417	VI. 18	6 47 46·3	96 59 18	No descrip	318
		48·7	59 25	A cluster, not v rich; 4′ diam; irreg fig; st 12 . . . 13 m	135
		49·2	58 59	p rich; irreg R fig; st 13 . . . . 16 m; strong twilight	136
418	VIII. 60	6 49 22·8	94 22 0	A sc cl of S stars, not rich	41
419	Nova.	6 49 27·1	79 31 10	A poor cluster. The largest star 10 m taken	120
420	Nova.	6 49 27·4	39 10 16	v F; doubtful	329
		32·4	10 50	e F; doubtful. (The agreement of the places dispels the doubt, and shows that a nebula really exists here.)	327

No.	Synonym.	$\mathcal{R}$ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
421	II. 304	6 51 27·0	97 33 40	p B; R; S; r; among a multitude of stars	135
		28·7	33 33	p B; R	318
		30·5	32 45	F; S; R; has a * 13 m s, dist 60″	136
422	VII. 14	6 51 42·6	103 28 16	A v coarse loose cl of stars 8 or 9 m	111
423	VIII. 1	6 52 13·1	86 42 39	Place of * 9 m in a v coarse straggling cl of 3 or 4 fields in extent. Only a rich part of the heavens.	239
		14·5	42 23	Linear cl of stars 11 .. 13 m, forming a bent line nearly 15′ long, terminated on the f side by a * 8 m whose place is that here taken.	237
424	II. 861	6 52 37·6	39 10 46	p B; R; p g b M; 15″; n p a * 8 m; pos about 30° s f; dist = 1 diam of neb from edge.	329
425	M. 50	6 54 42·2:	98 5 19::	Rich; comp; fills field; stars 10 . . . 15 m; place of a * 10 m in middle—a fine cluster.	16
		45·5	6 55	A L rather straggling cl 10 . . 12′ diam; st 11 . . . . 15 m. The largest in M, taken.	135
		46·6	6 58	Superb cl; fills whole field; irreg R; stars 11 . . . 15 m; not comp in M; straggling stars extend over a circle 30′ in diameter.	318
		49·4	6 2	A fine v L sc cl; has a red star 8.9 m to s of the more compressed part.	136
426	II. 734	6 55 8·7	39 3 20	e F; R; p s l b M; has a small group of st immediately p like the letter Y.	327
427	VII. 38	6 55 16·0	88 41 39	Fine rich p L cl; st 12 . . . 18 m; 10′ diam. One * 11 m (place taken); straggling.	397
		32·1	38 55	The most comp part of a v L coarse sc cl. The stars 11 . . . 15 m. Towards the north they are 9, 10, and more coarsely sc.	322
		. . .	45 30	Rich L cl; fills field; st 14 . . . 16 m; not comp towards a centre.	113
428	IV. 25?	6 56 8·7	101 4 16	A D * whose L * is in centre of a v F neb which involves the s * also.	130
429	II. 735	6 56 17·3	41 8 6	v F. Among stars	329
430	II. 862	6 56 30·3	39 33 26	F; S; R; p s b M; 12″	330
431	III. 899	6 56 35±	54 37 ±	v F; R; b M; 30″. $\mathcal{R}$ by working list	124
432	VIII. 40	6 56 54·3	62 33 18	A small cl of 10 or a dozen st 11 . . . 13 m in an ellipse	57
		56·3	32 52	A L coarse straggl cl of L stars. The part taken is a small oval group 90″ diam in the following part.	115
433	II. 736	6 58 8·3	39 33 26	p F; R; g b M; 20″	330
		9·9	34 6	p B; p L; R; g b M; 25″; two s st p	329
434	II. 769	6 58 24·2	70 57 38:	p B; p L; R; g l b M; 40″. In a rich part of the heavens	333
435	Nova.	6 58 38·1:	95 21 59:	Very loose and straggling cluster	122
436	VII. 27	7 1 49·9	98 21 13	A poor straggling cl. Place of a D *	318
437	Nova.	7 5 31·4	101 12 14	A loose straggling cl. Place of a D *	129
438	VII. 16	7 7 14·3	115 26 30	Loose straggling cl; the p part is rather separated from the f, and more comp. Place that of 3 st in the f part.	317
439	VI. 6?	7 7 22·1	75 55 52	A p rich cl of v s stars; irreg; R; 5′ diam; not b M; st 11 . . . 16 m.	393
440	VII. 12	7 10 2·2	105 20 15	A rich cluster of stars 10 m	111

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
441	VII. 17	7 11 40·1	114 39 20	A L ✱ 7 m in the centre of a beautiful cl 8′ diam; not v comp; nearly R; not more comp in M; stars 11 . . . 14 m.	317
442	Nova.	12 32·5	97 15 8	Two S p close groups of p L st in the Milky Way, rather a remarkable cl.	318
443	Nova.	7 12 55·1	100 4 24	The p star (which is red) of a p rich S cl; fig irreg triangular; ✱s 15 m—in Milky Way.	129
444	II. 316	7 14 49·1	60 11 20	The sp of a curious B double neb or an elongated bicentral neb; nuclei approaching to stars 45° n f to sp 30″ dist.	57
				A double neb close B S R s B M; pos 45° n f or s p—dist of centre 60″. See fig 72.	115
445	II. 317	7 14 50·9	60 11 0:	The n f of the double neb	57
446	Nova.	7 17 20±	55 51 ±	The first of four	128
447	III. 703	7 17 25·5	55 50 ±	A v F neb; another neb s p; the 2nd of 4	128
448	III. 900	7 17 47·5	55 51 40	e F; R; b M; 20″; the 3rd of 4	128
449	III. 901	7 18 0·0	55 48 18	v F; R; p s b M; 30″	128
450	IV. 45	7 19 7·7	68 45 2	A ✱ 8 m exactly in centre of an exactly R B atmosph 25″ diam; the star is quite stellar, not a mere nucl. Another ✱ 8 m distant 100″, and about 85° n p has no such atmos.—A most remarkable object.—Fig 31 (IV. 69) will also represent this neb.	59
451	VIII. 36?	7 20 14±	101 24 ±	A straggling portion of Milky Way	129
452	Nova.	7 21 8·8	17 57 55	A very loose sc cl of large stars, or a starry place	230
453	III. 19	7 21 28·0	79 59 58	e F; R; l b M; = ✱ 15 m; has the f of 4 stars near it	123
		28·5	60 15	e F; among several st 13 . . 14 m; one = 14 m is in the neb . .	120
		. . .	59 15	Most excessively F	132
454	VII. 65	7 21 34·2	103 37 48	A S cl of v S stars among rich parts of the Milky Way	111
455	VIII. 37	7 25 27·4	105 5 2	A cl with 1 st 9 m; not rich	111
456	II. 821	7 25 44·8	54 24 10	Not v F; S; R; 10″; nearly planetary; but a l hazy; v g v l b M	128
		. . .	25 ±	A curious, almost planetary neb 10″ diam R; light nearly equable; between 2 S st.	51
457	I. 218	7 26 35·5	50 44 57	p F; L; R; v g b M; 70″; ☾; a L ✱ 8 m precedes 19ˢ·0, and before that is a D ✱.	401
		. . .	. . . . .	Viewed; not v B; L; p m E in parallel 2′ l, 75″ br; a ✱ 7.8 m precedes 19ˢ·0 and 15″ to s, and preceding this is a coarse double ✱.	335
458	VI. 1	7 28 18·7	68 3 17	A p rich cl; irreg fig; 50 . . . . 100 st; 11 . . . . . 18 m; 5 . . . 7′ diam.	59
459	VII. 38	7 28 46·4	104 6 28	The chief ✱ of a L, p rich, straggl cl. It is double	111
460	II. 822	7 30 6·5	37 16 50	v F; among s stars; one 8 m precedes at some distance	327
461	Nova.	7 32 59·7	37 31 50	v F; S; R; b M; diam 8″	327
462	Nova.	7 33 26·4	80 20 45	e F; has ✱ 15 m 90″ dist 30° n p	123
463	M. 46	7 34 1·6	104 25 45	The brightest part of a v fine rich cl; stars = 10 m; which fills the field. Within the cl at its n edge is a fine planetary neb.	111
464	IV. 39	7 34 1·6	104 20 25	A planetary neb 3ˢ·75 (time) in diam. Exactly R of a F equable light. Has a v minute ✱ a l n of centre. It is not b M nor fading away, but a little velvety at the edges. At the n edge of the fine cl M 46.	111

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
465	Nova.	7 35 12·3	34 59 2	Four small stars in a semicircle, within whose concavity there is a F nebulosity, which I am pretty certain is real.	324
466	Nova.	7 37 25·7	114 16 59	A * 8 m followed by a poor cl of 18 ... 20 st, 11 ... 13 m	317
467	Nova.	7 40 31·6	34 5 2	v F; R; v g b M; and losing itself imperceptibly.....	324
468	III. 479	7 42 46·0	80 1 15	A l group of S st which has a neb look, and perhaps there may be neb among them. No other near.	120
		46·0	0 50	A S group of st; with attention counted 5 with power 320°; form a neb group 20″ diam.	123
469	Nova.	7 43 20·4	32 53 12	e F; R; the preceding of two	324
470	III. 836	7 44 14·6	32 52 42	F; R; 15″; the foll of two	324
		15·0	52 22	p F; R; 15″; n p a * 9 m which is 2 diameters of neb dist from its centre.	323
471	III. 830	7 44 51·4	36 41 35	p F; E, or has a v S * s p and a L * n f. Also query if not a v S * in centre.	327
472	IV. 22	7 45 25·5::	115 57 29	A * 9 m with a W of st and nebulosity, or ? if not a v F neb about the stars—(no red colour seen).	317
473	II. 302	7 47 2·2	65 47 28	F; S; R.....	58
474	VII. 10	7 47 27·4::	113 51 51	A cl p rich; v coarsely sc, 10 ... 15′ diam; perhaps 50 st	317
475	III. 837	7 47 59·9	32 59 12	v F; R; g l b M; 15″	323
476	III. 750	7 48 30±	49 43 ±	Viewed by working list; p B even though there is ☾ enough to see the wires well. R; g b and then s b M; 20″.	335
477	Nova.	7 49 3·4	62 31 17	v F; S; R; b M.....	115
478	III. 709	7 49 9·5	38 47 20	F; L; R; v g b M; 60″. Among stars	327
479	VII. 23	7 49 28·1	119 36 24	A fine rich cl; L; stars 12 m and nearly equal; not m comp M about 3′; at the centre equally comp and thence looser.	316
480	VI. 37	7 51 50·1	100 19 34	The 1st * 11 m in the p part of a rich R p comp cl irreg fig; * s 11 ... 20 m, so as to be nebulous. The most comp part = 4′ or 5′ diam.	129
481	II. 554	7 51 57·2	73 49 35	F; R; 15″. Pos of a * 12 m = 225°·5, dist = 60″	395
482	III. 605	7 52 57·7	66 8 31	v F; S; R	59
483	III. 512	7 53 8·6	80 7 15	p B; R; p s b M.....	120
		9·5	7 0	No descrip	132
484	III. 7	7 53 11·0::	80 59 25::	Follows 2 v S st; obs doubtful. Nearly missed obs, owing to the working list being much out in P D.	123
		...	.....	Viewed; F; v S; rather E. 2 st s p. Seen also, but no descrip given, in Sw 132.	120
485	Nova.	7 54 54·0	31 44 52	p F; R; p s b M; s f a * 9 m dist 3′	323
486	III. 877	7 57 35·1	100 57 6	F; L; R; v g b M; 90″; among stars of the Milky Way.....	129
487	III. 752	7 58 10·7	71 41 26	e F; R.....	334
488	VIII. 30	7 58 40±	117 41 22	Cl p rich; v coarsely sc; fills field; st 10 .... 15 m. R by working list.	317
489	II. 726	7 59 18·0	55 33 44	p B; R; b M; 40″.....	51
		21·0	32 40	F; L; R; v g l b M; 80″	128
490	III. 840	7 59 27·4	33 50 22	p B; L; R; p s b M; diam 60″ and very gradually fading away; has a * 8 m pos = 164°·3.	324

No.	Synonym.	$\mathcal{R}$ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
491	IV. 55	8 1 10·0	43 30 17	p F; R; 60″; very nearly uniformly B, but hazy at edges. It is a resolved globular cluster. Being a remarkably fine night, I see the stars; they are 20 m; a ✱ 9 . 10 m is 40° s f dist 2′.	139
492	III. 710	8 2 14·1	40 25 6	Not v F; L; l E; v g b M; 90″	329
493	II. 719?	8 3 55·4::	53 14 12	v F; R; a coarse d ✱ p points to it. $\Delta\mathcal{R} = 1^m\,2^s$	401
494	II. 627	8 4 17·2	68 8 19	F; S; R; has a ✱ 8 m, 4′ dist p	59
495	Nova.	8 5 10·7	31 41 27	p B; S; m E; pos in merid; p s m b M; 15″ l, 6″ br. A ✱ 7 m follows.	323
496	VI. 22	8 5 18·7	95 14 40	Fine L, p rich, very straggling cluster of st 9 . 10 and 10 . 11 m. The straggling edges extend a full field either way. Place that of a D ✱ in the most comp part.	235
		18·8	18 54	A superb cl which fills the whole field; st 9 . 10 . . . . 13 m and none below, but the whole ground of the sky on which it stands is singularly dotted over with infinitely minute points. Place that of a B st, the s of two which point into the concavity of an arc.	234
		26·1:	18 2	A cl of about 100 large st 10 and 11 m	21
497	II. 303	8 8 46·7	66 0 34	p B; R; b M	59
498	III. 256	8 9 11·1	88 43 19	v F; between a ✱ 12 m, s f and one 16 m, n p, the former dist about 1 diam, the latter about ½ diam from the edge.	397
499	III. 606	8 9 21·8	68 57 41	p F; R; p s b M, and then a feeble atmos 25″	334
500	III. 607	8 10 28·2	68 20 44	v F; S; R	59
501	II. 634	8 10 41·2	68 25 6	v F; S; R	59
502	VI. 39	8 12 1·8	119 13 1	A v loose straggling but p rich cl which fills the field, st 9 m and under; v l comp M. Some large st precede it.	316
503	VII. 64	8 12 11±	120 8 +	A fine, p rich cl; stars 11 m pretty uniform 5 . . . 6′ diam. The chief stars make a zigzag line, the outliers extending 20′.	316
504	III. 753	8 15 16·9	69 8 2	v F; R; l b M; has a ✱ 1′ p	63
		20·0	7 43	v F; R; g b M; is 90″ f a ✱ 11 m, and many small st near; windy.	333
		. . .	7 16	v F; p L; v g b M; 40″	334
505	II. 315	8 16 52·7	63 29 23	p B; R; v s b M to a ✱; 20″	58
506	III. 599	8 17 48·7	67 58 0	v F; irreg fig; has a coarse D ✱ 30° s p, 2′ dist	59
507	III. 234	8 22 12·9	66 52 12	v F; S	59
508	Nova.	8 22 13·0	36 35 53	e F; S; R; n p a star (about 5° n p). The preceding neb of 2. . . .	328
		22·1	35 10	e F; S; R; 8″; one or other of these $\mathcal{R}$s is probably affected by an error of 10^s in reading off the time.	327
509	III. 292	8 22 50·9::	59 53 1	e F; doubtful obs, as at first the neb was hardly seen. Verified, but too late for a good $\mathcal{R}$. In field with a D ✱ which points rather s of it.	56
		57·9	53 31	e F; R; b M; 30″. This $\mathcal{R}$ preferable	64
510	Nova.	8 22 51·4	36 38 13	F; S; R; about 40° s f a ✱	328
		55·1	39 30	v F; S; R; 12″. The following and brighter of 2	327
511	Nova.	8 23 38·4	62 26 52:	e F; a doubt remained; windy	115
512	II. 318	8 24 53·3	60 57 41	F; R; b M	64
		54·6	57 25	F; irr R; b M	57

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
513	IV. 35	8 25 34·4	105 34 5	A ✱ 14 m with a fan-shaped brush 15″ l to the s p side; the brush however judged by both Mr. Dunlop (who saw it) and myself not to be in contact. A B ✱ 6 . 7 m, n f.	111
514	II. 319	8 27 8·8	60 43 21 :	v F. Clouded before P D could be well obtained	64
		11·0	43 14	p B; S; R; b M	57
		12·0	43 2	F; L; b M; 60 ... 80″	115
515	III. 257	8 27 15·9 : :	88 42 44 : :	Extremely doubtful, as I could not recover the object	397
516	VII. 63	8 30 15·6	119 21 12	A fine cl shaped like a flattened X. Stars 11 ... 13 m; fills field, but the most comp part = 6′ diam; p rich; not m comp M.	316
517	Præsepe.	8 30 25·1	69 26 23	Præsepe Cancri (M 44) is so very loose and straggling that it would only be noticed as a region rich in L stars;—so also described in Sweeps 59 and 63.	333
518	I. 204	8 31 24·7	39 12 31	p B; p m E; p s m b M; 30″ l; 20″ br	330
		27·1	11 36	B; S; E; p s b M; pos n p to s f	329
		28·0	10 58	p B; p m E; p s m b M, almost to a ✱; 30″ l	328
		30·7	10 50	p B; E; S. A fog coming on	327
519	Nova.	8 32 50·3	93 31 36	A v F cl or r neb; g b M; 80″, one ✱ 17 m distinct; stars and nebulosity; has 2 p B st s and one following.	234
520	I. 288	8 32 59±	11 9 0	v B; l E, in parallel; p s m b M, to a nucl = a ✱ 12 m; 30″. Has a L ✱ p and another f, at a considerable dist.	170
521	III. 49	8 33 9·8	75 6 45	F; R; b M; 12″	395
		12·1	6 24	Not v F; S; R; p s b M; 12″	243
522	II. 727	8 33 17·0 :	54 41 24 :	F; L; R; place badly taken	51
		23·0	41 5	F; L; R; r; 50 ... 60″	128
		24·4	40 22	F; L; R; r	127
523	Nova.	8 35 13·0	35 30 22	e F; p s b M	324
524	Nova.	8 37 50·4	76 46 41	A neat cl of stars 9 and 10 m regularly arranged about a central one. (N.B. This is nearly the place of III. 50, but no neb was noticed.)	241
525	Nova.	8 38 14·8	42 19 9	The chief ✱ of a coarse cluster	139
526	II. 80	8 39 39·4	70 18 42	p B; R; b M. Query if not bicentral	63
		40·8	18 13	v B; R; v s m b M to a ✱; a v F ✱ follows	333
		41·4	17 46	v B; p L; p g m b M; a v S ✱ s f almost involved	334
527	II. 48	8 40 18·4 :	70 21 46	The faintest object imaginable, and discerned with the utmost difficulty. Sky perfectly clear.	334
528	VIII. 10	8 40 37·9	77 67 21	A poor cluster of 4 or 5 large and a few sc s st	242
		62·1	61 30	The chief star 9 . 10 m of a place rich in stars	120
		63·2	59 51	A v coarse and poor cl. Place of a D ✱	241
		...	60 5	An insignificant cluster. No other near	123
529	III. 294	8 41 8·8	58 30 3	p B; R; v g m b M; 15″	56
530	I. 242	8 41 15·1	38 3 13	B; L; v s m b M to a ✱ 10 . 11 m, but sharply defined. It is a neb ✱ with a v F extensive nebulosity.	328
		16·3	2 45	v B; v s m b M to nucl. Seen through thick fog; a L ✱ s f dist 10′ and 2 S st p near.	327

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
531	M. 67	8 41 29·4	77 32 3	Pretty rich cl of sc st 10 .... 15 m	17
		49·6	33 47	200 st, more or less; it fills field; st 11 ... 15 m. It is preceded by a rich region of st 9 ... 10 m.	19
		68·4	34 56	Superb cl very rich and brilliant; fills field; stars 9 .... 15 m; straggling at edges and not very comp in M.	241
		75·9	35 2	100 or 200 st coarsely sc 11 ... 15 m	22
		...	34 13	A cluster. No further descrip	242
532	I. 200	8 42 5·0	55 57 42	v B; v L; m E; 45° n f to s p; g m b M; 5′ l; 40″ br; windy	127
		5·5	57 25	v B; v L; g m b M; 5′ l; 50″ br; E 45° (s p by diag)	128
		6·3	56 0	v B; v m E; pos 40°·9 by microm 4′ l; 1″ br; p g b M; 4 stars near	337
533	III. 712	8 42 53·4	40 12 1	v F; p L; R; 30″; a * 12 m s f (one semidiam from edge) and one 13 m, n p.	330
		56·1	11 56	p F; R; g b M; 20″	329
534	III. 831	8 44 37·6	37 17 13 : :	v F; S; R; p s b M	328
535	II. 823	8 44 43·6	38 0 18	p B; m E nearly in merid; p s b M	328
536	II. 880	8 45 49·6	92 25 19	p B; S; E nearly in parallel between 2 st of 12 and 15 m, each half the length of the neb from the adjacent extremity. See fig 61.	21
537	IV. 66	8 46 33·4	35 35 7	A * 11 . 12 m with a p B fan-shaped neb appendage in which there seems to be one v F *. A curious object. See fig 65.	324
538	Nova.	8 47 2·6	92 32 49	v F; R; r; 30″; stars suspected in it. A * 9 m precedes. This may possibly be II. 281 with an error of 10′ in P D, but I have no reason for believing my obs erroneous.	20
539	Nova.	8 47 17±	10 8 ±	p B; S; E from n f to s p. Has a * n f	171
540	Nova.	8 48 1·8	44 26 37	p B; L; E; v g b M; 2′ l; 1½′ br; with attention a central point is seen = a * 18 m.	139
541	III. 540	8 49 32·1	53 37 12	A strong suspicion of a neb, but clouds prevented verification..	331
542	II. 557	8 49 48±	83 0 ±	F; p L; R. R from working list, and P D hardly more than conjectural.	116
543	II. 529	8 50 28·9	94 14 10	v F; R; v g b M; p L; 60″	235
		29·7	15 6	p F; R; v g b M; 25″	234
544	Nova.	8 51 13·3 :	53 35 47	e F; S; R	401
545	II. 834	8 51 28·3	29 23 47	e F; R; quite certain.....	404
546	Nova.	8 52 31·3	92 43 19	v F; L; R; b M.....	21
547	Nova.	8 53 0±	93 3 54	e F; R. R between $52^m\ 31^s$ and $54^m\ 41^s$.....	21
548	Nova.	8 53 34±	12 49 ±	p B; p L; E; v g l b M; 90″ l; 40″ br.....	171
549	Nova?	8 53 56·4	37 34 23	Four small st with a strong suspicion of nebula among them ..	328
550	I. 249	8 54 2·7	28 51 20	v F; p L; R; v g b M; 60″; ☾☾. A * 8 m n p.....	404
551	III. 60	8 55 1·4	70 53 2	v F; R; has a double * to n.....	63
		1·8	51 56	v F; is s of a coarse double *	334
552	III. 825	8 55 21·2	53 56 35	Near a *, but doubtful	337
		21·8	56 27	e F; has * 12 m 45 ... 50° n p; dist 60″.....	401
		22·5	56 45	e F; R; v g l b M. A * 11 m 75° n p; 40″	128
		23·4	57 27	e F; S; s of a st 12 . 13 m	127

No.	Synonym.	℞ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
553	II. 828	8 56 40·4	35 28 17	p B; p L; l E; v g l b M	324
554	III. 647	8 57 38·4	51 41 37	p F; R; S; but not nearly so F as II. 825, which precedes it in the sweep.	401
555	I. 250	8 58 19·3	29 16 31	p B; l E; p s b M; 50″ l, 45″ br	404
556	Nova.	8 58 22·8	38 55 31	e F; s b M to a * 15 m; the first of 3	330
557	III. 236	8 58 32·7	67 52 22	No description	59
558	II. 520	8 58 42·8	85 55 30	v F; p L; g b M, but not to a nucleus	238
559	Nova.	8 58 43·7	38 54 1	Not e F; l E; b M. The second of 3	330
		45·5	53 16	Not v F; l E; S; p s l b M; 15″	329
560	II. 275	8 58 49·0	104 49 14	e F; p L; has a small * just n, and four more preceding	111
561	Nova.	8 58 52·2	38 57 21	v F; R or v l E. The last of 3 S neb	330
		54·1	57 6	v F; S; l E; 10″	329
562	II. 490	8 59 3·5	56 11 20	F; m E in direction 45° n p; 3′ l, 1′ br	128
		6·5	11 24	F; E 75° n p ... s f; 90″ l, 30″ br	51
		7·6	11 7	F; L; m E; pos n p ... s f	127
563	Nova.	9 0 55·5	44 21 2	p B; v L; R; v g b M; r; 3′ diam. ☾	139
564	I. 2	9 1 14·8	82 16 27	p B; R; g m b M	18
		17·9	16 26	v B; R; p s b M; 2′ diam; the hazy border perhaps extends further; r::	116
565	III. 61	9 1 20·1	71 37 42	v F; S; r. My MS obs makes the P D 70°, but my father's obs makes it 71°. Each relies on a single obs. Of course I prefer 71.	63
566	II. 546	9 1 50·5	54 17 34	p B; S; R; m b M; 20″	51
		51·1	16 40	B; R; v s m b M; 20″	337
		52·7	16 27	p F; R; b M; 30″	127
		54·0	16 35	Not v F; R; p s b M; 25″	401
567	III. 825	9 2 11·9	54 22 31	v F; S; $7^{s}\cdot5$ following a S double *	337
568	I. 167	9 3 4±	49 16 ±	Viewed. Found in place as determined by my father. No description.	335
569	I. 66	9 3 25·1	104 7 31	p B; E in parallel; p s b M; 60″ l	111
570	I. 216	9 3 39·8	20 4 51	F; E in parallel; p s b M; 30″	377
571	I. 59	9 4 44·4	113 30 4	p B; R; g b M; 25″	317
572	Nova.	9 6 19·4	54 52 10	v F; R; has a D * 5′ n; 1^{s} p	128
		21·5	51 15	v F; S; R	337
573	III. 296	9 6 28·3	58 24 28	The faintest conceivable	56
574	III. 832	9 6 31·7	36 46 48	A * with v F neb attached, in which is involved another * 10″ dist.	328
575	III. 62 ⎫ III. 63 ⎭	9 6 38±	70 20 33	A S F close double nebula. The individuals are 30″ asunder. Place hardly more than conjectural in P D. ℞ by working list.	63
576	II. 868	9 7 12·0	25 2 45	v F; S; near a * 8 m	410
577	Nova.	9 7 12·4	69 5 56	v F; S; R; the n p of two, distant 8′	59
578	Nova.	9 7 30·0::	69 14 19:	v F; S; R; the s f of two, distant 8′	59

No.	Synonym.	℞ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
579	Nova.	9 7 56·5	28 50 33	F; p m E	410
580	II. 505	9 8 12·2	105 35 52	p B; E to n f; p s b M; 60″	111
581	Nova.	9 9 0·5	55 33 25	e F; E	337
		...	33 0	v F; it is the s p of two. The other is I. 113	51
582	I. 113	9 9 22·0	55 32 24	B; R; b M	51
		23·0	55 31 50	p B	337
583	III. 627	9 9 55·9	49 59 46	p F; S; R	335
584	I. 205	9 10 14·0	38 18 3	v B; v m E; v s m b M; pos 150·8; comes up to a nucleus, a star 10.11 m; has 2 st not involved 11 & 12 m, and a 3rd 10 m perp to axis of neb.	328
585	Nova.	9 10 20·8	105 45 43	e F; R; b M; precedes a ✱ 8ˢ·5	111
586	III. 827	9 10 22·1	53 54 57	v F; not v S; R; 100″....120″ s f a ✱ 10 m	127
		...	.....	Viewed. It is 1 field ($1^m\frac{1}{2}$ ±) f a v B ✱ 6.7 m	128
587	III. 488	9 12 5·8	105 47 43:	v F; L; E n f to s p; l b M. It is 9ˢ·5 in ℞ preceding a ✱ 11 m, and is S of the ✱.	111
588	III. 629	9 12 25·9;	49 8 56:	v F; S; R; has a ✱ 10 m 2′ dist prec. The first of 2	335
589	III. 714	9 12 26·6	40 4 56	v F; p L; R; v g b M. The preceding of 2, making an isosceles triangle with the other and a star.	330
		28·8	4 36	p F; R; p s l b M; 20″. The s p of 2, making an isosc triang with a ✱ 9 m.	329
590	III. 630	9 12 29·4:	49 7 6::	e F; p L; v g b M; the following of 2	335
591	III. 713	9 12 40·4	40 2 1	p F; l E; v g b M; the foll of 2	330
		41·7	1 31	Not v F; R; p s b M; 20″; the n f of 2, making isosc triang with a ✱ 9 m.	329
592	I. 132	9 13 14·6	101 11 24	p B; R; 45″; p g m b M; almost to nucl	129
593	I. 137	9 13 53·5	54 45 4	B; R; m b M; 40″; not resolved with 240	51
		54·9	45 40	B; R; p s m b M; almost to a nucleus	128
		55·5	46 11	v B; R; v s m b M, to a ✱; follows a ✱ 7 m and is 3′ S of it.	336
594	III. 520	9 15 20·6	99 42 26	F; extended between 2 stars 12 & 16 m	129
595	III. 846	9 15 24·3	31 54 7	v F; p L; l E; v g l b M; 35″ l, 30″ br	323
596	I. 260	9 16 10·8	26 46 41	p B; R; p s b M; 20″. Among stars	411
		10·9	46 52	p F; R; S; v g b M; 40″; a ✱ 12 m follows. Δ ℞ = 16ˢ·5; pos = 72°·6.	404
597	II. 546	9 16 26·0::	77 49 48:	The bisection at $16^m\,31^s\cdot1$, 50′ 33″; dist of centres $2\frac{1}{2}'$ or 3′	17
		28·6	50 10	The preceding, brightest, and most condensed of two; both B; R; p s b M.	120
		29·0	50 12	The p of a double neb, both R; g b M; 40″; dist from each other 90″ ±. The bisection observed at ℞ $16^m\,32^s\cdot0$; P D 77° 50′ 21″.	19
		30·7	49 49	p F; S; R; p s b M; the n p of two. Pos of the other from this = 110°·6.	242
		32·1	50 56	v F; S; R; the n p of two. Pos of the foll 107°·3	241
		32·2	50 32	The first and brighter of two	123

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
598	II. 547	9 16 33·6	77 51 0	The f and fainter of 2 p B; p s b M	120
		35·0	50 32	The f of a D neb. R; g b M; 40″	19
		35·7	50 39	F; R; g b M; the s f and larger of 2, pos from the 1st = 110°·6	242
		35·7	50 47	The fainter of two 25° s f	123
		36·1	51 11	v F; S; R; the s f of 2	241
		36·2::	51 18::	The f of a double nebula. See II. 546.	17
599	Nova.	9 17 59±	66 15 17	e F; v S; E in parallel; R very uncertain	59
600	III. 555	9 18 57·6	100 54 29	p B; p L; R; v g l b M; 80″. The MS makes the P D 101°, but two agreeing obs of my father prove this to be a mistake.	129
601	Nova.	9 19 59·4	31 46 37	v F; R v g b M; 15″; has a coarse D * 7′ s	323
602	III. 297	9 20 12·8	59 41 1	F; v s m b M to a * 12 m	56
		13·2	43 22	S; R; s b M; 20″; has a * 8 m 55° n f dist 3′. N.B. The working list very erroneous in P D. An extraordinary difference in these obs.	115
603	III. 8	9 20 26·4	81 31 56	2 or 3 st and nebulosity	116
604	I. 56 } I. 57 }	9 22 32·2	67 45 5	v B; v L; E; 3′ long. An approach to a 2nd nucleus. See fig 70	59
		32·3	45 45	An e F, R, neb. Appended n f to a v L, R, v B, one p s b M, but not to a *.	246
		...	47 ±	I. 56 is v B; E; g b M; r. Long attention shows a v F, L, R, neb attached n f.	244
605	Nova.	9 22 57·5	23 18 23	e F; S; p s b M; 12″	412
606	II. 495	9 23 1·2	80 48 56	p F; S; l E	134
		1·9	49 46	F; not v S; R; g l b M	116
607	II. 506	9 23 38·0	105 59 36	F; b M; l E s f; 30″	111
608	II. 40	9 24 38·5	79 6 0	F; R; b M; 40″; the preceding of two	123
609	III. 513	9 24 56·3	79 8 30	v F; R; b M to a nucleus; 25″	123
610	II. 260	9 25 10·4	67 32 38	No description	246
		19·7	32 38	F; S; R. Seen also in Sw. 244 in its place by working list, but no place taken.	59
611	III. 298	9 25 36·4	57 33 2	F; R; v s b M almost to a *	56
612	III. 963	9 27 11·2	12 39 46	e F; has a coarse D * 3′ following	414
613	Nova.	9 28 53·7	55 14 5	v F; v L; l E parallel to merid; v g b M; has a * 10 m following	128
		53·8	13 40	Not v F; L; R; v g l b M; 40″	337
614	III. 4	9 29 1·7	79 42 56	Not v F; S; l E; p s b M	134
		3·9	44 25	e F; R	123
		...	43 ±	v F; R; v g b M; 30″	120
615	III. 519	9 30 3±	82 16 ±	e F; p L; v g b M. R by working list	116
616	IV. 68	9 30 4·5	30 23 37	S; R; v s v m b M, yet not to a nucleus	323
		6·3	22 48	p B; R; s m b M; almost to a *. Has a * 11 m 20ˢ·0 p and 15 or 20″ n. R very precarious.	404
617	Nova.	9 30 15·4	16 14 7	e F; has a * 13 m near	382
618	Nova.	9 30 38·0	20 37 19	F; R; p L; v g l b M; 40″; is s of a S group of st.	377
619	III. 315	9 30 47·4	16 15 37	v F; R; b M	382

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
620	III. 541	9 30 56·1	53 20 57	F; p L; R; v g l b M; 30″; has * 18 m 30″ p	331
621	Nova.	9 31 50·8	85 37 57	v F; R; g b M	18
622	I. 114	9 32 45·7	57 25 ±	B; v L; E; v g b M; 2′ l, 1½′ br. P D estim	128
		47·5	22 32	B; v L; v g l b M; E; 2½′ by 1½′	127
		47·8	22 30	v B; v L; 1st class rather E; 2′	337
		47·8	23 23	B; E; g b M; 60″. The sp of two	56
623	III. 751	9 32 57·1	52 58 27	v F; R; b M; filamentous (i. e. as if filaments hung round it; an effect probably of diverging lines of small stars, as in M 13. See fig of this last. This appearance therefore indicates its consisting of stars).	331
624	II. 491	9 33 0·2	57 17 0	p B; p L; E	128
		4·3	18 23	p B; R; g b M; 30″	56
		6·3	17 13	B; p L; 60″	337
		6·5	17 17	p B; R; v g b M; the n f of two	127
625	I. 285	9 33 4·2	21 18 13	B; v L; m E in pos = 332°·4; v g v l b M, 3′ l, 1′ br; has several S st in it, and one 12 m nearly at right angles to the axis of extension	411
626	II. 275	9 33 16·8	88 53 45	p B; L; R; v g l b M; 75″; r; well observed (and correctly reduced).	113
		22·4::	53 54	F; L; R; v g l b M; 50″. R approximate	397
627	Nova.	9 33 20·2	57 12 54	F; the foll and most northern of 3	128
628	III. 527	9 33 30·3	97 49 20	e F; R; v l b M	136
629	I. 78	9 33 53·9	16 56 19	v B; R; p g m b M; 50″; has a * 13 m following 1′ dist, exactly in the parallel.	382
630	I. 61	9 33 56·8	92 56 9	B; R; b M. A * 9 m precedes 3ˢ·0, and is s of neb	21
631	III. 521	9 34 49·1	99 36 49	p B; R; p s b M	129
632	III. 528	9 34 50·0	98 49 54	e F; p L; v g l b M	136
		54·7::	50 29:	F; R; b M; a hurried and imperfect obs	129
633	III. 34	9 35 49±	78 14 ±	e F. R from working list; P D rough approx	123
		...	11 ±	v F; R; b M. P D only a rude approx	338
634	Nova.	9 37 14·2	67 11 53	F; v S; b M. The s p of two	59
635	III. 277	9 37 31·6	103 32 56	Not v F; R; b M; 30″	111
636	Nova.	9 37 36·4::	67 8 19	F; v S; R; b M. The n f of 2; pos 40° n f	59
637	III. 278	9 37 38·1	103 35 11	p F; R; b M; 25″	111
638	II. 717	9 38 7·3:	45 7 12:	p B; irreg R; b M; r	139
639	V. 26	9 38 27·5	55 47 59	A singular curved wisp of nebula. It curls up and tapers off at the s p side, and is clubbed at the n f extremity.	51
640	Nova.	9 39 6·4	44 53 34	Not v F; R; b M; r. The first of 2	138
641	Nova.	9 39 12·4	44 52 0	F; p s b M; r; stars seen. The second of 2	138
642	Nova.	9 39 54·6	76 23 44	F; p L; R; g l b M; 50″	240
643	V. 23	9 40 25·9	17 0 3	e F; v L; v g l b M; 3′ l; 2½′ br	382
644	Nova.	9 40 32·9	94 25 21:	e F; L; 60″. The preceding of two	234

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
645	I. 115	9 40 50·5	55 39 34	p B; R; b M; has a * 10 m 20° s f, dist 30″	51
		53·9	39 0	v F; R; b M; has a * 10 m s f	128
646	III. 51	9 40 52·3	76 23 9	e F; p L; R	338
		53·0	23 54	e F	243
		55·1	23 59	v F; E nearly in parallel; v g b M; 30″ l, 20″ br	242
647	Nova.	9 41 8·5	94 22 51	F; R; v g l b M; r. The following of 2	234
648	III. 52	9 41 16·6	76 28 0::	v F; p L; E. P D estimated from III. 51, which precedes	242
649	M. 82	9 41 16·9	20 7 49	e B; e L; E, pos = 156°·0; g b and then s v m b M, with faint rays of light nearly to extremities of field (15′). The most condensed part is 4′ l and 3′ br.	377
650	Nova.	9 42 13·4	59 58 41	p B; S; p s b M; between 2 B st	408
		17·4	58 52	A * 12 m with an e F neb atmos about 10 . . . 12″. It is between a * 8.9 m n p and one = 10 m, s f, neither of which are so affected. A curious object.	115
651	II. 835	9 44 4·2	29 53 45	p F; S; R	406
		14·9	54 47	e F; p L; 35″; v g b M; has a * 10 m 7′ n	323
652	III. 254	9 44 53·6	87 37 44	v F; m E, pos = 111°·5; 80″ l, 15″ br. Aurora in sky, even at this P D.	397
653	II. 903	9 45 41·3	13 1 41	Very doubtful. ☾ and haze	414
654	II. 333	9 46 1·4	17 0 57	v F; S; R; 10″; near * 11 . 12 m.	382
655	II. 334	9 46 16·4	17 3 48	F; R; 20″; v g l b M	382
656	VI. 4	9 46 23·4	84 55 38	p B; g b M; r; l E; 60″ l, 40″ br; twilight. No other cluster or neb near.	143
		26·8	56 9	e F; R; v g b M; a very condensed cl or r nebula. A * 8 m follows.	238
		. . .	. . . . .	e F; difficult to see for ☾. It is like a v F r neb 2 or 3′ diam; precedes * 6 . 7 m about $1\frac{1}{2}^{m}$.	237
657	II. 492	9 48 21·1	56 49 35	F; l E; 30″; has * 9 m 6′ f	337
		22·0	49 4	p B; E; has a * 9 . 10 m n f	51
		22·5	49 25	p B; p L; E in parallel; g b M; 60″ l, 40″ br; has * 10 m n f	128
658	I. 286	9 48 33±	20 26 45	B; R; p s b M; 60″. Æ from working list, but found in its place.	377
659	I. 272	9 49 2·8	78 50 13	p B; p L; R; g b M; 40″	123
660	III. 542	9 49 31·1	53 47 17	e F; R; v g v l b M; 60″; has a * 10 m in parallel, dist 7′	331
661	III. 24	9 51 36·7	66 47 19	v F; S	59
662	III. 916	9 52 27·8	29 4 51	F; v S; R; b M; a coarse D * n f points to it; has a * 11 m 30″ dist, pos 142°·2.	406
663	Nova.	9 52 38·7	64 28 23	p B; S; m E in parallel; 30″ l, 10″ br; b M to nucleus	58
		42·2	28 58	p B; m E; p s b M; 30″ l; 10″ br	407
664	III. 478	9 52 39·6	56 28 35	e F; S	337
		40±	27 24::	e F; doubtful	51
665	IV. 48	9 53 29·1::	48 26 51::	A v S * 14 m seems to have some nebulous appendage, but ☾ troublesome.	335
666	II. 320	9 54 13·3	57 59 42	F; S; R; s m b M; is equal to a * 12 m	56

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
667	Nova.	9 55 19·5	41 54 49	pB; R; smbM; 20″	138
		19·8	55 2	Not eF; S; R	330
		21·6	54 36	B; R; psmbM; almost to a ✳ 12 m	329
668	I. 163	9 56 45·3	96 53 33	vB; L; mE; vsmbM; almost to a nucl; 3′ l, 30″ br. With 12 inches aperture, its nucleus is rather speckled; with 6 inches it is barely discernible as a neb. P D by MS 97°, but my father's obs makes it 96°. Each has but one obs. Of course I prefer 96.	136
669	III. 65	9 59 2±	70 45 ±	eF; S; R. Forms a triangle with 2 st. R by working list; P D rough approx.	332
670	Nova.	9 59 9·3	79 12 0	eF; S; psbM; follows 31 Leonis 16ˢ·5, and is 1′ 40″ s of it	123
671	Nova.	9 59 16·0	70 56 6	pB; pmE; gbM; 40″ l, 20″ br. Found in looking for III. 65 by working list.	334
672	Nova.	10 0 17·0	43 12 27	F; R; gbM; 25″	139
673	III. 518	10 1 49·6	101 35 29	F; L; R; vgbM; 60″. In field with λ Hydræ	129
674	I. 79	10 2 8·9	15 45 46	vB; L; R; at first vg, then vs, vmb M	382
675	Nova.	10 2 52·5	38 40 33	A star 7 m has a photosphere 2 or 3′ diam. Sky perfectly clear; glass quite clean; windy. Another ✳ of same magnitude viewed presently after has no photosphere.	328
676	Nova.	10 3 ±	14 45 ±	vF; S; R. R extremely precarious	171
677	III. 53	10 3 31·7	76 29 59	eF; pL; R	242
678	II. 639	10 3 43·5::	50 24 39::	B; R; psbM; 35″	335
679	Nova.	10 3 47·6	32 29 57	eF; R; vglbM; 15″	323
680	III. 255	10 3 51·9	86 1 38	pB; S; R; psbM; 15″	143
681	II. 640	10 4 0·5::	50 31 21::	F; R; gbM; 30″	335
682	II. 43	10 4 2·3	66 25 20	pB; L; R; glbM; a ✳ 10 m precedes	244
		3·9	25 43	Not vF; L; R; vglbM; 70″	246
		...	26 ±	pB; pL; bM; r	59
683	Nova.	10 4 39·5	28 55 45	F; psbM; like a star rubbed out. A ✳ 7.8 m in field np— dist 5′.	406
684	I. 3	10 4 54·9	85 44 18	B; pS; R; psbM; 25″	143
		56·4	43 54	pB; R; psbM; 20...30″	238
		57·1	44 33	B; R; psmbM; the preceding and brighter of two. Δ R = 29ˢ·25	237
		64·8::	43 27	B; R; gbM; 60″. The p of 2. (The R very precarious, the chronometer not being then in use.)	18
685	I. 4	10 5 24·2	85 41 30	B; R; psbM; 30″. Has a ✳ 10 m 20° nf, dist 90″	143
		24·7	42 9	B; R; pgmbM; the foll and fainter of 2. Δ R = 29ˢ·25	237
		26·2	41 49	pB; lE; 30″; has ✳ 12 m nf; pos 78°·2; 70″ dist	238
		33·8::	40 27	B; R; gmbM; 60″; the foll of 2. R very precarious	18
686	Nova.	10 5 39·6	42 33 47	F; S; R	139
687	III. 25	10 7 11·2	68 1 31	Not vF; S; R; psbM; 16″	246
		12·0	1 40	Not vF; S; R; psbM	244
		12·7	2 16	pB; pL; R	59

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
688	I. 168	10 8 1·2	47 44 7	F; v L; R; v g b M; a * 8 m p, 10′ dist	248
689	Nova.	10 8 4·5::	47 32 11::	p F; v L; R; v g b M; 12ˢ·5 of time in diam; has a * 11 m 2′ north.	335
690	III. 910	10 8 15·6	31 44 12	e F; p L; 30″	323
691	Nova?	10 8 34·0	42 42 52	F; S; R; b M; 15 ... 20″. If this be III. 704, there must exist a great error in P D on one or other side.	139
692	II. 44	10 8 42·6	67 19 5	B; p m E; p s b M	244
		43·3	19 13	p B; E; g b M; 45″ l, 40″ br	246
		44·8	19 26	B; E; s b M to nucl; 60″ l; the s p of 2	59
693	II. 45	10 9 1·5	67 15 35	B; R; has a * 8 m n, dist 60″. The n f of 2	59
		2·0	15 20	p B; R; p s b M; pos of a * 10 m from neb = 352°·0	244
		2·2	15 33	B; R; p s b M; 30″; has * 10 m n p, 90″ dist	246
694	III. 348	10 9 11·7::	61 29 31::	So e F that I remained unsatisfied	57
695	I. 199	10 9 23·3	43 35 19	F; v L; b M; m E; 6′ l, 2½′ br; r	140
696	II. 720	10 10 16±	46 9 45::	v F; R; v g b M; 30″; the preceding of 3 neb in a triangle. Some stars near.	248
697	I. 266	10 10 30·6	32 13 7	v F; L; E; v g l b M; 2′ l; 1½′ br	323
698	Nova.	10 10 31·0	61 19 57	F; L; 40 .... 60″; g b M	115
699	II. 721	10 10 32·5	46 11 52	v F; R; v g b M; 30″; the second of 3 in a triangle	248
700	II. 722	10 10 44·1	46 9 52	v F; R; v g b M; 30″; the last of 3 in a triangle	248
701	Nova.	10 11 6·0	63 38 48	F; R; 30″; has a *	58
702	III. 330	10 12 14·7	65 12 54	e F; R; 20″	407
703	II. 882	10 13 42·2	31 0 17	p F; L; E; v g b M; 30 .... 40″	323
704	Nova.	10 14 11·9	22 20 3	A cluster of 20 stars more or less, 10, 11 and 12 m, scattered over a space 10′ diam. A star 7 m s.	412
705	Nova.	10 14 38·9	76 35 4	A very close D * of the first class involved in a nebulous wisp. "A most curious, delicate and interesting object." This is my double star No 2529.	243
		39·2	34 54	A triple star in a nebula, a fourth * suspected	242
		40·5	36 ±	A double * in v F nebula	338
706	Nova.	10 14 57·3	62 7 2	p B; R; p s b M; 30″	115
707	Nova.	10 15 12·3	27 52 13	e F; S; p s b M; 8″; 2 st 11 and 12 m follow	406
708	III. 883	10 15 29·1	31 55 22	Not v F; R; p s l b M; 20″	323
709	III. 631	10 15 41·0::	49 30 46::	p F; R; S; p g b M; 10 ... 12″	335
710	IV. 10	10 15 53·1	71 59 2	A * 9 m, with v F neb. atmosph, rather excentric. Has 2 st p and ? another v S * f.	332
		53·2	59 42	A * 9 m, with a v F neb. The * is excentric, and has another * foll at extreme edges.	63
711	I. 86	10 17 42·6	60 37 5	v B; R; g m b M; 40″	68
		43·1	37 51	v B; R; p s m b M; r; 40″	408
		43·5	37 52	v B; m E; v s m b M; 40″ l, 15″ br	343
		43·9	38 22	B; E; comes up to a nucleus	57
		...	38 31:	v B; E; comes to nucleus. Transit missed	66

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
712	Nova.	10 17 52·5	85 16 38	e F; S; R; two st, 10 and 11 s p, dist 90″	142
		...	18 ±	e F; has a * 6 m, 30° n p, dist 8′	143
		...	.....	Viewed. It is 31ˢ·5 foll a * 6.7 m, and makes a triangle with 2 S st.	238
713	II. 374	10 18 22·2	66 17 25	p B; R; S; p s b M; 15″	244
		23·0	17 17	No description	246
		...	17 25	F; S; b M	59
714	I. 72	10 19 43·5	59 38 19	p B; E; b M	68
		47·3	38 37	p B; R; s b M	6
		...	38 ±	F; R; p s b M; 40″; has coarse D * 23ˢ·0 f	341
715	II. 870	10 20 34·7	24 5 41	F; R; g b M; 18″	411
716	Nova.	10 21 21·4	33 2 27	e F; between 2 S stars	323
717	II. 871	10 21 22·1	24 23 6	v F; R; p s m b M; almost to a star	411
718	III. 349	10 21 32·3	60 20 18	p F; a * very near or else extended	408
		34·2	20 17	p B; R; p s b M	343
		35·4	20 32	p F; S; b M; has a * s f	115
		36·4	20 32	v F; S; R	57
719	III. 331	10 22 4·2	64 15 18	F; E; g b M	58
720	II. 358	10 22 45·0	61 27 23	F; R; 25″	415
		45·3	27 56	v F; R; g l b M; 30″	408
		47·1	27 31	F; has a D star f	66
		50·3	28 22	p B; p L; R; b M	115
721	II. 359	10 23 22·3	60 36 32	B; R; g b M; 30″	68
		23·3	37 28	p B; v S; R	57
		23·4	37 26	B; R; p g m b M; 15″	408
722	III. 917	10 25 10·9	30 30 57	v F; p S; R; p s l b M; 15″	323
723	III. 918	10 25 14·4	30 34 17	e F; S; R; v g l b M; 12″	323
724	I. 164	10 26 28·6	51 48 2	p B; m E; g l b M; 2′1, 45″ br	331
725	III. 767?	10 26 53·7	39 0 36	v F; two distant stars nearly on parallel	329
726	III. 54	10 27 22·0	76 25 23	p L; so faint as to be barely perceptible, but a sure observation.	338
727	III. 55	10 27 34·1	74 57 2	F; R; g b M	24
		35·0	57 34	e F; S; R; p s b M; 10″	243
728	II. 46	10 27 38·7	67 14 19	B; R; p s m b M; 35″	244
		40·6	14 38	B; E; nearly lost by looking too late	59
		...	16 ±	No descrip. P D only rudely taken to satisfy myself of an error in my father's place, as shown in the working list.	246
729	III. 615	10 27 48·4	51 40 2	e F	401
		51·3	40 17	v F; S; p s b M; 12″	331
730	III. 66	10 27 49·5	70 59 57	v F; v S; R; l b M	63
		50·0	59 6	v F; S; R; g b M; 12″	334
731	IV. 60	10 28 6·6	35 36 32	B; R; v s m b M, so as to form almost a disc 15″ diam. Surrounded by a v feeble atmosphere. See fig 40.	324

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
732	II. 745	10 29 22·4	41 43 6	F; m E; between a * 10 m and 1 of 14 m	329
		25·6	41 17	v F; E in a direction between 2 small stars 13 m and 11 m, from s p to n f. (Fog.)	330
733	Nova.	10 29 52·2	12 17 24	p B; S; p s m b M	413
		57±	16 ±	p B; irreg R; p s m b M; 15″	171
		61·2	18 11	p B; l E; g b M; 25″. The obs makes the P D 13°, but there can be no doubt that this neb is the same as that of the two preceding observations.	414
734	II. 348	10 30 37·7	65 1 48	v F; R; g b M; 30″	407
		39·2	1 38	v F; S; has either a * which gives it an apparent elongation in parallel, or is a double nebula.	58
735	II. 641	10 31 45·0	51 48 56	v F; R; b M	401
		...	47 ±	F; R; 30″. Taken much out of merid. P D only approximate.	331
736	III. 317	10 32 55·9	15 45 28	not v F; R; g b M	382
737	II. 77	10 33 6·3	75 22 7	F; E; p L; 60....90″	24
		7·3	22 39	F; E; p L; v g b M; follows a * 7 m 10ˢ·0	242
738	I. 80	10 34 9·6	16 15 59	B; R; p s b M; 40″; has * 11 m pos 281°·8, Δ R A = 20ˢ·0	382
739	I. 81	10 34 10·6	64 10 58	p B; L; g b M; has (?) a * excentric within it and a double * closely following it.	58
740	I. 26	10 34 33·3	77 7 19	e F; hardly visible	243
741	III. 842	10 34 45·7	33 9 7	p B; S; R; p g b M; 15″; a S * 90″ s	323
742	Nova.	10 34 53·0	58 22 58	e F; v S; very difficult, but a certain obs; is n of 2 st 9 or 10 m. Sky perfectly clear.	342
743	M. 95	10 34 54·5::	77 25 9:	v B; L; R; g m b M; 2′ diam. R A only approximate	19
		60·6	24 43	B; R; p g b M; r; 150″ diam	338
		62·2:	24 4	Just seen through a thick cloud	240
		...	26 ±	F; L; g m b M; r; 3′ diam. Approx place	243
		...	.....	Viewed; v F; E; r; 30 or 40″ (probably cloudy); a star precedes. A very doubtful obs.	2
744	III. 107	10 35 19·1	82 21 16	e F; R; b M; 30″; a * 9 m s dist 2′ or 3′	117
		19·2	21 34	F; S; R; b M; 20″	250
745	V. 52	10 35 20·5	25 53 1	p F; L; E in merid; g l b M; 2½′ l, 2′ br	411
746	III. 318	10 35 39·6	16 40 13	e F; L; R; v g b M; 60″; a coarse d * s f points back directly to it.	382
747	Nova.	10 37 26·8	87 19 7	e F; L; 2′ l, 20″ br; v g v l b M; a ray neb	144
748	II. 78	10 37 34·4	75 21 38	p B; v L; irreg R; v g b M; 2′ diam	338
		35·2	21 34	p B; L; R; v g b M; the preceding of 3 in a triangle. Pos of 1 and 2 = 68°·4; of 2 and 3 = 156°·8.	242
749	M. 96	10 37 42·4:	77 18 11	v B; L; R; g m b M; r; 2′ diam	19
		43·1	17 34	v B; p L; s m b M; almost to a nucl. Seen at the same time by M. Knorre.	22
		46·8	17 17	v F (cloudy); R; p s b M; a good obs of place	240
		48·5	17 0	v B; v L; E; v s v m b M; 6′ l, 5′ br	340

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
750	II. 81	10 37 57·9	71 50 1	B; R; pL; pgbM; 35″	334
		58·4	50 27	pB; R; bM; r	63
751	Nova.	10 38 1·7	75 18 59	F; R. The second of 3 in a triangle	242
752	III. 701	10 38 4·2	45 54 52	vF; S; R; 12″	248
753	Nova.	10 38 13·7	75 25 49	F; R; the last of 3 in a triangle	242
754	II. 99	10 38 40·5	75 6 49	vB; R; sbm to a *; 45″	418
		41·6	7 6	B; R; smbM; 30″. Sky clearing after clouds	241
		...	.....	vB; first Class; vsvmbM; 90″	419
755	II. 360	10 38 45·2	60 30 31	B; R; smbM; 30″	65
		46·7	30 42	pB; R; bm; 25″	343
		48·2	30 6	B; R; sbM; 30″	66
		48·7	30 34	F; S; R; bM	57
		49·7	29 52	No description	115
756	II. 565	10 38 49·0	54 24 24	F; R	51
		54·0	23 20	pB; L; R; vgbM; 90″	128
757	I. 17	10 38 50·1	76 31 33	vB; pL; R; psvmbM; 50″; r. The first of 3	338
		50·5	32 14::	vB; R. The first of 3	243
		50·7	31 24:	vB; L; R; psbM; 50″. (Seen also in Sweep 2.)	240
758	I. 18	10 39 16·7	76 28 54	vB; L; R; psbM; 40″. The second and most n of 3	240
		16·9	29 19	vB; R. The second of 3	243
		17·1	28 48	vB; R; psbM; 30″. (Seen also in Sweep 2.)	338
759	Nova.	10 39 21·4	84 6 31	vF; R	142
760	Nova.	10 39 21·5	84 10 34	eF; E	238
		22·9	11 16	pB; R; bM; 15″	142
761	II. 41	10 39 28·1	76 34 23	F; E; vglbM; the last of 3	338
		28·8	33 59	F; L; the following of 3	242
		30±	34 ±	barely visible; pL. Place estimated from the position with respect to the others.	243
		...	.....	vF; diluted; E in parallel; 15″	2
762	Nova.	10 39 29·0	84 8 34	Suspected nebula. Has a B * near	238
763	II. 881	10 39 33·5	23 19 13	eF; S; psbM; near some stars	412
764	II. 872	10 39 57·5	23 21 23	vF; L; lE; vgbM; 50″ l, 45″ br	412
765	I. 116	10 40 20·5	56 7 24	pB; S; E. The sp of two; dist ½ diam	51
		22·6	6 55	B; R; bM	128
		...	8 ±	The p of 2; pos of the other 20° n f, dist 80. The first is the brightest.	125
766	I. 117	10 40 24·2:	56 6 57	pB; S; E. The second and fainter of 2	51
		29·1	6 5	pB; E; is n f the nebula I. 116	128
		...	8 ±	The second and fainter of 2; pos 20° n f. Hazy. Place uncertain.	125
767	II. 335	10 40 57·1	15 25 6	pF; L; E; vgbM; 60″ l, 40″ br	382

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
768	II. 361	10 41 22·2	60 38 17	pB; R; bM; 20″	343
		23·1	38 19	F; S; R	57
		23·4	38 11	pF; R	66
769	III. 919	10 41 23·8	27 43 38	eF; S; R; 6″	406
770	III. 913	10 41 27·5	30 40 17	vF; S; R; is 12″ n of 2 p b st forming an isosceles triangle.	323
771	Nova.	10 41 29·0	38 4 23	pB; 2nd class; R; p g b M; among many stars	328
772	II. 718	10 41 48·4	45 23 22	B; S; R; the 2nd and northern of a trapez of stars 11 and 12 m	248
773	II. 362	10 41 53·5	61 7 8	B; R; g b M	68
		53·6	7 58	B; R; s m b M; 30″	65
		54·5	7 27	B; p L; R; p g m b M	343
		55·7	8 12	vB; R; v m b M; 60″	115
774	I. 27	10 41 53·9	75 41 13	B; R; v s m b M almost to a ∗; 30″	241
		54·9	41 30	B; R; p s b M; 50″; r	340
775	II. 363	10 42 1·5	60 59 27	F; L; R; b M	343
		3·4	59 58	pF; R; p s b M	415
		...	59 52	vF; S; g b M; 20″. Too late for R A	115
		...	59 44	vF; R; R A missed	57
776	III. 522	10 42 10±	101 57 ±	vF; R; b M. R A from working list	129
777	IV. 6 / III. 88 / II. 131	10 42 21·0	83 15 36	F; v L; irr R; v g b M; r; 2′ diam; no other seen. This neb is identical with III. 88 and II. 131.	250
		24·1	15 34	F; v L; R; v g b M; at least 4′ diam; no other near	117
		25·7	15 22	v L; R; 3′ diam; v g b M; r. Directing the eye aside, the stars in it were seen as infinitely minute points. In the 40-feet reflector it would no doubt be seen as a globular cluster.	251
778	II. 494	10 42 21·1	56 12 22	B; E in a wisp; the sp of 2	128
		...	13 ±	F; the sp of *three*. P D very rough	337
779	Nova.	10 42 47·1	56 8 40	B; L; E; g b M; the n f of 2	128
			7 ±	pB; p m E; the second of *three*. P D rough	337
780	I. 172	10 42 50·1	52 29 5	vF; a long ray pos = 40°·8; has a D class 4 *in middle*, and one more.	401
		57·1	28 52	pB; v m E; 90″ l, 12″ br; pos = 44°·2. Its *southern extremity touches* the L ∗ of a D ∗. Can this nebula have moved?	331
781	II. 887	10 42 58·9	27 48 51	eF; l E; S; v g b M; 15″	406
782	Nova or I. 118	10 43 ±	56 1 ±	B; L; the n f of three in a line. This neb may possibly be I. 118, as none exists in the place indicated by my Father (1°32′ s of 46 Ursæ).	337
783	III. 20	10 43 6·1	78 57 17	eF; v L; R; v g l b M; 2′ diam	120
784	III. 497	10 43 10·1	85 18 46	pB; R; v g l b M; 30″	142
785	III. 914	10 43 18·7	31 58 57	No description	323
786	II. 47	10 43 21·2	66 9 48	B; p L; E 30° n p to s f = pos 120°	59
		21·8	10 13	pB; l E; g b M	244
		...	10 8	pB; l E; b M; 40″. R A lost	246
787	I. 267	10 44 6·5	32 6 47	pB; L; R; v g l b M; has ∗ 10 m 2′ n f	323

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
788	I. 283	10 44 15·2	34 47 17	B; mE; g b M; no nucl; $1\frac{3}{4}'$ l, 20″ br; pos = 67°·0	324
789	II. 364	10 44 56·0	61 51 22	p L; E; b M; 90″ l	115
		62·7	51 41	e F; R; 40″	65
		63·1	51 36	F; L; R; v l b M; 60″	66
		64·1	51 39	p B; S; R; b M	57
790	Nova.	10 45 24·8	71 45 1	p F; l E; the n p of two	334
791	II. 82	10 45 26·8	71 48 41	p B; E; g b M. The s f of 2; a * 9.10 m between them	334
		...	48 28	No R A observed	63
792	IV. 29	10 45 42·8	105 7 25	A * 12 m with an extremely F neb appendage. At first it seemed to envelope the *; but Mr. Dunlop, to whom I showed it, considered it to be detached.	111
793	Nova.	10 45 45·6	71 29 22	Stellar. 2 or 3 stars with a nebulous burr observed by Mr. Baily.	63
794	II. 16	10 46 28·0	81 24 9	v F; S; R; p s b M; 12″	250
795	Nova.	10 46 36·9	13 54 6	e F; p L; R; v g l b M; 30″; a D * n f points to it	413
		38·2	54 21	e F; a D * points to it	414
796	Nova.	10 47 23·3	79 21 15	v F: has another still fainter following; has also a * 9 m preceding in the same parallel.	120
797	III. 632	10 47 51·0	48 8 18	F; S; R; g b M; 15″	335
		51·2	8 50	not v F; S; R; p s b M; 12″; a * 13 m near	248
798	Nova.	10 47 51·8	79 20 15	v F; R; v s m b M to a * 12 m	120
799	II. 888	10 48 12·8	29 35 13	e F; R; v g b M; 15″	406
800	III. 332	10 49 12·2	64 51 43	v F; R; g b M; 2′ s of a * 13 m	407
801	III. 705	10 49 34·1	42 58 42	F; S; R	139
802	III. 967?	10 50 8·9	13 16 11	A very doubtful object	414
803	I. 269	10 50 59·7	31 25 17	e F; l E; 40″. It is n of a * 13 m, just at the edge of the neb	323
804	II. 100	10 51 0·9	74 16 54	F; L; R; g l b M; 85″	418
		3·1	14 15	p B; L; E; has a * 11 m $7^{s}\cdot5$ s p	419
		3·4	15 7	F; p L; 90″	24
805	I. 87	10 51 3·2	60 7 2	B; L; R; p s b M; 2′	343
		4·8	6 51	v B; v L; R; s m b M; 90″	65
		5·1	6 41	p B; v L; R; g b M; r	68
		5·4	6 28	v B; E; p s m b M; 60″ l, 40″ br	415
		5·6	7 4	No description	416
		5·7	7 9	F; L; b M; 50″	57
		6·0	6 44	p B; R; p g m b M; r	341
		6·0	6 56	v B; L; R; s b M; 90″	66
		6·2	6 11	B; L; R; g m b M; 50″; r. No doubt a distant globular cluster	342
		9·8	6 17	p B; R; r; seen through cloud	56
806	II. 101	10 51 21·0	75 11 28	v B; first class; l E; p s b M, r	338
		21·0	11 16	v B; first class; R; v s m b M, almost to * 11 m	241
807	III. 21	10 51 39·8	76 55 39	e F; R	242

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
808	Nova.	10 52 10·2	61 22 17	v F; R; b M	343
		12·9	61 22 52	e F; has a S * sp	115
809	III. 498	10 52 26·4	85 27 8	No description	143
		27·2	28 5	F; m E, 60° with merid; 60″ l; 15 ... 20″ br	141
		28·2	28 26	e F; sky perfectly clear	142
810	I. 88	10 53 55·0	61 6 20	p B; E. Pos by diag 120°±. Nucleus has stars in and about it	68
		55·1	7 7	B; E; v s v m b M, to nucl; many v S stars about it	343
		55·3	7 3	v B; a * 10 m with an E neb and a S * 25″ f	415
		55·7	6 36	B; p L; R; s m b M to a *; 60″; r; st seen	65
		57·4	7 20	p B; S; E; comes up to nucleus	57
		...	.....	Viewed past merid. v B; E; s m b M; has a * f involved	115
		...	7 6	B; m E; comes up to a nucleus	66
811	III. 22	10 54 18·9	78 0 15	F; R; b M	340
		19·1	1 33	F; S; R; v g v l b M	120
		19·9	0 24	e F; R	242
812	IV. 7	10 54 22·4	70 56 52	a * 9 m with v F neb attached; pos 70° s p = 200°·0 ± dist 30″	63
		24·3	57 13	v F neb with a v F nucl; has * 10 m, n f dist ½ diam of n from edge; pos = 30°·0, and another sp of 10 m dist 3′.	334
813	II. 365	10 54 26·9	60 11 41	Has a * 7 m dist 8′ pos 40° n p	66
		29·1	12 52	p B; m E; nearly in merid; b M	115
814	II. 507	10 54 34·8	105 22 24	F; l E; b M; v L; involves a * 45° n f from the nucleus	111
815	Nova.	10 54 49·9	61 2 9	F; R; p g b M; 35″; sky dull	416
816	II. 336	10 54 53·8	16 30 42	A singular object. A burred star 11 m diam 12″; v s m b M; a D * follows.	382
817	II. 884	10 55 24·4	32 33 47	e F; R; 12″; v g l b M	323
818	I. 13	10 57 6·4	89 7 17	v B; L; m E (pos by diag = 140° ±); 4′ l, 1′ br; v s v m b M. The nucleus is rather excentric, being rather towards the s p side.	144
819	III. 23	10 57 39·0	77 41 28	p F; S; l E; s f a * 12 m	338
		39·1	41 44	v F; R; b M; has 2 st exactly in a line with centre (by diag n p), one 11.12 m, the other 13.14.	242
		39·4	41 50	not v F; E; p s b M; s f a * 11 m	340
820	III. 350	10 58 0·9	60 33 41	e F; has a * 10.11 m, 60″ p	66
		3·6	33 35	e F; a * 10 m precedes, and a D * points downwards (to s) between them.	68
		5·6	34 21	The faintest imaginable. Follows 1′ a * 11 m	65
		10·1	.....	Follows a star. (Evidently a hurried obs.)	57
821	III. 915	10 58 32·3	31 51 47	e F; S; R; p g b M; 10″	323
822	Nova.	10 59 41·1	60 37 32	F; S; R; b M; 15 .... 20″	115
823	III. 111	10 59 44·0	84 15 3	F; R; b M; sky perfectly clear	143
824	Nova.	10 59 52·6	53 3 2	p F; R; p s b M; 20″; a * 7 m p dist 7′ ... 8′	331
825	Nova.	10 59 53·4	60 24 47	e F	343
826	III. 920	11 0 38·8	27 44 18	e F; S; 15″; appears hairy	406

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
827	Nova.	11 1 1·4	53 2 52	e F; R; a * 8 m precedes	401
828	II. 42	11 1 4·8	78 21 15	F; S; 1 E; of nearly uniform brightness	120
829	III. 351	11 1 25·4	60 18 33	p B; has a * foll, dist 1′	415
		25·4	18 57	p F; R; 25″; the first of a group of 4	343
		25·8	20 22	v F; S; R	115
		26·3	19 4	F; S; R; b M; 20″, a B * follows, dist 1′	66
		27·4	18 31	B; S; precedes a * 9 m dist 1′. The first of a group	65
		34·9:	19 17	e F; 1′ preceding a * 9 m	68
830	II. 337	11 1 25·4	16 12 16	p F; 1 E; g b M; 20″; a * 15 m dist 70″; pos from neb = 22°·1	382
831	V. 46	11 1 26·4	33 25 0	B; v l; p b r; v m E; pos 79°·0. Has a distinct * in centre and 1 or 2 v S st elsewhere.	324
832	III. 352	11 1 29·4	60 24 37:	v F; the second of 4	343
		30·9	23 13	e F	415
		35·8	22 10	So excessively F as hardly to be discerned on long attention. The second of a group of 3.	65
833	Nova.	11 1 34·4	60 26 37:	e F; the third of a group of 4	343
		...	26 ±	F; R; b M; not v S; P D mistaken 10′; corrected	115
834	III. 79	11 1 51·9	77 53 50	F; R; g b M; 20″ (conspicuous). The P D of the working list is 6′ out, owing to which I have often before looked for it in vain.	340
835	Nova.	11 1 57·9	60 24 37	v F. The last of a group of 4	343
		58·3	22 11	F; p L; 8′ dist from another (III. 351) and 30° s f it	66
		59·4:	22 31:	e F; the last of 3	65
836	III. 89::	11 2 27·9	83 15 34	v F; wind furious; perhaps only F stars	251
		30·5	15 4	e F; R; s b M; with an appearance of stars	117
837	Nova::	11 4 24·8	105 2 ±	A doubtful object, but probably a nebula	111
838	M. 97	11 4 49·4	34 3 52	A large uniform nebulous disc, diameter 19ˢ·0 of time in R. Quite round, v B; not sharply defined, but yet very suddenly fading away to darkness. A most extraordinary object. See fig 32.	324
839	III. 921	11 5 3·3	28 22 43	v F; L; v g v l b M; 45″; situated in the centre of gravity of a triangle of 3 large stars 5′ distance.	406
840	I. 29	11 5 39·2	76 16 23	B; E; p s m b M; 40″ l, 30″ br	22
		42·4	15 29	No description	242
		43·9	15 18	No description	338
		...	.....	v F; b M; E in parallel; 20″; viewed and only a rough place taken.	2
841	II. 102	11 6 9·2	74 17 14	No description	418
		...	17 0	p F; v L; g b M; 2′ diam	419
842	II. 709	11 6 26·4	47 28 42	p B; S; 1 E; v g b M; 20″	248
843	II. 49	11 6 29·0	70 57 56	B; R; p s m b M; 35″	334
844	III. 27	11 7 44·0	71 5 7	p F	63
		49·5	3 36	F; S; R; 12″	334

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
845	II. 50	11 7 54·0	71 2 12	v B; R	63
		57·0	1 31	v B; L; R; v m b M; 35″	334
846	II. 51	11 7 59·5	70 56 2	v B; R	63
		61·0	56 1	p B; p L; R; p s b M; 30″	334
847	I. 270	11 8 21·5	30 17 43	v B; p S; l E; v s v m b M	406
		26·1	17 45	B; R; v s v m b M to a * 11 m	344
		27·7	17 35	p B; p S; R; p s b M. Thick haze	226
848	I. 271	11 8 34·9	31 4 52	v B; m E; pos 305°·0, a nucl and F branches	323
849	II. 521	11 8 42·9	84 31 3	p B; R; p s b M; 30″	143
		43·6	84 31 0	B; S; R; s m b M; has a * 10 m, 60° n p, dist 3′	141
850	II. 729	11 8 48·9	43 19 17	F; p L; g l b M; r	139
851	III. 333	11 9 3·6	65 39 58	p F; s m b M; stellar	407
852	II. 885?	11 9 24·0	31 20 22	pB; R; p s m b M; 45″. The P D differs 7′ from that assigned by my Father; query therefore if the same object.	323
853	II. 879	11 9 40·4	21 49 43	p F; S; R; g b M; 15″	412
854	M. 65	11 10 1·0	75 59 16	B; R; g b M. Cloudy, but place well taken. (See fig 53.)	241
		2·4	58 54	F; L; E with a R nucleus; g b M; 4′ l	243
		4·1	58 44	a L, res centre with 2 F branches, E in a pos 45° n p to s f	242
		...	60 12 : :	Place very rude. R; g b M; 20 ... 30″. (It must have been very ill seen.)	3
855	Nova.	11 10 7·2	81 33 4	e F	117
856	II. 52	11 11 8·2	70 43 6	B; R; s b M; 20″	334
857	M. 66	11 11 16·9	76 5 47	v B; v L; s b M; 3′ l, 2′ br; E 60° n p to s f in direction of 2 st 10 m, p.	22
		...	3 ±	p B; g b M; E towards 2 stars n p	2
		...	5 32	F; g b M; E; has 2 stars n p	3
858	I. 226	11 11 18·6	35 54 17	p B; L; R; s m b M; 2′ diam	324
859	V. 8	11 11 22·4	75 27 42	A v long narrow ray v g b M; 15′ long, a most curious object. E by diag in pos 105°·0. (See fig 51.)	24
		22·4	28 55	p B; v Long; pos 100°·5; 6′ l, 1′ br; v g b m	340
		24·0	28 58	F; v L; v m E; v g l b M; 8′ l, 2′ br; pos 103°·3	338
		24·1	28 59	p F; L; v m E, pos = 101°·0; v g b M; a ray	242
860	II. 338	11 11 25·0	62 5 52	F; p L	68
		26·2	6 47	F; L; R; v g b M; 2½′ diam	343
		26·5	6 11	F; L; b M; 2′ or 2½′ diam	66
		26·6	6 34	v F; R; v g b M; has * 14 m s f dist 60″	416
		27·0	6 32	not v B; v L; irreg R; v g l b M	115
		28·4	5 53	v F; L; R; v g l b M	415
		29·6	6 51	F; p L; R; has a small * s f	57
861	II. 32	11 11 32·3	86 6 30	B; R; s m b M to nucl; 25″	141
		32·6	6 14	p B; R; b M almost to nucl	238

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
862	II. 550	11 11 50·8	99 20 42	F; v S; R; 10″	136
		51·1	21 9	p B; R; stellar; n p a ✱ 7 m	129
863	II. 551	11 12 5·1	99 19 29	p B; R; n f a ✱ 7 m	129
		5·3	18 44	F; v S; R; p s b M; 10″	136
864	II. 33	11 12 21·2	85 50 3	B; R; p s b M; 30″	143
		...	51 ±	B; R; p g b M; viewed past merid	238
865	I. 245	11 12 22·8	29 59 58	B; R; g b M; r; 45″	406
		24·6	59 14	v F; R; g b M; 30″	404
		24·7	60 22	p B; R; g b M; 40″; windy	344
		26·0	60 0	v F; R; g b M; haze thick	226
866	III. 15	11 12 45·2	68 54 30	F; L; E; 2′ long. The s p of two	59
		46·4	54 31	p F; v L; R; g b M; 60″; the p of 2	334
867	II. 32	11 12 48±	86 7 ±	p B; S; E; b M	143
868	Nova.	11 13 13·0:	49 12 46:	p B; p m E; S; has a suspicious nucleus, as if a v F close D ✱	335
869	III. 16	11 13 16·4:	68 52 1	v F; p L; R; g b M; 30″. R A estimated from that of III. 15.	334
		18·4:	51 46:	v F; S; R; the n f of 2	59
870	III. 335	11 13 25·7	64 46 13	F; R; g b M; the n p of 2	58
871	II. 775	11 13 28·4	51 17 59	F; p L; wires visible in twilight	73
872	III. 336	11 13 30·4	64 47 58	v F; the s f of 2	58
873	I. 5	11 13 57·6	72 28 1	p B; l E; g b M; 18″	421
		59·5	29 7	B; R; p s m b M; 35″	419
		59·8	28 49	B; R; p s b M; 25″....30″	418
874	II. 782	11 13 58·0	35 13 32	p B; R; v g l b M; 20″; a ✱ 12 m p	324
875	Nova.	11 14 11·5	76 5 3	v L; 6′ l, 4′ br; first v g, then v s v m b M	338
		...	.....	Viewed; v B; v L; v s b M. (See fig 54.)	340
876	III. 768	11 14 16·3	36 8 53	Not v F; v S; R. Approaching to stellar	328
877	IV. 59	11 14 45·1:	50 32 11:	F; R; about a stellar point 17 m	335
		...	.....	Viewed. Nothing remarkable in its character to place it in the 4th class.	73
878	II. 53	11 14 47·5	71 15 37	v F; R	63
879	IV. 4	11 15 7·8	90 10 2	A star 13.14 m with a F, S, nebulous brush	144
880	II. 845	11 15 26·9	25 37 11	F; R; g b M; 15″. A ✱ 9 m is 16^s p, 3′ n	411
881	I. 219	11 15 30·9	50 18 22	p B; R; p s b M; 45″	401
		33·3	19 16	v B; R; p g m b M; 50″; r. Æ 16^m $33^s·3$ by obs, but the minute must have been mistaken as my father makes it 15, with which Sw 401 agrees.	335
882	I. 20	11 15 37·0	77 44 8::	F; p L; p m E nearly in parallel. It precedes the ✱ 1341 A. S. C. $34^s·0$. Pos with ✱ 234°·8.	338
		37·4	42 34	F; 2nd class; E in parallel	243
		38·4	43 49	e F; 2nd or 3rd class. The B ✱ 1341 A. S. C. follows it. This neb must have changed greatly if it ever belonged really to the 1st class.	242
883	II. 829	11 15 40·5	31 21 2	v F; m E; v l b M; 60″ l	323

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
884	III. 337	11 15 49·7	65 6 43	e F; v S; R	407
885	III. 922	11 16 9·1	28 35 18	This must be my father's neb, but it is a suspicious object, and I doubt whether it be not a little knot of 3 or 4 stars.	406
886	I. 131	11 16 27·3	98 52 ±	p B; p L; E in merid	136
		...	51 55	F; L; E in direction of merid	129
887	I. 194	11 16 46·8	45 28 33	Seen through thick cloud	249
		48·0	28 47	v B; L; m E; v s m b M; 2′ l, 40″ br. Many stars 14 & 15 m precede.	248
888	Nova.	11 16 53·7	42 4 57	S; R; v s b M to a * 16 m	139
		55·7	4 12	e F; v s b m to * 16 m; 2 st 11 m, n f, point to it at twice their distance.	330
889	Nova.	11 17 11·7	61 11 52	v F; R; p s b M; 25″. Is 2′ s p a * 12 m	343
890	I. 262	11 17 30·8	22 28 41	p B; R; v s m b M almost to a *; 30″	412
891	II. 159	11 17 34·6	72 12 20	v B; R; p s b M; 40″; has st foll	419
		34·7	12 21	p F; R; g b M; 20...25″	421
		35·3	12 19	v B; R; p s b M; 50....60″	418
892	I. 246	11 17 49·9	32 11 5	E; haze so that I can barely be certain that a nebula exists	226
893	Nova.	11 18 16·0	72 1 46	p F; R; g b M; 25″	421
		20·5	3 41	c B; L; E; v g b M; 100″ diam	334
		...	1 54	p F; R; g b M; 45″; Æ observed 3ˢ·6, but was taken past merid by comparison with a distant star, by a process liable to great errors.	418
894	II. 160 / III. 28	11 18 49·2	71 51 7	B; L; R; b M; has a L * n and a smaller one s	63
		49·8	50 36	B; v L; E; v g b M; 2′ diam. Near a *	334
		...	50 0	p B; p L. (N.B. II. 160 and III. 28 are probably identical.)	61
895	II. 770	11 18 53·7	59 32 51	F; R; 30″	64
		55·3	33 11	B; L; R; r	66
		56·8	32 27	p B; R; 40...50″	68
		57·4	33 4	Not v F; R; g b M; 25″	341
		57·8	33 21	p B; R; s b M; 30...40″	65
896	I. 147	11 19 1·6	30 31 52	B; R; p g b M. Query whether there be not a * excentric towards the s f side. (N.B. The obs makes P D = 31°, &c., but this must be a mistake. See next obs and my Father's place.)	323
		...	29 55	F; S; R; b M; has a * near, s	226
897	II. 339	11 19 10·2	63 24 43	B; p L; g b M; 1 E	58
898	II. 54	11 19 14·8	72 8 39	No description	418
		15·7	8 55	F; E; 40″; has a * 10 m 5′ s p	419
899	Nova.	11 19 45·9	53 38 47	Not v F; R; s b M almost to a *; 20″	331
900	Nova.	11 19 55·3	68 15 58	e F; v S; E in parallel	59
901	II. 349	11 20 30·2	64 57 58	p B; 1 E	407
902	II. 13	11 21 20·4	79 47 10	F; p L; v s b M; haze troublesome	123
903	Nova.	11 21 27±	79 42 25	p B; S; E in parallel; 40″ l. Taken for II. 13, and the Æ set down from the working list, being missed. But it appears to be a different nebula.	120

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
904	II. 350	11 22 8·9	66 17 45	F; has a * 7.8 m n f dist 5′	244
905	Nova.	11 22 39·6	60 34 11	v F; R; s m b M	64
		...	36 ±	F; v S; R; b M. Rough P D, being past meridian.	68
906	II. 367	11 22 41·0	60 54 13	No description	68
		41·7	54 6	F; R; s b M. No companion seen	66
		42·2	55 7	S; R; s b M, almost to a nucleus	57
907	III. 353	11 22 52·2	60 42 27	F; S; R; 12″; no other near on the same parallel	343
		53·6	42 19	Not v F; R; p s b M; 15″	416
		53·7	41 32	Not v F; S; R; p s b M; 20″	417
		...	43 ±	Rough P D, being much past merid	115
908	I. 221	11 23 5·5	35 59 58	F; v L; R; v g l b M; 2′ diam; near a double star	328
		6·7	58 57	p B; v L; l E; v g b M; 5′ diam; has a coarse double * s p	324
909	II. 836	11 23 59·3	27 10 51	Not v F; R; g b M; 40″	406
		60·4	12 22	e F, but sky not perfectly clear. The obs makes the R 23m 0·4, but it is clear from the former obs and my father's, which agree, that it should be 24m 0s·4.	344
910	II. 730	11 24 5·6	42 1 36	p B; v L; E in merid; v g b M; 4′ l, 2′ br; has a * at its northern extremity.	329
		6·4	0 27	p B; v L; l E; at first v g and then v s b M to a * 15 m. 2′ l, 90″ br; a * 11 m to n.	330
911	I. 222	11 24 22·3	35 55 52	Not B; L; l E; a * 12 m s p very near the edge	324
912	II. 351	11 24 27·2	64 37 3	F; S; R; b M	58
913	II. 552	11 25 36·1	98 54 4	S; R; p s b M; 15″; has a * 14 m, 45° s p	129
		37·3	53 38	F; R; b M; has a * 14 m s p	136
914	I. 287	11 25 56·3	18 31 37	F; m E, in pos 130°·4; b M; 90″ l, 12″ br	377
915	III. 847	11 26 42·2	29 5 18	v F; R; v g b M; 20″	406
916	Nova.	11 26 56·0	43 46 27	v F; R; v g b M; 20″	139
917	III. 905	11 27 9·7	13 47 1	e F	414
918	II. 784	11 27 24·9	34 45 47	F; L; l E; 4′ diam; brighter and larger than I. 222	324
919	III. 843	11 27 27·7	30 39 22	v F; R; 15″. Has a v S * s f rather more than a diameter from edge (by diagram).	323
920	Nova.	11 27 28·6	52 39 7	e F; p m E; p L; g b M	331
921	II. 837	11 27 47·7	27 19 5	e F; R; g b M; sky not quite clear	344
922	Nova.	11 28 7·4	64 57 30	v F; R; 30″	407
923	III. 29	11 28 21·0	71 13 52	Stellar; a burred star	63
924	Nova.	11 28 22·0	72 10 41	v F; S; b M	334
925	II. 731	11 28 30·9	41 9 16	B; S; m E; p g b M; 30″ l	329
		33·2	9 2	p B; m E; g b M; 60″ l, 30″ br	330
926	II. 338	11 28 31·6	29 27 3	B; R; g b M; r; 30″	406
		32·7	26 18	e F, but a sure obs. Sky growing dull. Mirror tarnished	404
927	II. 352	11 28 52·5	66 22 45	e F; E	244
		54·7	22 30	v F; S	59

No.	Synonym.	$\mathcal{R}$ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
928	III. 81	11 29 25·1	76 56 39	F; S; R; b M	242
		28·0:	56 55:	p F; R; p s b M. The only object in the sweep. The place reduced by the obs of the preceding and following sweep, ∴ precarious.	339
929	I. 227	11 30 0·8	32 47 37	F; L; R; v g b M; 60″. (Twilight.)	345
		3·6	47 22	e F; L; v g l b M; 90″	323
930	II. 732	11 30 24·7	42 35 37	A * 15 m with a nebulous tail n f which touches another star.	139
931	Nova.	11 30 42·9	57 9 12	p B; p m E; p g b M; 50″ l, 30″ br. The first of 2	342
		43·3	8 41	The s p of 2; less B and smaller than the n f	74
		44·6	8 35	B; p L; E; g b M; 40 or 50″ l	337
932	Nova.	11 30 45·9	57 7 22	p B; m E; p g b M; 90″ l, 40″ br; the second of 2.	342
		46·3	7 31	p B; E in merid; g b M; 40 ... 50″ l; the n f of two.	74
		47·6	7 15	B; p L; p m E; 50 ... 60″ l; 40″ br	337
933	III. 109	11 30 55·2	71 22 1:	The first of 3	61
		56·2	20 16	F; v S; p m E; s b M; the first of 3	334
934	Nova.	11 30 59·6	73 43 45	F; R; the preceding of 2; has 3 st s	419
		80·8	43 54	F; R; forms an appendage to II. 103, which it precedes. One or other of these right ascensions has some mistake, which pervades the observations of both nebulæ. (See below.)	418
935	III. 609	11 31 3·8	98 25 17	v F; R; g b M; 20″; has a * 8 m 6′ s, on same merid	136
936	II. 103	11 31 4·1	73 42 55	F; m E; g b M; the f of 2. This and the next $\mathcal{R}$ are probably affected by the mistake above noticed.	419
		8·8:	42 26	p F; p L; l E; g b M; near a B st	421
		23·5	42 49	F; E n f to s p; has another F neb attached to its preceding extremity. (See fig 79.)	24
		24·8	42 39	p B; E; p g b M; has another s p.	418
		24·9	42 29	p B or not v F; l E; g l b M	422
937	II. 839	11 31 4·7	28 46 16	v F; p s b M; by obs $\mathcal{R} = 30^m\ 4^s{\cdot}7$; but this is proved to be erroneous by the coincidence of Sw 406 with my father's $\mathcal{R}$.	344
		10·3	46 18	p B; R; 35″; p g b M	406
938	II. 340	11 31 20·2	64 21 38	p B; S; R; r; 20″	58
939	II. 161	11 31 25·4	71 20 17	p B	63
		27·2	19 18	The second of 3	61
		27·6	19 51	p B; p L; g b M; the second of 3	334
940	III. 30	11 31 30·1	71 17 26	The last of 3	61
		31·6	17 51	The last of 3	334
		32·3	20 38	An obs snatched between clouds and probably a mistaken bisection in P D.	62
941	III. 375	11 31 52·2	68 43 12	Not v F; S; R; b M	59
942	II. 737	11 32 7·5	41 21 6	F; R; b M; 15″	329
		9·6	20 32	F; E; g b M; 20″	330

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
943	I. 21	11 32 12·4	77 35 9	No description	242
		12·5	35 5	No description	340
		12·9	35 24	p B; L; l E; v g b M; 3′ diam	338
		...	35 12	F; R; g b M; 30...40″; the Æ of this sweep and both the Æ and P D of the next obs too roughly determined to be set down.	3
		...	.....	v F; R; v g b M; a * 9 m 15′ dist in parallel	2
944	III. 320	11 32 14·0	64 14 13	F; R; has a * 6.7 m s f, dist 3′	407
945	I. 94	11 32 17·1	52 29 46	p B; p L; 90″ l, 60″ br; E in parallel; hazy	72
		18·1	31 2	B; p L; l E; 40″ l, 30″ br; v g l b M	331
		18·5	30 31	v B; L; m E nearly in parallel; 3′ long; m b M; a * f	70
946	III. 329	11 32 46·0	64 15 33	Not v F; p L; 30″	407
947	Nova.	11 33 7·4	78 45 45	F. The first of 4	120
948	III. 284	11 33 15·9	95 13 16	B; R; p s b M; 30″. At least 2nd class	147
949	III. 376	11 33 18·3	68 43 47	v F; S; R; p s b M; a * 11 m prec 10^{s}·0	246
		19·2	45 10	Not v F; S; R; g b M	59
950	Nova.	11 33 18·9	78 44 45	v F; the second of 4; place estimated from the others	120
951	II. 153	11 33 25·4	78 47 15	p B; the third of 4	120
952	III. 774	11 33 32·5	36 16 53	v F; p m E	328
953	II. 154	11 33 38·4	78 48 5	p B; the last of 4	120
954	II. 341	11 33 39·7	62 34 17	No description	343
		39·9	33 35	p B; R; p s b M; 15″. Good obs	417
		40·8	34 17	No description	115
955	III. 775	11 34 13·7	36 19 53:	e F	328
956	Nova.	11 34 22·3	62 33 34	Cloudy; hardly discernible	416
957	Nova.	11 34 40·3	101 55 24	F; v S; R; b M. Well observed	129
958	Nova.	11 34 44·0	28 57 0	p F; l E; g b M; precedes * 8 m, 5′ dist	344
		46·3	56 38	p B; p m E; p g b M; has a D * 8 m, n f	406
959	II. 831	11 34 49·5	31 5 50	v F; p m E; p s b M to nucl = * 12 m. Twilight	345
		51·7	6 57	B; S; a nucleus with an extended burr; 15″ long. P D by Sw 32°, corrected to 31, which is the true degree.	323
960	Nova.	11 34 56·4	69 5 47	F; R	63
		61·6	6 1	v F; S; the first of 4	334
961	Nova.	11 35 3·4	69 10 27	F; R	63
		7·6	10 0	v F; p S	334
962	III. 377	11 35 8·1	69 6 41	p B; v g b M; the third of 4	334
		10·4	8 7	p B; R; the last of 3	63
		13·2	6 57	v F; R; the s p of two	59
963	Nova.	11 35 13·1	69 4 11	v F; p S; the last of 4. There are however 3 or 4 more nebulæ in this neighbourhood.	334
964	Nova.	11 35 15·4	33 24 42	F; p L; R; v g b M	324
965	Nova.	11 35 18·8	55 32 20	Not v F; S; R; p s b M	337

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
966	III. 378	11 35 32·7	69 5 35	vF; R; the n f of 2	59
967	Nova.	11 36 ±	55 57 ±	eF; R; g b M. The preceding of 3 forming an equilateral triangle. Place very rough.	337
968	Nova.	11 36 ±	55 54 0	eF; R; g b M. The second of 3	337
969	Nova.	11 36 ±	55 57 ±	eF; R; g b M. The last of 3	337
970	Nova.	11 36 12·2	69 4 21	F; S; R; b M. Doubtful	61
971	Nova.	11 36 54·8	78 14 2	F; S; s b M; irreg fig; r	19
		59·9	13 52	F; R; p s b M	22
972	III. 833	11 36 55·0	38 51 13	vF; a doubtful object. Query if not a D ✱ 6″ dist involved in a nebula.	328
		57·6	51 31	F; S; R; p s b M	329
		60·9	51 17	Foggy	330
973	II. 104	11 37 1·1	75 17 0	B; S; R; p s b M; 10″	419
		2·9	17 49	B; R; v s m b M, to a ✱ 11 m; 40″	242
		3·4	17 51	p B; S; R; s m b M; 15″; compact	338
974	Nova.	11 37 21·9:	55 51 21:	vF; R; the first in an unequally divided line of 3. More suspected.	74
975	Nova.	11 37 26·9	55 53 21	vF; R; b M; the second of an unequally divided line of 3	74
976	Nova.	11 37 40·4	55 57 6	vF; R; the third of an unequally divided line of 3	74
977	Nova.	11 37 57·4	68 39 40	pF; n f a ✱ 7 m; Δ Æ = 4ˢ·5; dist 5′	409
		60±	40 49:	vF; R; g b M. (Taken past merid. Æ estimated. P D too great.)	59
978	II. 785	11 38 27·0	33 5 17	p B; E; g b M	323
		31·5	5 32	p B; l E; p g b M. Twilight	345
979	I. 120	11 38 27·1	105 54 55	F; L; has ✱ 11 m 5ˢ· n f. Twilight	149
980	II. 723	11 39 11·1	58 41 51	B; R; s b M; 20...30″	65
		11·5	41 19	eF. Seen through cloud	341
		11·5	41 24	not vF; R; g b M; 40″	342
981	II. 553	11 39 22·0	100 0 35	L; R; g b M; 60″; r	129
982	II. 738	11 39 37·1	40 20 26	B; p L; R; g b and p s m b M; 60′	329
983	I. 248	11 39 40·7	29 38 36	B; p L; R; p g m b M; the prec of 2	406
		41·6	38 50	F; R; g b M; 20″	344
984	II. 832	11 39 52·3	29 37 51	F; p L; E; g b M. The foll of 2	406
985	I. 228	11 40 5·1	32 59 5	B; R; s m b M; 30″; hazy	346
		6·1	57 45	B; p L; R. Seen through thick haze	226
		11·2	58 22	p B; E; g b M; like II. 785, but brighter	323
		13·1	58 32	B; p L; R; p s m b M; 60″	345
986	II. 408	11 40 6·6	54 1 47	pF; R	331
		6·9	0 48	F; S; R; near a small ✱	72
		8·0	2 11	F; S; R; b M	70
987	Nova.	11 40 17·8	62 36 31	p B; R; s m b M	64

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
988	I. 82	11 40 19·0	62 2 1	B; L; R; p g b M; fading away to nothing; 40″ diam	65
		19·2	1 34	R; b M to nucleus; ☾ and haze	67
		19·4	1 13	p F; s b M; ☾☾	415
		19·9	2 7	B; p L; R; s b M to nucleus; 40″	57
		20·3	1 41	B; R; s b M; 40″	66
		...	2 39±	a L and B neb. Imperfect obs past mer	68
989	III. 321	11 40 26·7	62 56 28	F; p L; E; v l b M	58
		28·4	55 12	p F; l E; v g b M; 25″	417
990	Nova.	11 40 47·8	90 9 7	e F; S; p s b M	146
991	III. 341	11 41 15±	64 7 48:	v F; p L; Æ by working list; past mer	407
992	II. 342	11 41 15·1	62 33 50	p B; R; p s b M; 30″	417
		15·2	34 49	p B; p L; R; g b M; 60″	343
		15·9	33 20	v F; R; p s b M; ☾	415
993	II. 787	11 41 44·1	33 54 32	e F; R; g b M	324
994	II. 824	11 41 44·7	37 13 43	F; v m E; v g b M; 150″ l, 30″ br	328
995	III. 90	11 41 45·2	82 29 7	F; R; 15″; has * 13 m, 70″ dist, n p	253
		50·9::	28 39:	F; R; near a * 13 m. Wind outrageous	251
		...	29 ±	F; R; b M; 1′ s of a * 9.10 m	117
996	Nova.	11 42 0±	64 7 48	No desc. Follows III. 341 on same parallel	407
997	II. 788	11 42 1·0	33 58 32	p B; R; p s b M	324
998	III. 379	11 42 38·0	67 2 20	e F; R; S; near a star	244
999	II. 740	11 42 49·6	40 21 56	not v F; S; R; p s p m b M	329
1000	III. 616	11 42 53·0:	51 3 24:	e F; g l b M; a * 7 m foll nearly in the parallel	335
		58·1:	3 17:	e F; precedes a * 7 m in the same parallel, dist about 3′. Place uncertain.	331
1001	Nova.	11 43 33·1	56 39 1	p B; R; p s b M	74
		35·6	39 13	p B; S; p m E; p s b M	337
		36·8	38 17	F; R; p s b M; 20″	131
1002	I. 203	11 43 54·4	44 56 2	A superb nebula; B; v L; R; 3′ diam; v g b M; r; is probably a globular cluster.	248
		57·7	55 7	p B; v L; R; v s b M to a v S star, and very dilute at the borders; 4′ diam.	139
1003	III. 389	11 43 55·8	68 25 6	v F; S; R	423
1004	Nova.	11 44 1·2	68 4 0	e F; R	59
1005	I. 173	11 44 3·5	52 3 19	v B; p L; R; p s m b M	73
		3·9	3 1	v B; R; s b M, fading to nothing; 90″	72
		5·5	5 11	v B; R; s m b M, almost to a * 9 m; 60″	70
1006	I. 251	11 44 11·8	28 23 3	not v B; R; p g b M; r	406
		16·5	23 25	B; R; p s b M; 60″; a star precedes, Δ Æ = 8ˢ·0, pos from neb = 215°·9.	344

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1007	III. 322	11 44 16·2	62 50 49	Not v F; R; s b M; 35″	343
		17·3	50 52	p B; R; b M	115
		17·4	50 17	B; R; p s b M; 35″	417
1008	II. 403	11 44 34·9	68 18 0	F; m E; b M; a coarse D ✻ precedes	409
		...	18 ±	Seen in its place as per working list	244
1009	I. 202	11 44 46·9	41 12 46	B; m E; v g b M	329
		47·2	11 12	p L; R; g b M; barely visible for fog	330
1010	III. 342	11 44 49·2	65 39 28	v F; S; R	407
1011	V. 45	11 44 52·3	36 43 3	B; L; v s b M; r; 3′ diam. Fine object	328
1012	III. 612	11 44 55·2	93 3 9	p F; R; b M	21
		57·0	3 36	F; l E; nearly in parallel r::. Sky perfectly clear	147
		...	4 17::	v F; l E. Sky not quite clear; P D rough, being taken beyond meridian.	146
1013	Nova.	11 44 57·0	68 10 44	e F; R	59
1014	II. 833	11 45 23·6	30 41 7	p F; l E; g b M; 40″ l	345
		28·7	41 32	p F; E; v g b M; 60″ l	323
1015	IV. 67	11 45 50·2	30 34 7	F; v L; R; p g l b M	323
		54·6	33 35	F; L; R ill defined nebulous mass; obs difficult, owing to haze	226
1016	Nova.	11 46 5·2	60 47 41	v F; E 45 s p from a ✻ 10 m dist 40″	66
		6·7	46 21	A ✻ 10 m with e F neb 45° s p; 30″. The neb by a diag made at the time is oval, and forms a kind of appendage to the star.	65
		...	47 22	F; R; near a ✻	417
1017	IV. 62	11 46 31·5	33 56 0	B; p L; R; nearly uniform, but hazy; diam 25″	324
1018	II. 162	11 46 42·9	77 5 14	p B; R; v g b M; a ✻ 10 m 25° n f, dist 4′..5′	242
		44·9	5 18	p B; L; p s m b M; 3′ diam	338
1019	II. 724	11 46 46·7	59 3 39	p B; R; b M. An exact obs	67
1020	Nova.	11 46 47·1	101 5 54	F; S; R; p s b M; 15″. The p of 2	129
1021	Nova.	11 47 0·6	101 2 44	v F; S; R; b M; 15″. The f of 2	129
1022	II. 132	11 47 12·6	82 18 19	B; E 30° n f to s p; v s m b M to nearly a star. The arms very faint.	117
		13·8	17 29	B; E; p s b M; 25″ l, 15″ br	251
		14·2	18 21	v B; m E; v s m b M; 30″ l; nucleus equals a star 10 m	250
1023	II. 840	11 47 18·6	28 32 8	Not v F; l E; has ✻ 8 m following in the parallel	406
		20·7	32 50	v F; a ✻ 9 m f, dist 6′; another precedes 10′ dist to the s	344
1024	III. 343	11 47 37·2	65 10 54	F; S; R; p s b M	407
1025	III. 707	11 47 49·6	40 42 56	No description	329
1026	Nova.	11 47 50·2	60 3 25	e F; R; b M; 25″. Supposed at the time to be II. 724, but on reducing the obs it differs 1ᵐ in *R* and 1° in P D, *both* which can hardly be mistakes.	342
1027	Nova.	11 47 56·5	57 1 32	F; S; E; near a ✻	131
		57·3	2 21	E nearly in parallel; a ✻ 11 m near	74
		57·5	2 0	p B; m E; p s b M; 30″ l; near a ✻	337

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1028	Nova.	11 48 36·6	61 10 42	v F; R; g b M. The first of 2	343
		...	10 42	v F; S; R; s b M like a ✳. The p of 2 with several stars between them.	417
1029	II. 791	11 48 39·9	33 36 30	v F; R; p s l b M; 35″; sky dull	346
1030	IV. 61	11 48 41·3	35 40 33	v B; v L; R; s m b M; 3′ diam.	328
1031	I. 229	11 48 59·9	33 36 20	B; R; s m b M; 40″; sky dull	346
1032	Nova.	11 49 0·6	74 45 10	v F; p L; R; has two st s f	419
		1·9	43 29	No description, (probably a hurried obs)	422
		2·2	45 46	No description	421
1033	III. 323	11 49 3·2	63 47 33	F; v S; E pos 25° n f to s p. Between two stars, 80″ dist. (By a diagram made at the time, the neb lies exactly in the line of the two stars which are situated at equal distances from the two extremities, and almost in contact with them. A singular object.)	58
1034	III. 344	11 49 12·8	65 50 38	v F; R; the northern of 2	407
1035	III. 345	11 49 12·8	65 54 58	v F; R; the southern of 2	407
1036	Nova.	11 49 19·4	61 10 42	v F; R; near a ✳ 12 m	417
		20·6	10 0	p F; l E; g b M; the f of 2 in parallel, with a star between	343
1037	Nova.	11 49 24·2	91 11 7	F; S; R; b M; s p a ✳ 11 m	146
1038	II. 368	11 49 29·7	60 51 26	F; S; R; b M	64
		29·7	52 1:	v B; p L; R; s m b M; 40″. Clouded suddenly, and obs left imperfect.	65
		30·1	51 36	p B; R; s b M	66
		31·0	51 34	p B; R; g b M; r	68
1039	Nova.	11 49 31·7	.....	v B; m E; m b M. Taken for II. 368, and no P D taken; but the description disagrees essentially, and it can hardly be the same.	115
1040	Nova.	11 49 40·8	41 49 9	F; m E; v g l b M; 100″ l, 25″ br	255
1041	II. 733	11 49 42·3	45 6 17	B; m E; v s v m b M to a ✳ = 10.11 m; pos of extension = 62°·3 by measure.	248
		49·0	8 ±	A ✳ 11 m with a strong nebulous ray (25° n f to s p by estim from diagram); v s v m b M.	140
1042	III. 3	11 49 51·5	72 52 48	Not v F; R; p g b M; 35″	421
		53·0:	52 14	p B; p s b M; 25″	422
1043	III. 369	11 50 7 ±	61 34 52:	p B; L; g b M. Æ by working list; past merid	68
		...	34 46:	v F; L; 60″; past merid	66
		...	36 ±	Seen; no descrip. P D very rough	115
1044	Nova.	11 50 10·3	74 50 45	e F; has a ✳ 9 m 5′ s f	419
1045	II. 275	11 50 11·0	58 37 56	Not v F; bicentral or elongated; v g b M, to a central axis pos = 199°·5, or pos of the two centres = 19°·5; 14″ l, 25″ br	342
1046	III. 617	11 50 24·6	51 14 38	e F; p L; R	73
1047	I. 223	11 50 33·1	38 5 43	No description	328
1048	I. 121	11 51 39·8	90 9 32	B; R; 60″; a ✳ 10 m, 50° n p	146
		40·3	8 40	B; R; p L; p s b M; r; 70″; has 3 or 4 large stars near	145

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1049	II. 404	11 51 46·9	68 59 27	B; p L; R; b M	63
		46·9	58 16	B; p L; R; b M	61
		48·7	58 14	e F; L; v l b M; a ✳ 12 m, n f	246
		49·3	58 11	p B; R; g b M; 40″	423
		49·4	58 20	p B; p L; R; g b M	409
		50·0	58 50	v F	244
1050	I. 253	11 52 38·6	27 9 58	p B; R; p s l b M; 25″	344
1051	III. 77	11 52 39·6	75 39 9	e F; R; a ✳ 16 m, n f (pos = 80°·0,) dist 2′	242
		41·9	39 15	e F; L; R; v g v l b M; 2′ diam; 21ˢ·0 of time preceding a ✳ 8 m.	338
1052	IV. 28. 1	11 53 11·8	107 55 10	v L; R; v g b M; the chief neb of a fine double nebula. The other is 2′ s. They run together.	149
1053	IV. 28. 2	11 53 11·8	107 57 10	The northern of the double neb. It is the smaller and fainter of the two.	149
1054	I. 252	11 53 25·0	26 55 26	p B; R; g b M; 35″; sky not quite clear	344
		25·2	54 51	B; R; at first g, then p s v m b M to a nuclear mass which seems resolvable.	411
1055	Nova.	11 53 28·9:	84 42 ±	S; R; precedes a double ✳ about 30ˢ, and is 3′ south of it. Æ a rough estimate only from the double ✳.	142
		38·7	43 15	Not B; S; R; p s b M; 15″	143
1056	III. 491	11 53 46·7	89 15 52	F; v S; R; b M	145
1057	II. 276	11 54 0·7	87 4 47	F; R; s b M; 25″; a ✳ s f	141
1058	II. 741	11 54 3·6	40 25 6	B; p L; R; p g b M; 40″	329
1059	Nova.	11 54 5·6	71 2 1	v F; S	61
		7·3	2 21	v F; S; R; p s b M; almost stellar	334
1060	III. 390	11 54 9·4	70 18 42	v F; S; l b M	63
		...	18 16	v F; p L; R; g b M	334
		...	18 1	e F; S; too late for transit	61
1061	IV. 56	11 54 24·5	44 31 9	E; pos of axis 132°·0; a ✳ 11.12 m, dist 2′, pos 257°·0	256
		24·8	31 7	p F; v L; E; at first v g l b, and then v s v m b M, to a ✳ 14 m. A ✳ is s p.	255
		25·6	30 59	p B; L; E; 3½′ l, 2¾′ br; at first v g l b, but then suddenly comes up to a ✳ in centre = 11 m.	138
		27·5	30 52	E; L; v s m b M to a ✳ 11 or 12 m; has a ✳ 10 m 20° s p	139
1062	Nova?	11 54 59·8:	68 ±	p B	423
1063	Nova?	11 55 4·3:	68 ±	p B	423
1064	Nova?	11 55 8·3:	68 ±	p B. On merid with two more	423
1065	III. 394	11 55 18·8	68 49 29	e F; double neb, both S; R; pos 20° n f	246
		19·1	49 0	v F; a double neb by diag, pos 20° s p, nearly equal. They run together.	244
		19·4	50 24	v F. The first of 5	59
1066	I. 174	11 55 17·5	57 9 27	B; v L; m E; pos = 97°; g b M; 6′ long	342
		19·6	9 31	p B; v L; E in parallel; 3 or 4′ l, 90″ br	74
		20·4	9 45	F; v L; v g b M; m E in parallel; 4′ l, 2′ br	337
		25·5	9 22	p B; v L; m E; 10° n p to s f; v g b M; 3′ l, 1′ br	131

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1067	III. 395	11 55 24·9	68 49 30	p B	409
		25·4	50 24	v F; R; the second of 5	59
1068	III. 391	11 55 25·8	68 41 51	No description	423
		27·1	42 5	Not very F. Another seen	424
		27·4	42 0	p B	409
		29·4	41 37	The third of 5	59
1069	III. 37	11 55 27·6	78 12 11	F; R; b M; 30″	19
		27·9	11 26	v F; L; p g b M; 2′	338
		29·1	11 57	F; R; v g b M; 15″; good obs	242
		29·1	11 50	p B; R; b M; 40″	120
		30·1	11 58	F; R; b M	22
1070	III. 392	11 55 29·4	68 43 37	v F; R; the fourth of 5; has another on the same meridian, n	59
1071	Nova.	11 55 29·4	68 38 30	p B	409
		30·1	39 55 ::	Not v F	424
1072	II. 277	11 55 43·7	87 9 17	Not v F; R; g b M	145
		45·3	9 13	F; R; b M; 15″	143
		45·5	9 54	p B; L; R; p s b M; 60″	238
		45·6	9 15	p F; irr R; p s b M; 40″	141
1073	III. 394	11 55 48·5	68 44 0	e F	409
1074	Nova.	11 55 48·7	86 59 7	F; S; R	145
1075	III. 396	11 55 52·4	68 53 30	The last of 5	59
1076	III. 258	11 55 57·3	87 16 3	F; R; b M; 20″; the s f of two	143
1077	Nova.	11 56 5·9	91 26 7	Not v F; L; R; 40″; has a * 10 m, 60″ n	146
1078	III. 355	11 56 8·9	62 3 16	e F	66
		9·3	3 14	F; R; g b M	68
		10·0	2 51	v F	64
		10·6	4 22	F; p L; R; b M	115
1079	II. 382	11 57 13·1	68 28 1	e F	423
		...	28 ±	No description	409
1080	III. 400	11 57 19·6	52 10 38	e F; v S; like a *; is n f a * 11 m, 2′ dist	72
		22·1	11 27	v F; R; v s b M; has * 10 m, 45° sp, 90″ dist	331
1081	I. 207	11 57 19·7	41 34 33	B; v L; m E, in pos 32°·0; seen through much fog	330
1082	III. 383	11 57 21·6	68 25 31	No description	423
		21·9	26 10	v F; R; b M	244
		...	26 30	No description	409
1083	III. 326	11 57 26·9	63 29 28	e F; R; v g b M	407
		28·9	29 58	v F; R	58
1084	III. 717	11 57 27·6	39 28 46	p B; v L; m E in pos 166·5; 3′ l, 1′ br; v g v l b M. This cannot be either I. 206 nor I. 207, as neither of these agrees in its angles of position.	329
		...	29 37:	Nearly as B and L as I. 207; and the position is from n p to s f. Both therefore exist. Taken past merid. PD therefore precarious.	330

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1085	I. 225	11 57 43·3	36 20 33	B; R; p s b M; has a * 12 m 35″ s p very near the edge	328
1086	II. 370	11 57 54·3	60 52 26	p B; R; b M	64
		55·8	52 29	p B; 60″; moon and haze	67
		56·3:	51 31:	p B; R; s b M; 40″. Uncertain obs; between clouds....	65
		56·8	52 56	v F; l E	66
		57·4	52 52	B; R; g m b M; 30″....	417
		59·6	53 22	p B; not v S; E; l b M....	115
1087	Nova.	11 58 7·9	21 53 41	B; R; g b M; 20″; first class	412
1088	I. 195	11 58 18·7	45 59 52	v B; v m E, in pos 151°·0; v s v m b M; 40″ l, 10″ br	248
		23·0	58 57	B; S; m E; s b M; a double * points to its nucleus	150
1089	Nova.	11 58 28·5	55 3 45	e F	337
1090	Nova.	11 58 29·6	74 39 12	A suspected neb. Extremely faint	24
1091	III. 708	11 58 55±	46 2 15±	In a straight line prolonged from I. 195 through a double star near it.	248
1092	V. 4	11 59 25·4	86 10 36	v F; not v L; E or bicentral; b M	143
		29·1	10 40	F; v L; E; g b M; 3′ l, 2′ br; has * 16 m in nucl, and 1 or 2 more suspected.	141
1093	Nova.	11 59 27·3	56 3 6	e F; v S; R; m b M	74
1094	I. 33	11 59 29·1	78 40 18	v B; m E; 30° n p to s f; b M	120
		29·2	41 15	p B; p m E; 30° n p to s f; 2′ l	191
		...	40 12::	E in a n p direction towards a *	3
1095	III. 68	11 59 56·2	72 55 10	v F; S; R; p s l b M....	419
1096	I. 279	11 59 57·9	12 15 12	e F; R; v g l b M	413
		60·0	15 7	F; R; l E; g b M; 20″....	170
1097	II. 548	12 0 10·4	98 5 38	p F; E; g b M; very ill defined	137
		10·8	5 4	F; v g b M; E in parallel; 30″ l, 20″ br....	136
1098	III. 356	12 0 15·3:	59 46 11	v F; S; R; the n p of 3 in a line....	66
		16·8:	46 1	F; S; R....	68
1099	II. 371	12 0 18·8:	59 48 51	F; S; R; the second of 3 in a line	68
		21·5	48 7	F; the n p of 2 (the third not seen)	342
		22·8	49 51	v F; S; the second of 3 in a line	66
1100	I. 278	12 0 28·6:	14 8 57	F; R; g b M. Strong twilight	349
		30·0	9 42	p B; R; g b M	413
1101	III. 357	12 0 28·8	59 52 41	p B; l E	68
		30·3	53 31	F; p L; the third and s f of 3 in a line....	66
		30±	50 ±	B; the s f of 2; place by rough estimation	342
1102	III. 795	12 0 58·7	30 11 59	F; p L; l E; g b M; 40″	345
1103	III. 814	12 1 0·1	35 56 5	v F; irreg fig; v g l b M; twilight....	347
1104	IV. 54	12 1 12±	46 34 2	R; s b M to nucleus	150
1105	I. 169	12 1 22·9	49 10 36	p B; v L; dilute; v g l b M	73

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1106	I. 19	12 1 21·4	70 29 41	B; R; 80″; consists of distinct stars. A globular cluster. P D mistaken 1° in obs; corrected.	61
		24·4	30 47	v B; resolved	63
		24·9	30 21	v B; R; 40″. I see the stars of which it consists	334
1107	II. 747	12 1 21·8	42 36 9	F; v m E in pos 109°·0 by measure; v g b M 4′ long, 30 or 40″ br	255
		23·5	36 27	p B; g b M; a long narrow ray; 3′ l, 30″ broad	140
1108	II. 321	12 1 34·9	59 8 4	v F; v L; 5 or 6′ diam. The minute in Æ doubtful; perhaps 0^m	67
1109	II. 802	12 1 51·7	30 46 12	No description	323
1110	I. 73	12 1 55·0	58 39 4	B; R; p g m b M; 25″; a * 8 m 5′ p	342
1111	I. 165	12 1 55·2	49 38 41	v s m b M to a * 10 m; the s p of 2, 6′ distant	73
		55·7::	40 18::	v B; S; R; p g b M; 30″	335
1112	II. 83	12 1 56·3	73 1 26	v B; R; p g m b M; 40″	418
		56·9	1 23	No description	422
		57·1	1 31	p B; S; R; g b M; 20″	419
1113	II. 642	12 2 12·7:	49 36 51:	v F; l E; v g b M	335
		17·3:	34 37::	The n f of 2. Place by estimation from the other, and of course very rough.	73
1114	I. 208	12 2 29·8	38 33 53	B; v m E; v g l b M; 4′ long	328
1115	II. 405	12 2 32·4	68 52 57	v F; has a * n f	59
1116	III. 941	12 2 36·3	12 55 47	e F; R; makes equilateral triangle with 2 stars	413
1117	II. 353	12 3 15·2	64 55 48	B; L; E; b M; 60″	58
1118	Nova.	12 3 33·1	52 33 2	F; p L; R; v g b M; a D * s p dist 10′. The MS obs makes the P D decidedly 33′; but *should* it be a mistake for 52′, this nebula would be identical with III. 399.	331
1119	II. 105	12 3 36·7	75 51 4	B; R; p s b M; irreg fig; r	242
1120	II. 372	12 3 40·8	59 53 1	p B. The first of 4 in a trapezium	65
		45·3	53 31	The first of a trapezium	66
1121	III. 358	12 3 43·3	59 50 ±	The second of a trapezium	65
		48±	50 ±	The second of trapezium. Place estim	66
1122	III. 359	12 3 44·3	59 55 ±	The third of trapezium. Place by estim	65
		50±	56 ±	The third of trapezium; place by estim	66
1123	II. 742	12 3 46·1	32 52 57	p F; S; E; g b M; 15″ l, 12″ br	345
1124	III. 360	12 3 53·3	59 54 ±	The last and largest (by diag) of trapezium	65
		58±	53 ±	The last of trapez. Rough place	66
1125	Nova.	12 4 5·4	78 11 40	v F; v L; E; a * 7 m folls 7′ ± dist	191
		...	12 32	v F; E n f to s p; 40″	3
1126	I. 9	12 4 10·8	87 45 27	p B; S; m E; a ray with a nucleus pos 45° n p to s f	145
1127	II. 133	12 4 19·1	82 1 9	B; R; p s b M; 40″	117
		21·6	0 43	No description	252
		22·4	1 15	p B; E; v g b M; 20″	250
1128	III. 697	12 4 40·4	45 22 47	v F; L; v m E; 2′ l, 30″ br	150
		44·0	22 22	v F; v m E, pos 170°·0±; 90″ l, 30″ br	248

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1129	II. 373	12 4 42·6	60 32 39	vF; R	67
		43·4	33 7	pF; pL; R; gbM	343
		45·2	33 2	vF; vL; R; gbM; $2\frac{1}{2}'$ diam	417
		49·3::	34 ±	Place coarsely estim from a neb following	68
1130	Nova.	12 5 5·8	81 51 7	No description	251
		7·8	51 13	F; R; near a small *	252
		8·2	51 7	vF; R; bM	253
		8·7	50 41	No description	254
1131	II. 106	12 5 6·9	75 38 10	pB; L; lE; vglbM; 2′ diam	338
1132	M. 98	12 5 8·0	74 8 12	B; vmE, a ray, pos 70° sf to np; mbM almost to nucleus; 10′long; 6 comæ entered, bisected by the same horizontal wire.	24
		8·1	9 0	pB; vsbM to nucl; a long ray pos = 153°·0 by meas; 8′...10′ l, 30 br.	419
		8·4	9 34	B; L; mE pos 152°·1 by meas; vsvmbM 8′...10′ long. A fine object.	422
		...	9 16	B; L; vmE; psbM; precedes 6 comæ about 30′ of space	421
1133	II. 409	12 5 8·3	52 25 27	vF; pL; R; vglbM; 40″	331
1134	II. 163	12 5 12·8	75 53 4	vF; pL; E; vgbM	242
1135	II. 867	12 5 36·5	34 30 45	F; vsmbM to a * 12 m; 20″	347
1136	II. 374	12 5 52·2	60 37 32	B; vsvmbM to a *	417
		52·8	38 37	pB; S; psbM	343
		54·0:	37 54	F; S; R; bM	68
		61·0	38 54	B; S; sbM	67
1137	II. 134	12 5 56·5	83 14 53	pB; E; vgbM; 20″; like II. 133	250
1138	II. 164	12 5 58·3	76 53 46	eF; R; bM	19
		63·4	52 38	pB; R; pslbM; 40″	340
1139	II. 793	12 5 59·8	33 2 17	pF; S; lE; gbM; like II. 792	345
1140	I. 175	12 6 29·3	55 51 26	B; R; smbM	74
		31·5	51 24	vB; R; psmbM	131
1141	III. 397	12 6 36·5	68 24 10	eF; L; vglbM; 45″	409
		...	23 ±	eF	424
1142	II. 107	12 6 47·7	75 9 24	vF; pL; R; gbM	243
1143	III. 850	12 6 55·0	23 4 28	Not vF; pL; R; vgbM; 30″	412
1144	II. 108	12 6 57·4::	75 8 40	B; L; E; vgbM; 90″ l, 75″ br	419
		61·9	9 20	B; L; lE in parallel; at first gradually and then sbM; r; 3′ diam	338
1145	II. 354	12 7 0·2	65 3 58	vF; vS; R	407
1146	I. 95	12 7 5·1	52 44 2	B; L; gbM; 50″; has a double nucl very indistinct. The diagram makes it a double neb, the two running ogether. See fig 71.	331
1147	II. 135	12 7 11·3	82 39 6	B; pL; irreg fig; gbM	117
		12·8	39 7	pB; E; pgbM; 25″ l, 20″ br	253
		14·3	39 12	vB; mE; vsbM to a * 11 m	250

No.	Synonym.	$\mathcal{R}$ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1148	I. 109	12 7 14·7	75 54 4	B; E; r	192
		15·4	54 29	v B; v L; a nucleus with two branches extended in pos 75° n f to s p. (See fig 59.)	242
		...	55 ±	A very remarkable long ray extended 70° n f to s p, 7½′ long, s m b M. It has a * n f the nucleus. Rough place.	3
		...	53 30:	B; m E; p s b M. (N.B. No neb at 76° 2′. Seen also in Sw 2, but the place and description too rough to be of use.)	340
1149	II. 748	12 7 17·1	41 57 16	F; m E; s of 2 bright stars	329
		18·8	59 34	p B; v m E in pos = 225°·0 by meas; 5′ l, 1′ br; 2 st near and a L * p.	255
		19·5	58 34	F; m E; 2′ l; has 2 st, 9 and 11 m, n f	138
		19·9	60 ±	F; L; E; has a * 1ˢ·0 following and another near	139
		...	59 6:	g b M; E; 70° n f to s p; is s of a coarse double *	140
1150	Nova.	12 7 41·2	22 49 23	p B; S; R; p s b M; 15″	412
1151	I. 209	12 7 42·7	41 10 33:	p B; p m E in pos = 314°·4; p s b M. (Foggy.)	330
1152	II. 137	12 7 45·5:	82 21 31	p B; R; $\mathcal{R}$ estimated from III. 480, which it precedes on same parallel.	254
1153	II. 136	12 7 46·4	81 35 44	p B; p L; 1 E; g b M	251
		53·3	35 33	p B; R. Hazy, clouding over	252
1154	Nova.	12 7 52·6	101 21 49	F; e S; R; 5″; has a * 8 m, 80° s f, dist 60″	129
1155	Nova.	12 7 58·7	42 2 32	F; S; 1 E; the second of 2 in field	139
1156	II. 518	12 7 59·8	55 32 36	p B; R; b M	74
		61·3	31 37	p F; R; p s b M; the s p of 2	131
1157	Nova.	12 8 1·5	52 43 41	v F; L; R; g b M; 90″	72
1158	II. 519	12 8 4·8	55 30 1	The n f of 2	74
		7·3	29 14	F; R; p s b M; 65° n f the neb II. 518	131
1159	II. 17	12 8 24·2	81 51 24	p B; 1 E; g b M	251
		29·1	51 57	v B; p m E; v s b M; among small st	253
1160	Nova.	12 8 27·5	85 22 30	p B; L; R; g b M; 60″	141
1161	II. 496	12 8 27·8	81 25 59	p B; R; v s b M to a S nucleus; 20″	254
1162	II. 11	12 8 31·5	73 45 2	e F; but haze and strong twilight	27
		33·0	43 44	B; L; 1 E; v g b M	422
1163	V. 17	12 8 37·3	19 38 0	Immensely L; v F; m E; v g b M; it fills more than a field, but is hardly distinguishable. Hazy.	377
1164	III. 851	12 8 37·5	25 38 56	v F; not v S; R; v g l b M; 15″....20″	411
1165	III. 480	12 8 45·5	82 23 11	v F	254
		45·7	22 30	v F; v g b M; a * 7 m to south	250
1166	III. 725:	12 8 48·9	43 26 9	F; v L; R; v g b M; diam in $\mathcal{R}$ = 15ˢ·0 of time. Sky quite clear. (illuminating wires.	256
		51·9	25 29	F; L; R; v g b M; r; has * 10 m, 2′ f	140
1167	V. 41	12 8 56·7	51 15 12	F; v m E; a *v* long narrow ray pos = 43°·2 by meas, at least 9 or 10′ l, extends across the field.	331
		57·8	14 5	p B; v m E; a long ray, 50° n f to s p ± by estim; 12′ l, 90″ br	73

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1168	I. 74	12 8 59·6	59 26 56	B; p L; r	66
		62·1	26 41	v B; R; s b M; 60″	65
		62·9	27 5	v B; p L; R; p s b M	342
1169	II. 742	12 9 17·8	41 38 46	e F; hazy	329
		20·0	39 29	v F; p m E; p s b M	255
1170	I. 264.	12 9 31·3	18 15 17	p F; S; R; p g b M; 15″	377
1171	I. 89	12 9 31·7	60 52 52	v B; v s v m b M; has * 6.7 m 1½ min (of time) following	417
		33·2	52 57	v B; S; m E; v s m b M; nucleus elliptic	343
		...	52 18:	v B; R; b M	68
1172	III. 702	12 10 0±	59 13 ±	v F; R; 20″	342
1173	M. 99	12 10 9·9	74 38 36	Not v B; R; v g b M; 5′ diam	421
		10·0	38 34	p B; v L; R; g b M; r; 5′ diam	422
		10·8:	36 55:	B; R; g b M; r; 5′ diam	419
		...	38 24	B; L; R; g b M. Seen through cloud	418
1174	II. 846	12 10 29·1	23 9 23	p B; v m E in pos = 218°·2; 90′ l	412
1175	V. 43	12 10 30·8	41 45 18:	v B; v L; v s v m b M to an oval nucl; 8 or 9′ long, 4 or 5′ broad. (See fig 55.)	330
		32·7	46 19:	v B; v L; v s b M to an oval nucleus which is not in the middle of its length; 6′ l, 3′ br.	255
		32·7	44 6::	v B; v L; s b M to a *; 6′ l, 4′ br	329
		...	46 56::	v B; L; v m E	256
1176	II. 139	12 10 32·7	83 13 51	v B; p L; R; p s m b M; 40″	250
1177	II. 138	12 10 40·7	82 57 33	p B; through thick haze	252
		41·3	57 10	B; E; p s b M	253
1178	Nova.	12 10 41·1	83 43 ±	Precedes four more, nearly in parallel	117
1179	II. 110	12 10 50·6	74 10 51	B; S; R; like a * 11 m with a burr	421
1180	II. 140	12 10 54·4	83 12 30	p F; R; g b M; 30″	250
1181	II. 166	12 11 5·2	76 16 15	p B; R; s b M	191
		7·7	15 44	p B; R; v s m b M, almost to a *	243
1182	III. 299	12 11 14·3	58 42 49	e F; v S; R; 10″	342
1183	Nova.	12 11 16·3	83 43 34	B; L; E; g b M	238
1184	II. 376	12 11 18·2	61 26 17	F; R; g b M; 20″	343
		...	25 42	F; l E; near a * 15 m	417
1185	I. 75	12 11 16·6	59 26 15	v B; v L; E in parallel; 2′ l, 1½′ br	65
1186	I. 90	12 11 32·6	59 46 21	v B; R; s m b M; r	66
		32·7	46 29	v B; p L; R; g m b M; 90″	67
1187	II. 573	12 11 40·6	83 40 34	v B; v L; R; p g b M; 3′; 3 more seen	238
1188	II. 377	12 11 47·7	59 44 29	B; R; S; b M; 30″	67
		48·1	44 11	B; R; s b M	66
1189	Nova.	12 11 53±	83 44 ±	v F; S.	117
1190	Nova.	12 12 3·1	83 42 34	v B; R; the central neb of 4 in a trefoil	117

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1191	III. 726	12 12 10·0	42 45 34	pF; R; v g b M; 60″	138
		11·3	45 56	v F; L; v g b M; irreg R; r	140
		13·4	47 22	e F; p L; R	139
1192	I. 275	12 12 14·5::	13 41 2	p F; S; E. The reductions of the Æ in this sweep are precarious.	348
		40·0	40 43	F; S; s b M; 10″; a ✱ 15 or 16 m precedes	170
		41·0	41 32	p B; stellar; v s m b M. The first of a trapezium of stars	413
		48·6	41 12	p F; R; g b M; 20″; followed and almost surrounded by 3 stars 10 m, one of which is double; has also a v S ✱ s p dist 30″.	349
1193	II. 805	12 12 20·2	30 57 37	p B; L; R; g b M; 60″	345
1194	Nova.	12 12 28·6	83 40 34	v B; E; b M; 60″	117
		28·8	39 19	p F; R	251
1195	V. 5	12 12 32·2	70 39 36	F; v L; E; b M; 5′ l, 1½′ br	61
		33·5	40 57	L; E; l b M	63
1196	Nova.	12 12 34·2	84 27 32	F; R; v g l b M; has a ✱ 70° n p; 1′ dist. Taken for I. 139, but this neb does not exist, or is identical with M 61.	143
		...	28 35	F; S near a B ✱; precedes M. 61 about half a field	141
1197	II. 61	12 12 33·8	77 33 19	p B; p L; E n p to s f; has another f in same parallel	19
		34·2	33 11	F; L; b M; E 45° n p to s f; 2′ l, 1′ br	22
		39·2	32 59	F; v m E; like a double neb composed of 2 R nebulæ	242
		39·9	32 17	F; m E; L; v g b M; 3′ long	338
1198	II. 111	12 12 53·2	74 27 16	F; L; E; v g b M; a star follows; the p of 2	421
		53·9	26 29	The p of 2; by diagram E in merid, nearly parallel to the other	422
1199	II. 112	12 13 0·2	74 27 16	L; v m E nearly in merid; the f of 2	421
		3·4	26 29	The f of 2; both m E and nearly parallel	422
1200	II. 62	12 13 0·7	77 33 0	F; p L; E. (Seen also in Sw 19.)	242
		1·5	33 2	v F; L; l E; v g b M; 3′	338
1201	II. 572	12 13 1·2	83 40 23	F; l E; v g b M	250
1202	M. 61 =I. 139	12 13 12·8	84 34 55	B; v L; v s b M to a ✱ 11 m, with a v F atmosphere about it. This nebula is probably identical with I. 139. (See fig 69.)	141
		13·7	34 56	B nucleus in a v F atmosph 2′ diam, gradually fading away	142
		...	.....	Viewed; v faintly bicentral. The two nuclei 90″ dist pos 45 ... 50° n f.	143
1203	Nova.	12 13 25·2	76 19 35	v F; R	191
1204	I. 76	12 13 53·0	59 9 46	v B; E; s b M; points to ✱ 60° n p	65
1205	II. 378	12 13 54±	59 50 ±	v B. The n p of 2	68
		...	50 34	Past merid. No Æ procured	67
1206	Nova.	12 13 54·0	59 51 8	F; the s f of two	68
1207	II. 63	12 13 58·0	77 17 12::	e F; E 45° n p; r in middle	3
		59·4	15 39	v F; L; R; 60″	243
1208	Nova.	12 14 5·7:	80 51 20	e F; a ✱ 8 m 5′ dist, on merid, to n	120
1209	II. 628	12 14 9±	73 30 57	p B; p L; E; g b M; Æ by working list	419

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1210	I. 276	12 14 10·5	13 43 48	p B; S; s b M; 15″	170
		16·9	44 27	p B; p L; b M. Follows I. 275	413
		19·7	43 42	F; R; b M; 18″; the f of two in field	349
1211	M. 100	12 14 17·9	73 14 34	p B; R; p s m b M. Not a very remarkable nebula. II. 84 was not seen.	422
		19·3	13 39	Barely visible through cloud	418
		20·8	13 26	v L; s m b M; a nucleus with dilute borders	25
		...	13 56	v F; v L; R; v s b M to a p B nucleus	421
1212	II. 85	12 14 30·0	72 20 5	p B; R; p s b M	419
1213	II. 141	12 14 30·2	82 58 51	v F; S; R; b M; 10″; the first of 3 in a triangle	254
1214	Nova.	12 14 35·8	101 35 29	F; v S; R; b M to nucleus	129
1215	II. 142	12 14 40·7	83 1 1	F; p S; R; b M; 15″; the second of 3 in a triangle	254
1216	II. 847	12 14 41·3	23 12 43	F; R; v g b M; 20″	412
1217	II. 806	12 14 41·6	30 36 52	p F; S; b M	323
		41·9	37 12	p B; S; E; g b M; good obs of place	345
1218	Nova.	12 14 44·3	81 35 7	p F; R; S; close to a *	253
1219	II. 406	12 14 47·2	69 38 22	v F	63
		52·8	37 56	F; p L; R; b M	61
1220	III. 942	12 14 52·1	12 53 7	e F; hardly discernible	413
1221	II. 86	12 14 52·5	72 21 5	v B; m E; v s b M; 35″ long	419
1222	II. 143	12 14 54·2	82 58 31	B; R; p L; p s b M; 30″; the third in a triangle	254
		54·8	57 44	B; R; g b M; neat and bright, but only one seen. (This must therefore be the brightest.)	251
		55·3	58 14	p B; R; has a * 10 m 1′ s	117
1223	III. 94	12 14 58·3	82 6 59	p B; E, or has a F neb on the s f side	250
1224	III. 31	12 15 1·6	71 31 1	F; not v S; R; v g l b M; 25″	334
1225	I. 210	12 15 4·5	42 3 23:	p B; S; p m E; p s b M; 40″	330
		5·8	5 34	B; S; E; v s b M; 50″ l, 20″ br	255
		6·5	3 59	v B; S; m E; v s m b M	138
		6·5	4 13	v B; a * with a short sharp ray; by diag pos 10° s f to n p. (See fig 57.)	140
		6·6	3 52	v B; S; m E in parallel; v s m b M to nucleus	139
		...	3 46:	B; S; R; p s b M; hazy	329
1226	II. 625	12 15 4·6::	92 30 4	F; irreg R; a small * p. (Æ reductions in this sweep considerably uncertain.)	21
		10·8	30 32	F; p L; E; v l b M. (Æ to be preferred.)	146
1227	II. 64	12 15 25·4	77 50 13	v F; S; l E; (nisi Æ = 12h 16m 25s·4)	338
		...	49 30	No description or observed Æ	340
1228	I. 123	12 15 37·5	84 7 32	B; visible in strong twilight; has a * 8.9 m 20° s f dist 3′; (nisi Æ = 12h 16m 25s·4).	153
1229	III. 648	12 15 40·1	57 32 25	F; p m E, nearly in parallel; v l b M; 25″	342
1230	III. 799	12 15 42·1	30 40 32	F; l E; the p of 2	345
1231	I. 65	12 15 43·4	107 50 4	v B; L; R; v s m b M to nucl = *11 m 90″ diam. r with power 320, and is no doubt a globular cluster; fades away to nothing.	149

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1232	I. 30	12 15 49·0	81 44 14	v B; R; at first g b, then s m b M; 50″	251
		50·1	44 33	Just visible through cloud	252
		...	44 7	No description	253
1233	III. 800	12 15 50·1	30 41 32	e F; the last of 2. (The other was III. 799; III. 801 not seen.)	345
1234	I. 166	12 16 10·3	49 40 39	p B; R; s m b M almost to a *	73
		11·5:	41 31::	v B; R; p g m b M; 30″; r	335
1235	I. 22	12 16 14±	77 21 32:	g b M; 20″. Rough place	3
		14·0	21 9	B; R; g b M; 30″	22
		15·3	22 5	B; R	191
		...	19 ±	v F; R; v g b M; 20″; very rough place	2
1236	II. 144	12 16 14·2	81 36 29	p F; R; b M; 40″	117
		14·9	37 17	p B; S; E	253
1237	M. 84	12 16 26·2	76 10 9	v B; R; p s b M; 60″; r	192
1238	II. 379	12 16 29·0	60 30 13	F; R; has a S * 35° n f, 90″ dist	66
		29·5	29 55	F; R; b M	68
1239	I. 12	12 16 36·1	74 17 44	B; S; v s m b M	422
1240	Nova.	12 16 41·8	73 25 31	p L; R; s m b M to nucleus	25
1241	Nova.	12 16 45·5	79 3 1	v F; p L; R; l b M	19
1242	M. 85	12 16 47·6	70 51 56	v B; R; b M; 2′ diam; has a * 80° n p dist 30″ from edge	61
		49·5	52 26	v B; v s b M; 60″	334
1243	III. 879	12 16 54·1	34 32 50	e F; hardly sure that I see it. Sky very dull	346
		56·0	33 15	p B; S; R; g b M; 12...15″	347
1244	Nova.	12 17 9·8	76 24 34	v F; E; the p of 2, dist about 30ˢ in R A	192
1245	II. 749	12 17 11·5	43 22 29	F; v L; E; v g l b M; 2′ l, 1½′ br	255
		11·9	22 1	p B; p L; irreg R; g b M	140
		14·8	22 22	p F; p L; m E	139
1246	III. 361	12 17 18·2:	61 29 50	F; irreg fig; has a line of B st preceding	68
1247	I. 277	12 17 18·4	13 32 17	p B; l E; p s m b M; 25″	348
		18·4	31 52	B; l E; p s m b M	349
1248	III. 852	12 17 18·9	24 7 18	v F; S; R; s b M. Has a triple * s p	412
		20·6	7 11	p B; S; b M; 12″. Near a p B triple *	411
1249	III. 729	12 17 19·9	43 15 21	F; S; R; v g b M. R from II. 749, which it follows 10ˢ	140
1250	II. 167 / II. 168	12 17 20±	76 19 2	These and several more seen	3
1251	II. 55	12 17 20·6	70 50 41	p B; l E; b M. In field with M. 85	61
		21·5	51 6	p B; l E. Follows M. 85	334
1252	V. 29. 1	12 17 22·2	55 30 36	Two nebulæ running into one another; both e F; v L; the f rather the brighter. Place that of the preceding. (See fig 68.)	74
	V. 29. 2	12 17 29·7	55 32 36	The following nebula of V. 29	74
		33·0	32 22	v L; extremely ill defined, may perhaps be 10′ l, 3′ br; p s l b M to an irregular centre. On closer examination bicentral; pos of the nuclei 30° n p; dist 2′.	131

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1253	Nova.	12 17 28·9	76 7 6	v B; R; g b M to nearly a star	22
		35·0::	7 14	v B; L; p g m b M; r. (Æ precarious.)	243
1254	II. 88	12 17 32·3	72 53 11	p B; R; v s b M; 30″	421
1255	Nova.	12 17 39·8::	76 25 ±	The following of 2	192
1256	Nova.	12 17 43·0	80 2 45	e F; v L; R; g b M; 2½′ diam	120
1257	II. 34	12 17 53·9	85 6 0	F; p L; g b M	141
		54·8	5 49	F; L; R; v g b M	238
1258	I. 77	12 17 59·5	57 50 3	v B; L; p m E, first g b and then v s v m b M to a nucleus = * 11 m; 3′ l, 90″ br.	342
		...	50 38	B; L; l E; s m b M; 4′ l, 3′ br.	74
1259	II. 169	12 18 1·1::	76 29 32	e F; g b M; has 2 st, n and n p	3
1260	Nova.	12 18 5·6	81 8 24	v F; L; R; 60″; has * 7 m, 5′ s p	117
1261	III. 492	12 18 12·4	89 56 37	F; S; R; near a *	146
		...	56 42	F; R; b M	145
1262	II. 113	12 18 18·2	74 0 52	B; E, n p to s f; s b M	24
1263	II. 23	12 18 18·3	86 33 33	v F; l E; 30″. This may possibly be identical with III. 17.	143
		19·2	33 56	p B; r	142
1264	II. 89	12 18 26·5	73 35 46	p B; R; p g b M	422
		30·8	34 36	A star n p	25
1265	III. 492	12 18 26·9	94 53 1	v F; S; R; p s b M	147
		27·5	53 21	Not v F; R	234
1266	II. 145	12 18 29·9	83 10 43	v F; v S; E	250
1267	II. 170	12 18 31·2:	76 20 22	p B; S; R; b M	19
		36·1	19 59	No description	242
1268	II. 171	12 18 36·9:	76 45 45	v F; oval; g b M; 50″	340
1269	Nova.	12 18 43·4	97 14 15	p L; v F; very ill defined	137
1270	II. 146	12 18 46·3	82 48 37	v F; L; R; g b M; 90″	253
		49·1	47 24	v F; v L; R; v g b M; 50″	251
1271	Nova, or II. 65	12 18 48·3	77 57 15	B; L; p m E; p s b M; has * 10 m n f, 1′ distance	191
		50·3	58 26	v B; L; E; has * n f; 2′ dist, pos = 29°·4 by micrometer	245
1272	II. 172	12 18 50·9:	76 43 55	v F; g b M; 40″	340
1273	Nova.	12 18 53·4	97 20 50	Not v F; p L; l E; very ill defined	137
1274	M. 86	12 18 57·9::	75 60 1	The preceding of 2	22
		62·4	58 19	No description	338
		62·6	59 24	v B; R; 30″	242
1275	I. 28	12 19 2·9:	76 3 46	B; R. The f of 2	22
		6·1	3 34	p B; L; l E; 60″	242
		7·4	2 34	p B; v L; the f of 2	338
1276	II. 173	12 19 3·9	76 45 50	B; R; b M; 50″; r	340
1277	Nova.	12 19 7·2	88 55 42	F; v m E, pos 15° n f to s p; a long ray; it is s p a * 10 m. The place is that of the star.	145

No.	Synonym.	N.P.D. 1830·0.	R 1830·0.	Description and Remarks.	Sweep.
		h m s	″ ′ °		
1278	II. 848	12 19 24·1	24 15 21	p F; R; v g b M; 25″	411
1279	II. 156	12 19 26·6	79 14 55	v B; R; s m b M; 30″	120
1280	I. 91	12 19 43·8	60 26 41	B; L; 1 E	65
		45·4	26 42	p B	417
		45·7	26 42	B; L; m E exactly in parallel; s m b M	343
		...	26 11	No description	415
1281	I. 213	12 19 47·2	44 58 42	B; L; g b M; E in pos 75° n f to s p a fine cluster; well resolved; I see several of the stars; 3′ l, 2′ br.	150
		49·4	58 8	v B; resolved; has as it were a forked tail	151
		49·6	57 52	v F; v L; v m E; it is either a double neb, or the n f end is bifid. If double the companion is F; R; b M; nearly north dist $1\frac{1}{2}'$ or 2′. A fine object.	248
		50·6	57 57	v B; v L; m E. The centre is fairly resolved; 3′ l, 2′ br. Borders hazy.	139
1282	II. 56 = II. 90	12 19 53·2	71 58 44	B; p L; R; p s b M; 2′	422
		53·7	59 2	p L; R; b M nearly to nucleus	27
		53·9	58 55	v B; L; R; p s b M; 60″	419
		54·4	58 2	v B; l E; p g b M; 100″. (N.B. II. 90 and II. 56 appear to be identical.) Carefully examined. No other found near the place.	334
		54·5	58 6	B; L; R; g v m b M to a stellar nucleus	25
		54·6	58 57	p B; p L; R; b M	63
		...	58 19	F; p L; has a * 9 m s p; 5′ dist	418
		...	57 38 : :	p B; L; b M; 60″; r	61
1283	II. 26	12 20 7·3	82 32 51	e F	254
1284	II. 180	12 20 7·9	91 0 12	F; R; g b M; 20″; a stellar point 18 m in the centre; 2 B st precede, distant.	146
1285	II. 355	12 20 11·0	66 14 30	p B; p m E; g b M; two B stars n f	424
		11·4	14 25	v F; p L; l E	409
1286	II. 35	12 20 18·1	85 29 19	B; R; v s b M; 20″	288
		18·2	29 3	B; R; p s b M; 30″	143
		18·5	29 14	v B; S; R; s m b M to nucl = * 10 m	142
1287	II. 121	12 20 20·4	75 49 8	p B; R; p s b M; the p of 2	338
1288	I. 161	12 20 22·1	75 4 20	p B; R; b M; r; has * 8 m 2′ dist, 45° s f.	23
		24·0	5 34	F; R; b M; 30″	243
1289	I. 212 = II. 750	12 20 24·7	44 10 31	p B; p L; E; p s b M. (I. 212 and II. 750 seem to be identical.)	255
		...	13 ±	B; m E; rough place	140
1290	II. 122	12 20 25·9	75 52 23	p B; R; p s b M; the f of 2	338
		....	51 3 :	v F; R; v g b M; 15″	2
1291	II. 848?	12 20 41·0	24 15 43	p B; R; g b M. (N.B. My Father's P D; if this *be* the nebula, II. 848 is nearly 6′ in error.)	412
1292	III. 483	12 20 43·9	80 54 5	p B; v S; p g b M; R; 10″	250

No.	Synonym.	AR 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1293	II. 18= II. 498	12 20 58·1	81 14 14	B; L; irreg R; b M; r	117
		59·6	13 59	v F; R; b M	251
1294	M. 49	12 21 7·0	81 3 32	R; p g m b M; 40″. Through cloud; twilight	153
		7·3	3 33	Seen in strong twilight; a very good obs of place; has a * 13 m 0° f; 60″.	154
		8·1	4 6	v B; R; v s b M; 2′ diam; a * 4ˢ·0 f	250
		8·7	3 57	e B; L; R; p s m b M; insensibly fading away, has a * 13 m f; by diag the star is just beyond the nebula.	253
		10·1::	3 43	B; L. Cloudy	252
1295	II. 629	12 21 17·1	74 59 22	p B; R; b M; 20″	24
1296	II. 123	12 21 17·8	76 44 23	The first of 3	19
		23·4	43 46	F; R; S; b M	245
		...	.....	v F; R; place estimated, but too roughly to be of any use	191
1297	III. 362	12 21 18·8	61 48 37	e F; R; 15″	417
		...	48 22	e F; no R A procured	343
1298	II. 124	12 21 36·6::	76 45 23	No description; R A precarious	19
		39·3	45 35	p B; R	191
		41·7	43 34	No description. (Obs probably hurried.)	192
		42·0	45 6	B; S; R; p s b M; 30″; the f of 2	245
		49±	43 59	R A roughly estimated from M 87, mistaken for II. 123	22
1299	III. 531	12 21 45·9	84 48 45	F; S; E	141
1300	Nova.	12 22 4·1	100 41 54	Not v F; R; g b M; 20″	129
1301	M. 87	12 22 8·7	76 40 9	v B; R; 60″. (Mistaken for II. 124.)	22
		12·3	41 35	v B; v L; R	191
		12·7	40 4	p B; L; R	192
		17·7	40 58	v B; v L; R; p s m b M; r; 3′ diam	245
		...	41 34::	v B; R; b M. (Taken past merid; P D too great.)	19
1302	III. 484	12 22 13·1	80 41 40	v F; v S; l E	120
1303	II. 91	12 22 17·0	72 18 15	F; R; g b M	419
		17·1	17 36	B; S; R; 25″	421
		17·8	18 1	F. In other respects like II. 56	25
1304	III. 41	12 22 18·8	77 35 5	p B; L; R; 40″	247
1305	III. 499	12 22 21·7	80 59 16	p B; p L; v g l b M; near two small stars	254
1306	I. 197	12 22 49·7	47 26 40	S; R; is 70° n p and 3′ n of I. 198	150
1307	I. 83	12 22 54·4	63 16 58	v B; R; v s m b M to a nucl; 40...50″	58
1308	I. 198	12 22 55·5	47 29 28	v B; v L; m E; 40° n p to s f; easily r	150
1309	II. 36	12 22 55·9	85 7 23	No description	143
		57·7	7 35	A double neb; v F; p L; both R; pos 45° s f by diag; the two are in contact; unequal.	141
		60·5	8 31::	Not v F; v L; R; v g b M.	142

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1310	III. 301	12 22 56·8	59 55 1	F; R; 30″	65
		...	55 20	p F; R; p s l b M	417
1311	I. 234	12 23 16·7	31 6 17	p B; E; p g b M; a ✱ 9 m f 30″ dist in parallel	323
1312	M. 88	12 23 23·4	74 38 19	B; v L; v m E; 8′ l, 1′ br. The northern half is brighter than the southern.	422
		23·5	38 17	B; L; E; b M to nucl; pos (by diag) = 140°·0 ±; has a ✱ just at its s f extremity.	24
		24·0	38 50	v B; v L; E; g b M. Seen through cloud	23
		...	.....	Viewed; m E in pos = 143°·4 by microm; p s m b M; 7′ l, 1′ br	419
		...	37 9 : :	A mere glimpse through a cloud	418
		...	38 ±	pos = 145°·3 by microm; 8′ l, 1′ br; s v m b M; has a double star s f.	421
1313	II. 66	12 23 26·0 : :	77 53 32	R; g b M; 30″	3
		28·7	53 4	p B; R; g b M; 30″	242
1314	II. 92	12 23 28·6	72 22 26	e F	421
1315	III. 18	12 23 35±	85 4 56	e F; the following of 2 in the field	142
1316	II. 631	12 23 35·8	75 38 26	v F; p m E in parallel; g b M; a ✱ 9 m, 8ˢ f	340
1317	Nova.	12 23 38·2	83 14 4	v S; R; a ✱ 13 m with a burr	251
1318	Nova.	12 23 45·4	56 58 2	v F; S; R; l b M	131
1319	III. 834	12 24 8·9	32 35 57	Not e F; S; R; v g b M; 12″	345
1320	III. 302	12 24 17·5	59 20 22	v F; R; b M; 15″	342
		23·9	21 29	e F	68
1321	Nova.	12 24 23·1	25 19 53	p B; R; p s b M; 20″	412
1322	Nova.	12 24 31·6	81 12 34	F; S; R; b M; 20″	117
1323	III. 78	12 24 32·2	74 28 45	F; R; v g b M; 40″	419
1324	II. 93	12 24 33·3	72 46 26	F; an extremely dilute nebulosity, with a centre almost stellar.	25
1325	Nova.	12 25 1·6	79 52 50	e F; p L; l E; v l b M	120
1326	Nova.	12 25 4·7	25 27 21	p B; p m E; p g b M; 20″ l, 12″ br; a ✱ 9 m near	411
1327	Nova.	12 25 4·9	101 4 29	v F; irreg R; b M	129
1328	II. 325	12 25 24±	58 48 ±	p F; L; R; 60″. (R A by working list.)	342
1329	I. 38	12 25 24·4	81 22 2	v B; m E; p s m b M; r; a L ✱ follows	253
		24·9	21 54	v B; m E; p s m b M; a ✱ 8 or 9 m p	251
		25·3	22 3	B. Follows a ✱ 9 m. Good obs of place in a glimpse among clouds.	252
1330	II. 37	12 25 27·7	86 24 28	p B; p L; g m b M; E in pos 30° n f to s p.	143
		29·4	24 30	F; L; E; s b M; ☾	238
1331	II. 67	12 25 26±	77 45 32	R; s m b M; stellar 10 ... 12″; has 2 st n p and one s f	3
		29·6	44 39	F; S; R; p s b M	243
		30·9	44 4	F; v S; has a ✱ 9 m about 30ˢ foll	192
		32·4	45 26	p B; R; p g b M; 20″	245

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1332	Nova.	12 25 38·9	47 42 38	8 Canum. Not the least doubt of a considerable nebulous atmosphere round this star.	151
		39·2	43 31	8 Canum. Certainly misty though the twilight is strong.....	155
		40·1	42 37	8 Canum. Involved in a considerable nebula 3′ in diam, exactly R; v g b M.	150
		41·5	41 41	8 Canum. Nebulous. (See the remarks on this phænomenon in the Appendix.)	335
1333	II. 157	12 25 39·4	75 59 21	p F; p L; R; v g b M; 80″	339
		39·8	59 24	v F; p L; R; 50″	242
1334	II. 147	12 25 40·2	82 36 16	Not v F; E; v g b M; r	254
1335	II. 94	12 25 43·5	73 30 32	F; R; b M; r	27
		44·9	30 24	p F	422
1336	II. 410	12 25 44·5	53 31 33	e F; E; hardly visible for haze	72
		44·6	32 52	v F; L; R; v g l b M; 45″	331
1337	V. 2	12 25 47·7	86 52 50	p B; v L; m E in pos 20° n p; s b M	141
1338	Nova.	12 26 2·3	70 51 26	p B; p m E.....	334
1339	I. 160	12 26 40·3::	92 51 9	B; E 25° n f to s p; v s m b M to nucl; 60″	21
		42·9	51 21	v B; m E; v s m b M to a r nucleus, 2′ l, 90″ br.....	147
		46·4	51 13	v B; m E, in pos 5° s p to n f; s m b M to a nucleus	146
		51·9::	51 0	B; E, in pos 30° s p to n f; v s m b M to nucl 60″	20
1340	Nova.	12 26 40·6	82 56 41	p F; R; b M; 40″.....	117
1341	Nova.	12 26 41·0	38 15 23	e F; p L; R; 30″	328
1342	III. 493	12 26 43±	89 18 7::	v F; R; g b M; 20″	145
1343	I. 36	12 26 50·5	76 50 17	B; R	22
		55·8	51 41	p B; R; b M; 20″; the s p of 2; pos of the other from this by microm = 33°·5.	245
		...	50 32	The first of 2 nebulæ 3′ asunder; v F	3
1344	III. 802	12 26 50·6	30 9 7	p F; p L; E; v g b M; precedes a * 9 m.....	345
		53·9	9 42	e F; a * follows 2′ dist	323
1345	II. 120	12 26 51·8	74 33 45	B; L; p m E; g b M.....	419
		51·9	34 2	p B; R; b M; 60″.....	24
		52·0	33 40	B; R; p s l b M; 60″	422
1346	II. 850	12 26 52·2	25 32 6	v F; L; wedge shaped, or has a v F * n f, which gives it a distorted appearance.	411
1347	III. 807	12 26 59·1::	30 7 37::	By long and careful attention I think I see III. 807. Place estimated from III. 802.	345
		61·1	7 57	e F; p L; sky not perfectly clear	344
1348	M. 89	12 26 59·8::	76 31 25	B; S; R; m b M; 30″. (R A precarious by reason of a fluctuating zero.)	19
		64·2	30 24	B; R; g b M; 40...50″. (This R A to be preferred to the rest, which are very uncertain.)	192
		...	29 3::	F; R; g b M; 25″; has a * n f; rough P D.....	2
		...	31 32::	R; m b M; rough P D	3

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1349	I. 37	12 27 0·5	76 48 12	F; R; 10ˢ of time following I. 36	22
		2·1:	49 11:	p B; R; b M; 25″. The n f of 2; place by comparison with the preceding.	245
1350	II. 343	12 27 14·4	62 32 17	B; R; s m b M; 30″	417
		15·2	32 27	B; irreg R; v s m b M to a * 12 m	343
1351	II. 380	12 27 20·9	62 9 10	F	68
		...	8 32	No description	65
1352	I. 92	12 27 28·0	61 6 6	v B; v L; m E; 4′ l, 1′ br; 2 or 3 stars near it	64
		31·1	6 6	v B; v L; m E; pos 60° n p to s f; 3 st follow	65
		31·5	6 21	v L; g b M, but not to a nucleus; m E; has 3 stars s f. By a diagram, the southern end is broader than the northern, giving it a clubbed appearance. (See fig 83.)	66
1353	I. 119	12 27 29±	81 23 25	B; L; R; g b M	154
1354	Nova.	12 27 30·9	62 6 10	v F; the n f of 2, (the p is II. 380.); a third suspected	68
1355	III. 407	12 27 34·7	69 44 1	No description	61
		36·4	44 47	p B; p L; R; b M; r	63
1356	II. 68	12 27 50·4	77 37 7	B; S; l E; p s m b M	338
		50·8	37 44	No description	242
1357	V. 24	12 27 51·7	63 4 30	v L; an immensely long ray; pos = 134°·6 by microm. (See fig 37.) Both Lord Adare and Mr. Hamilton, who viewed it with me, agreed that a feeble parallel band extends below the nucleus, as represented in a drawing made at the time, from which that of the engraved figure is (principally) taken. Has a * 10.11 m 45° n f, Δ R A = 5ˢ·0. (See fig 37.)	407
		52·9	4 35	v L; 15′ long, pos = 136°·4 by microm; pos of a * 12 m from nucl = 43°·8. The nucleus = a * 10.11 m.	417
		53·3	4 28	An uncommonly long narrow ray; E a full diameter of the field = 15′ long; 30″ broad; s v m b M; pos by ext 45° n p to s f.	58
		54·4	4 42	B; enormously long and very narrow. Pos of the long axis = 137°·4 by microm, very exact. A full diam of field = 15′ long, v s b M. I cannot divest myself of the idea of an appendage n of the nucleus running parallel to the lower edge, which seems more sharply cut than the upper. A fine object, but not *very* bright.	343
1358	Nova.	12 27 54·8	77 47 35	The n p of a fine double nebula; both F; R; g b M; pos 70° n p to s f; dist 1′.	191
		55·4	48 42	A curious bicentral nebula; both the component neb which run together are v F, v L, v g b M.	338
		56·0	49 34	v L; e F; like a v L double neb rubbed out; 4′ diameter	243
1359	Nova.	12 27 56·3	77 48 35	The s f of the double nebula	191
1360	III. 880	12 28 1·5	34 50 5	p B; irreg R; g b M; 20″. (Much out of place by working list.)	347
1361	I. 32	12 28 13·2	81 49 9	v B; m E; v s m b M, 2′ long; pretty bright arms and a resolvable centre.	117
		13·7	49 31	v B; S; m E; v s m b M	254
		14·4	48 55	p B; s b M	154
		14·7	48 54	v B; S; E; p s b M	251
		15·1	49 8	v B; S; v m E; v s b M; 30″ l	250

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1362	III. 602	12 28 28·4	74 48 12	v F; p L; E; v g b M; attached like a tail to a star (place that of the ∗). (See fig 66.)	24
1363	IV. 8 9	12 28 32±	77 52 10	A fine double nebula. Both P B; L; R; v g b M; 60″ and 45″; pos estimated from diagram = 315° ±.	247
1364	III. 939	12 28 43·8	14 49 57	e F; only to be seen with very long attention	349
1365	II. 15	12 28 55·0	79 30 10	B; R; s m b M to a nucleus; a ∗ n p	120
1366	Nova.	12 28 55·5:	79 35 26	F; R; b M. Query, may not this be the same with II. 15, with a mistake of 5′ in P D?	19
1367	M. 91??	12 29 0±	75 17 ±	A bright ∗ 9 m, and 2 or 3 smaller; close by the B star and s p it, is a small well defined body which may be a close double star, and n p is also a F neb. The place set down is that of Messier's 91st neb, but I do not think this can be that object, whose existence even seems questionable.	243
1368	M. 58	12 29 3·6::	77 14 56	v B; irreg R; g b M; a B ∗ precedes ½ field	4
		5·4	14 54	B; R; g b M	22
		8·1	15 0	v B; v L; E; v s v m b M; r; 5′ l, 4′ br	247
		...	16 ±	v B; L; R; place only rough, being observed past meridian	242
1369	I. 124	12 29 8·9	83 42 0	v F; L; R; v g b M; 2′ diam	253
1370	III. 495	12 29 44·5	55 36 36	F; S; R; b M	74
		46·8	36 3	F; S; l E	131
1371	I. 125	12 29 46·4	84 44 45	p B; E	143
		47·3	44 45	p B; p m E; p s b M	141
1372	III. 504	12 30 35·2	83 2 34	No description	251
1373	II. 31	12 30 35·8	89 36 22	e F; L; p m E; v g l b M	145
1374	I. 273	12 30 40·2	14 52 17	B; R; p g m b M	349
		42·1	52 6	B; R; p g m b M; 30″; a S ∗ n p; dist 1′	348
		44·4	53 1	v B; R; p g m b M; 50″	382
		58·4	52 32	v B; l E; p g b M. The right ascension disagreeing so much with the rest, all the reductions have been carefully re-examined, but no error detected. Perhaps the moveable wire has been mistaken for one of the fixed ones in the obs of the transit, which will sometimes happen. (See Appendix.)	413
1375	II. 183	12 30 53·5	94 24 36	v s m b M, to a ∗ 11.12 m, with a faint chevelure	147
		54·6	24 21	p B; E; s b M to nucleus	234
1376	I. 43	12 31 10·9	100 40 19	v B; v m E, in pos 2° n p to s f; v s m b M to a nucleus; 5′ l, 30″ br, a B ∗ s p. There is a faint diffused oval light all about it, and I am almost positive that there is a dark interval or stratum separating the nucleus and general mass of the nebula from the light above (s of) it. Surely no illusion. (See fig 50.)	129
1377	II. 632	12 31 18·2	73 46 32	v F	24
		19·4	46 4	No description	422
		19·7	46 5	p B; L; R; g b M; 40″	419
		...	46 11	p B; p L; R; g b M; 30″	421

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1378	I. 24	12 31 18·7	78 53 6	B; R; g m b M; has 3 small st, f	4
		19·5	53 37	B; R; b M; 30″	19
		19·5	53 25	B; S; R; p s b M; has 3 p B st f	191
		20·2	52 27	B; has a ✻ s f; Δ R A = 2ˢ ±	22
		21·1	52 28	B; R; p s b M; 3 stars near	120
1379	II. 577	12 31 41·7	85 56 38	Followed by 2 st 8 m, (*nisi* R A = 12ʰ 32ᵐ 12ˢ·9)	143
		43·0	56 41	F; S; R; precedes 2 st 9 m (*nisi* R A = 12ʰ 32ᵐ 13ˢ·2 — the observations leaving an ambiguity as to the wire employed).	141
1380	II. 184	12 31 53·9	94 11 56	F; L; E; v g l b M; 50″	234
1381	I. 254	12 32 22·1	27 26 55	B; L; v m E, in pos = 118°·6 (microm); g l b M; 4′ l, 1′ br.	344
1382	III. 43	12 32 22·2	77 9 19	S; E; 1 or 2 stars near or in it	192
		22·7	10 26	v F; a curious object; 2 or 3 v F st form a line with an oblique ray of neb.	245
		...	11 ±	v F; 2 or 3 v S stars in it	3
1383	II. 69	12 32 38·4	78 54 20	p B; R; p s b M; has ✻ 12 m 1′ n p, and a ✻ 5.6 m in field n f	120
		40·1	53 48	Almost stellar	22
1384	II. 20	12 32 49·4	81 45 1	F; R; p s b M; has ✻ 9 m 5ˢ f. Twilight	152
		53·6	45 24	p B; S; R; p s b M; 20″; a ✻ 8 m s f	117
		54·8	45 22	v B; S; R; p g b M; a ✻ 10 m 60″ f	250
		...	46 ±	Seen. P D roughly taken; no R A nor any description	154
		...	44 ±	p B; R; b M; has a ✻ f in parallel, ½ radius of neb from its edge. Rough P D.	254
1385	I. 178, 179	12 33 19·9	47 54 52	Double; a B, L neb, g b M, with a large F one attached, 70° s f, so as to run together into one; ☾.	248
		20·4	55 58:	F; L; dimly seen in twilight	155
		21·9	54 18	No description	151
		23·5	54 32	F; L; R; b M	150
1386	M. 59	12 33 23·0::	77 25 28	B; irreg R; r	19
		27·0±	22 ±	F; R; g b M; 20″; has a ✻ n p and one s p. Place very rudely ascertained.	2
		28·4	24 53	v B; S; l E; v s v m b M; 2′ l, 1½′ br	338
1387	Nova.	12 33 25·7	76 7 15	v F; S; R; v g b M; 15″	247
1388	II. 411	12 33 27·1	53 60 25	p B; R; has a ✻ f Δ R A = 9ˢ·0	337
		29·6	59 47	F; R; 15″; a ✻ 9 m follows, pos = 301°·1; Δ R A = 8ˢ·0	331
		29·7	59 48	e F; has s f a ✻ 8.9 m; pos 30° s f by diagram	72
1389	II. 149	12 33 32·7	81 24 1	p B; E; p s b M	254
1390	Nova.	12 33 35·5	86 0 26	B; E. R A ill observed	142
1391	II. 659	12 33 40·6	56 29 46	a F neb n p V. 42, and almost close to it	74
1392	II. 660	12 33 42·6	47 46 32	F; S; R	150
		44·1	46 53	No description	151
1393	II. 772	12 33 45±	96 8 ±	v F; R; has another nearly n; dist 5′. R A by working list. P D rough.	147
1394	II. 773	12 33 47±	96 3 ±	R A by working list. P D rough	147

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1395	II. 532	12 33 50·0	85 6 30	v F; v S; R	141
1396	I. 14	12 33 51·7	89 9 2	e F; R; g b M. Sky not clear.	145
1397	V. 42	12 33 53·1	56 31 36	v m E; a long ray which crosses the whole field, rather curved upwards (to s). Has a v F nucl and a B ✱ nearly in the parallel. A F nebula II. 659 is very near it, n p. (See fig 76.)	74
		55·0	31 17	Enormously long, extending across the whole field (15′). Nucleus not well defined. Is preceded by a ✱ 10 m, and that again by a S, F, R neb, forming a fine and very curious combination.	131
1398	III. 603	12 34 7·4	74 45 51	v F; v m E; v g b M	421
		7·8	45 55	v F; L; m E; v g l b M	419
1399	II. 38	12 34 8·4	86 22 28	B; R; b M; 30″	143
		10·2	22 44	B; L; R; v g v m b M, but not to a nucleus	238
1400	Nova.	12 34 9·7	69 7 51	v F; L; v g l b M; 2′ diam	334
		10·2	7 16	e F; L; b M; 3′ diam (an over-estimation)	61
1401	Nova?	12 34 10·2	85 22 21	v B; R; s m b M; 40″. If a mistake of 1° in P D be supposed in this obs, the place coincides with that of II. 38, and the descriptions agree.	142
1402	II. 70?	12 34 13±	77 39 12	F; R; g b M. My Father's P D is 77° 43′, if this be the same object.	3
1403	II. 125	12 34 18·8	75 48 50	B; E; has a ✱ 12 m s f; 1′ dist	247
1404	I. 10	12 34 40·2	87 4 53	B; S; l E; p s b M	143
1405	III. 44	12 34 53·0:	77 28 ±	v F. The preceding of the fine double nebula M. 60	22
		53·3	29 40	v F; p L; l E; the n p of 2	191
		53·9	29 53	v F; E about 20 or 30° from n p to s f; it precedes M. 60 about $2\frac{1}{2}'$	19
		58·5	29 4	F; L; l E; 2′ diam. The n p of 2	338
1406	Nova.	12 34 53·3	33 54 30	e F; v S; R; g b M; 10″	347
1407	II. 794	12 35 0·3	34 12 30	Has 4 v S stars s p in a line	347
1408	M. 60	12 35 2·3	77 31 18	B; R; b M. The brighter of a fine pair, the other is v F; E 30° n p; $2\frac{1}{2}'$ dist. (See fig. 74.)	19
		3·1	30 35	A double neb; a very fine and curious object. The p is v F the f v B; both large estimated dist of centres = 4′; pos 45° n p.	22
		3·9:	29 39:	No description	4
		4·1	31 10	v B; R; has a v F oval neb n p; pos 30° n p, dist 3′ by estim.	191
		6·5	30 49	B; R; v s m b M; 90″; the s f of 2	338
		...	31 ±	A most curious double neb 3′ dist centre from centre, but the nebulæ join with v F nebulosity. The fainter rather oval.	3
1409	II. 12	12 35 10·7	72 40 51	v B; R; v g b M; r; 30″	421
		11·7	40 47	Nearly R; g b M; r	27
		13·8	39 56	v B; L; E in parallel; g b M	25
		...	40 48	p B; E. No R A procured.	26
1410	I. 274	12 35 19·5	14 38 32	F; S; b M	348
		21·5	38 27	p F; S; R; p g b M; 15″. Among stars	349
		28·0	39 7	p F; S; R; 15″	382
		32·4	39 9	p F; S; R	413
		...	38 25	Follows a fine D ✱ of contrasted colours	170

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1411	II. 126	12 35 22·2	75 56 44	v F; v L; 2′ l, 90″ br; 3 st near, l = 9 m	192
		24·7	57 46	v L; m E; 5′ l. Closer examined, it is a double nebula? near several stars, one of which = 8 m.	245
1412	II. 661	12 35 27·3:	48 2 46:	e F; near a * 15 m	335
		29·1	2 18	e F; almost stellar; has * 16 m f very near	151
1413	Nova.	12 35 27·9	30 6 26	not v F; p L; g b M. It is about 6′ dist n p two B st 8 and 10 m	345
1414	I. 176	12 35 39·3	56 53 46	A long nebulous ray pos = 34°·3 (microm). Its southern half is fainter than its northern. It meets *and cuts*? another neb. A strange object. See fig 75.	342
		39·9	53 55	The p and s of two neb which run together, not very bright ..	337
		40·0	54 14	The s p of 2 which run together or are connected by a narrow curve. Shape just made out through cloud.	341
		40·4	53 41	A very extraordinary object. Two nuclei (each g b M) joined by a long curved neck or isthmus of nebula.	74
		...	53 57	Two extended nebulæ crossing. They run together; the s p is v L; both p F. (N.B. in this obs they appear to have been well seen, and the nature of the object distinctly made out. A good diagram made.)	131
1415	I. 177	12 35 47·5	56 51 29	The s p of two which cross; p F. (See fig 75.)	341
		48·8	51 54	The neb intersected by I. 176	342
		49·9	51 10	The f of two which run together in a curve	337
1416	II. 127	12 35 57·3	75 33 42	F; R; b M; 30″	24
1417	Nova.	12 35 58·6	77 52 41	v B; S; v s v m b M almost to a *	247
1418	II. 643	12 36 15·6	51 56 5	p B; p L; R; b M; 40″	73
1419	I. 142	12 36 26·1	86 1 59	B; not v L; v s b M; has a * 10 m 45° s p dist 1′	141
		27·2	0 44	p B; p L; R; g b M; 20″; has a * 11 m pos 235°·5	238
1420	I. 15	12 36 26·8	89 31 37	p B; m E; p s b M; pos 45° n f or s p	145
1421	Nova.	12 36 41·6	77 37 39	B; S; R; p s b M; 15″	242
1422	III. 328	12 36 53·4	61 56 31	F; v S; R	64
		55·4	56 46	B; S; R; b M; r	66
		57·2	56 42	p B; S; R; g b M. The first of 2	417
		...	57 1	v S; s m b M to a * 10 m	65
1423	II. 774	12 36 59·5	96 8 11	F; R; p s b M	147
1424	III. 329	12 37 4·3	62 0 31	F; v S; R. There is evidently some error in this or the next R A, but it is probably this which is wrong, being observed at quitting the field, and the next being corroborated.	64
		15·2	0 32	p B; v S; the second of 2; Δ R A = 18ˢ·0	417
		...	2 ±	v S; s b M = a * 10 m; rough P D	65
1425	II. 326	12 37 49·9	58 20 14	e F; query if not bicentral; sky perfectly clear	341
1426	II. 181	12 38 33·9	91 48 17	B; not v L; p m E; p g b M	146
1427	III. 398	12 38 43·3	69 36 31	p B; S; resolved or resolvable. Has a * in centre	61
		43·4	36 42	S; stellar, or a * with a burr	63
		44·7	37 51	S; R; g b M; compact, almost stellar	334
1428	II. 795	12 38 54·8	34 31 20	p B; p m E; v s b M	347

No.	Synonym.	Æ 1830·0.	N. P. D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1429	III. 543	12 39 11·9	84 44 11	vF; follows a star	142
		...	44 ±	eF; 10ˢ following a * 9.10m	143
1430	Nova.	12 39 12·4	53 43 2	vF; R; p s b M; 15″	331
1431	I. 128	12 39 13·9	75 18 46	eF; vL; E; 4′ l, 3′ br	338
		13·8	18 49	pB; vL; E; v diffused	242
		15·0	18 35	pB; vL; E; v g l b M	247
1432	II. 182	12 39 25·7	92 23 57	B; p m E nearly in the parallel; g m b M; 90″ l, 60″ br	146
1433	II. 381	12 39 28·7:	61 51 4	eF; hazy. R A imperfectly taken	67
		34·0	50 26	F; vS; R	64
		35·1	51 1	F; R; b M; (cloudy)	66
1434	II. 72	22 39 39·0	78 4 20	pB; R; g m b M	4
		39·8	5 5	F; S; R	191
		39·9	4 23	No description	22
		40·9	5 30	vF; R	19
		41·8	5 3	not vF; R	120
		42·2	5 16	pB; l E; p s b M	245
1435	II. 796	12 39 47·6	34 41 30	vF; R; v g l b M; 25″	347
1436	I. 39	12 39 48·9	94 52 6	vB; L; E; s m b M to nucleus	147
		49·1	52 16	vB; l E; g m b M; 40″ l, 35″ br	234
1437	I. 129	12 40 14·0	97 44 25	vB; R; v s m b M to a fine resolvable nucleus, 40″. (Doubtless a globular cluster.)	137
1438	III. 524	12 40 15·6	100 28 6	pB; m E 50° n f to s p; a B * precedes	129
1439	II. 662	12 40 42·4	47 8 24	F; R; g b M; sky perfectly clear	151
		44·9	9 12	vF; S; R	150
1440	III. 610	12 40 56·5	94 16 16	vF; R. P D by MS 95°, but it was probably found by the working list, which makes its place 95° as from my Father's obs.	147
1441	II. 95	12 41 8·9	73 54 22	m E; 60″; a ray nebula 75° s p to n f; s b M to nucleus (by diag), a * f.	27
		9·2	54 31	vB; v m E; pos = 28°·5 by microm; b M; 90″ long	421
1442	Nova.	12 41 11·0	63 35 53	vF; p L	407
1443	II. 412	12 41 13·5	53 44 27	pB; E	131
		...	.....	Viewed; in field with a * 8 m; too F to take the place, owing to haze.	72
1444	I. 140	12 41 19·5	83 45 26	pB; L; l E; 60″ l. 50″ br: two st s f; 2′ dist	153
		19·5	45 57	pB; R; g l b M; 80″	253
		20·5	45 26	F; L; R; g b M	152
		21·1	45 20	pF; L; l E; v g l b M	250
1445	III. 536	12 41 26·9	102 24 47	pF; pL	351
		28·5	23 15	pF; S; R; g b M; 12″	352
1446	Nova.	12 41 47·1	94 21 6	eF; vS; between 2 st 5′ asunder	234
1447	III. 611	12 41 53·8	93 13 19	eF; b M	21

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	′ ″		
1448	III. 424	12 41 55·9	55 54 45	e F; easily mistaken for a * 15 m	337
1449	III. 280	12 42 0·0	103 24 37	F; R; the n p of two, 1′ distant	351
1450	II. 298	12 42 3·4	103 25 7	F; R; the s f and brighter of 2 dist 1′	351
1451	I. 84	12 42 3·6	63 34 23	v B; v L; a v B nucleus in a wide, F, oval atmosphere, 4′ l, 3′ br	407
1452	I. 41	12 42 12·5	95 28 16	v F; p L; E; third class; sky perfectly clear and fine	147
1453	II. 73	12 42 31·0:	78 10 0	e F; L	19
		32·6:	10 12	p F; p L; irr R; b M; r	4
		32·8	9 26	F; R; has a * 12 m immediately p	22
		34·7	9 24	F; m E in parallel by diagram; has a * near the centre and another at the p end. (N.B. The MS makes the minute of R A 43; but it is *possible*, from the discrepancy of the descriptions, that it may be a different nebula, but this is unlikely.)	192
		...	10 32:	v F; E	3
1454	Nova.	12 42 33·7	84 13 25	v F; v S; R	141
1455	III. 515	12 42 47·5	97 29 20	F; L; R; v g l b M	137
1456	M. 94	12 42 51·9	47 57 2	v B; L; v s m b M, almost up to a nipple-like nucleus. Not resolved, but strong twilight. (See fig 41.)	155
		51·4	56 28	B; L; R or l E; s m b M to nucleus 15″ in diam and = a * 8 m, well defined, but not stellar. The nebula 2′ diam.	248
		52·0	56 26	e B; R; v s v m b M to a nucleus = in its impression on the eye to a * 9 m, but which will not bear illuminating more than 11 m; diam of neb = 2½′.	335
		52·2	56 42	v B; R; p s v m b M, to a nipple; with 240, r; glimpses of stars seen. A fine object. 90″ or 2′ diam.	150
		52·9	56 51	The central B part (10″ diam) equals a * 9 m, e compressed	151
		...	.....	Viewed. v B; v s m b M; 4′ diam. Not resolved but resolvable. (A very interesting object, being a neb v s m b M on a great scale.)	73
1457	III. 496	12 42 52±	54 55 25	e F; R A from working list	337
1458	III. 721	12 43 6·8	41 24 6	v F; R; p s b M	329
1459	III. 537	12 43 21·1	102 28 58	p F; S; R; g b M; 12″	352
1460	Nova.	12 43 21·9	77 0 5	p B; m E; r	247
1461	I. 16	12 43 39·3	90 16 37	B; R	146
1462	I. 25 = II. 74	12 43 42·8	77 45 45	R. (There is no doubt of the identity of the nebulæ I. 25 and II. 74.)	191
		44±	44 ±	F; R; g b M; 20″. (Viewed.)	2
		44·7	46 14	B; R; p s b M	192
		45·3	45 41	v B; v L; p s b M; r; 2′ or 3′ diam	245
		45·6	45 34	p B; R; p s b M; two small stars point to it	243
1463	IV. 78	12 43 54·9	16 11 49	p F; L; R; 40″; the central portion up to diam 30″ is nearly uniform, so as to give it an approach to the appearance of a planetary nebula.	382
1464	III. 281	12 44 1±	104 29 ±	Seen in its place by working list. P D roughly taken. R A from list.	351

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1465	III. 70	12 44 16·2	73 13 36	v F; m E	421
		16·3	13 20	e F; p L; R	419
		16·4	13 32	e F	27
1466	II. 75	12 44 20·9	77 50 55	p B; v m E in pos = 34°·0 by microm. Remarkably situated under a canopy as it were of 3 bright stars. (See fig 84.)	191
		22·2:	49 44:	A ray b M almost to a nucleus under an arch or roof of 3 stars 10, 11, and 12 m.	4
		23·4	51 14	p B; m E; under an arch of 3 st	243
		24·9	51 24	v m E; under 3 stars; II. 74 precedes. The eye is led down to it by two smaller st which continue the arch.	192
		...	49 ±	F; E; b M; 30″ l; under 3 stars. Rough P D	2
1467	III. 544	12 44 35·0	84 37 10	p B; S; R; g b M; 20″	141
1468	II. 535	12 44 41·3	87 48 37	F; m E; follows a ✱ 9 m in parallel; sky not quite clear	145
1469	II. 24	12 44 49·7	86 53 56	B; s m b M; R; 1′ diam	142
		51·7	54 9	p B; R; g p m b M; 18″; ☾	238
		...	56 ±	F; R; g b M; sky turbid; (rough P D)	145
1470	II. 186	12 44 56·7	95 41 46	v F; L; R; 90″; v g l b M. Its companion looked for but not seen	147
1471	III. 618	12 45 0·6	52 15 17	e F; S; R; b M. Sky perfectly clear	331
1472	III. 106	12 45 17·4	79 22 1	e F; p L	19
		17·6	21 38	v F; R	22
1473	II. 345	12 46 0·5	62 0 11	F; R; 1′ s of a ✱ 9 m	64
		2·1	0 9	A neb attached to a B ✱ 1′ n, place that of the nebula	67
		3·7	.....	No P D taken nor any description	68
1474	II. 21	12 46 25·1	81 1 4	B; R; p g b M; 30″; a v S ✱ included, f	117
		29·4	1 11	No description	152
		30·2	1 7	p B; R; p s b M. Among several stars	253
1475	I. 93	12 46 26·3	60 8 1	not v B; l E; has ✱ 8 m 1′ dist 80° n f	65
		27·0	8 9	p B; S; E. Query if not bicentral. Near a ✱ 9 m	341
1476	III. 548	12 46 36·2	86 10 30	F; S; close to a ✱	141
1477	II. 382	12 46 38·7	61 39 26	p F; R; g b M	343
		39·4	39 37	p B; R; g b M; 40″. Minute mistaken, in R A; corrected by comparison with Sw 343 and working list.	417
1478	I. 211	12 46 46·1	42 33 19	p B; R; 40″; has a ✱ 15 m p	255
		...	.....	B; R; p s b M; 30″; a ✱ 13 m near n p. P D too roughly taken (being much past the meridian) to be of any use.	140
1479	III. 816	12 47 6·1	35 58 40	e F	347
1480	I. 141	12 47 22±	84 47 ..	not B; E; g b M. Sky quite clear	142
		...	.....	F; R; b M; sky perfectly clear	143
1481	II. 383	12 47 42·2	61 20 1	e F	64
1482	II. 777	12 47 46·9	95 53 41	S; R; b M; wind violent	147
1483	I. 243	12 47 51·3	30 44 27	p B; S; R; g b M; 18″	345
		55·1	44 32	p B; L; l E; v g b M; 90″ l, 75″ br	323

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1484	II. 549	12 48 0·0	97 36 47	p B; p L; l E in merid; v g b M	137
1485	II. 384	12 48 21·4	61 54 4	v L	67
1486	M. 64	12 48 21·5	67 24 0	B; v L; v m E; v s m b M; well examined. I am much mistaken if the nucleus be not a double star, in the general direction of the nebula: 320 much increases this suspicion; 240 shows *well* a vacuity below (n of) the nucleus. The neb is 8′ or 9′ long, and 2′ broad.	424
		22·4	23 10	v L, oval neb, with a v S, s B, vivid nucleus. The neb is far feebler; 6′ l, 4 or 5′ br. I see no "dark recess" in it.	409
		26·1	23 17	B; L; E, 5′ l, 3′ br; v s v m b M, almost to a ✻, but magnifying destroys this effect. Resolvable but not resolved.	246
		...	.....	Viewed, and the appearance of a vacuity below the nucleus verified. April 21, 1833, a careful drawing taken. (See fig 27.)	
1487	II. 346	12 48 39·0::	62 4 46	v F; p L; 35″	65
1488	III. 817	12 48 50·7	36 46 58	e F; R; S; b M	328
1489	Nova.	12 49 1·6	40 16 26	A rather doubtful object; haze	329
1490	Nova.	12 49 8·2	102 8 10	v F; has 3 small stars s p	352
1491	II. 536	12 49 10·7::	87 30 37	F; p L; E; v g b M; has a ✻ 30° n f	145
1492	III. 613	12 49 14·9	92 41 40	F; l E; has a ✻ 30″ dist, 45° s f, 12 m	146
1493	II. 387	12 49 17·9	60 36 22	p B; R; a v S star makes it elongated	417
		18·7	36 8	p F; double, n f, dist 20″	343
1494	II. 386	12 49 28±	61 40 6::	F; R; R A by working list	68
1495	Nova.	12 49 44·3	51 42 17	e F	331
1496	II. 385	12 50 21·0	61 28 52	p F; v S; R; s b M; 10″	417
		21·8	28 26	v F; R; p s l b M; 20″	343
1497	I. 68	12 50 25·3	104 7 47	p B; R; s b M; 25″	351
		25·3	7 33	p B; R; p s b M; 20″; a ✻ 13 m pos 140°; dist 1 diam by diag	352
1498	I. 162	12 50 58·1	74 54 40	B; E from s p to n f; s m b M; has a ✻ involved, p its centre, in the parallel.	23
		58·3	54 40	B; m E; s b M, to nucleus; has a S ✻ n p	419
		58·5	54 12	B; E in parallel; s b M to nucl; 2′ l, has a ✻ in it 15 m, 10° n p the nucleus.	24
		58·7	54 41	B; m E; s b M. The ray passes through a S ✻	421
		59·2	54 30	p B; v m E; s b M; has a ✻ or 2 14 m near	247
		60·4	55 4	B; v m E in parallel; has ✻ 12 m, 3ˢ·0 p, at the n edge of neb.	338
1499	IV. 30	12 50 56·6	54 13 33	F; S; R; much doubt as to nature of the object. Haze	72
		57·9	12 58	An e F nebulous ray (pos about 30° by diag) connects 2 stars 10 and 12 m by obs. The minute of R A is 51, but this is probably a mistake in reading the chronometer.	337
		61·6::	17 ±	a v F neb; E n f to s p, between 2 stars, the southern of which is ill defined. Both seem to belong to the nebula. Place very ill determined, the P D especially being a mere estimation from a v distant ✻. (See fig 62.)	131
1500	Nova.	12 51 14±	61 7 ±	The first of 5 south of a ✻ 7 m. Place by configuration with the others.	343

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1501	II. 388	12 51 21·4	61 8 1	F; S; R	65
		23·5	8 31	v F	64
		...	8 ±	The second of 5, south of * 7 m	343
1502	II. 389	12 51 33±	61 7 ±	The third of 5; place by configuration	343
1503	III. 83	12 51 38·8	76 36 10	F; v L; R; v g b M; 2′	245
		39·7	36 54	v F; p L; R; v g l b M	192
1504	Nova.	12 51 44·2	95 56 6	v F; v S; E	234
1505	II. 778	12 51 46·9	95 9 16	p F; v S; E; p s b M	147
1506	III. 64	12 51 51·3	93 40 19	v F; R; b M	21
1507	II. 391	12 51 54·5::	61 5 21:	No descrip. The R A very loosely determined	64
		59·6::	5 58	B; p m E; b M. The fourth of 5, s of * 7 m	343
1508	II. 390	12 52 1·1	62 11 19	e F	68
1509	I. 143	12 52 1·9	86 35 30	A * 10 m, has an oval neb attached, 45° n p. (See fig 67.)	141
		2·4	35 18	A * 10.11 m, with an oval brush n p	143
		...	35 ±	A star 11 m, with a fan or brush	142
1510	Nova.	12 52 2·7:	61 8 1:	B; S; R; in parallel with another which it follows	65
		...	7 ±	The last of 5, south of a * 7 m; more suspected to the south	343
1511	I. 69	12 52 3·4	103 36 12	p F; R; near some stars	351
1512	Nova.	12 52 13·5	41 52 6	p F; S; R; 10″; g b M	329
1513	IV. 47	12 52 39·9	93 37 39	p B; R; g b M; nothing very remarkable	21
		...	39 ±	R; rough P D, taken past meridian	147
1514	II. 645	12 52 45·3	51 44 2	e F; s f a * 17 m, (l radius from edge by diagram)	331
		46·3	45 3	p B; v S; s m b M	73
1515	Nova.	12 53 5·2:	41 52 8	e F; S; E; b M	140
1516	II. 393	12 53 12·5	61 12 14	F. There are several more in the neighbourhood	67
		...	11 52	F; p L; 40″	417
1517	II. 300	12 53 15·9	104 3 37	v F; R; b M	351
		16·3	3 16	v F; irreg R; v g l b M. (N.B. My Father has two observations of this nebula; both agree in making the P D 103°, but mine are both correctly reduced, and there is no appearance of any mistake.)	352
1518	II. 394	12 53 16·0	61 15 4	v F; one of several. (N.B. One of these must have been II. 392, which is said to precede 393 and 394, dist 8′.)	67
1519	II. 779	12 53 17·9:	96 48 0	v F; R A doubtful	137
1520	I. 40	12 55 25·7	94 38 31	p F; L; v g b M; E; 60″1	234
		26·5	38 51	F; R; b M; sky very clear	147
1521	Nova.	12 55 28·9	37 45 38	e F; R; p s b M	328
1522	II. 395	12 55 39·4	60 54 0	F; R; b M; has * 9 m 45° n f; 1′ dist	68
1523	II. 188	12 56 17±	95 35 36::	v F; R; sky very clear. Wind. R A by working list; P D inaccurate.	147

No.	Synonym.	Æ 1830·0	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1524	II. 396 = III. 303	12 56 46·6	59 57 31	v F; S; R. (N.B. The nebulæ II. 396 and III. 303 are no doubt identical.)	64
		49·0	58 9	v F; R; III. 303 looked for and suspected; minute in R A = 57 by obs; but this is an evident mistake.	341
		50·0	57 41	B; R; s m b M to a * = 11 m	65
		51·0	57 58	p F; S; p s b M; 12″	342
		55±	57 35	Barely visible in twilight. The R A very uncertain from fluctuating zero. (There is also an obs in Sw 341, which may perhaps refer to this nebula; but the minute is wrong, and it is described as "suspected" but not sure.)	259
1525	II. 413	12 57 0·3	53 54 45	p B; R; s b M; 25″	337
		3·1	54 32	p B; R; p s b M; 25″	331
1526	II. 397	12 57 0·5	61 31 7	F; R	67
1527	Nova?	12 57 30·1	13 41 13	v F; S; R; g b M; 12″. (The place is within barely possible limits of III. 937.)	348
		38·3	40 37	v F; R; v g b M	349
1528	Nova.	12 57 37·2	55 54 51	e F; S; R	74
		...	54 ±	e F. Seen in its place as determined by former sweep	337
1529	II. 398	12 57 37·9	61 21 17	F; irreg fig; b M	68
1530	II. 663	12 58 3·4	47 21 22	v F; R; S; 15″	248
		5·9	21 38	F; e S; stellar; 5″; has a v S * near it, to s	151
1531	III. 304	12 58 7·4	60 2 22	v F; R; g b M; near a double *	417
		10·7	2 9	F; l E; v g l b M; pos from the double * h 2626 = 34°·9 by microm.	342
		...	3 ±	v F; l E; pos from a * 7·8 m = 44°·0	343
1532	III. 779	12 58 12·3	32 46 17	e F; S; l E; a sure obs	345
1533	III. 783?	12 58 17·8	35 31 0	Either a v F neb and star attached, or a nebulous double star, a doubtful object. The R A differs materially from that of my Father's III. 783.	347
1534	Nova.	12 59 3·8	94 6 21	v F; v S; R; p s b M; 10″	234
1535	Nova.	12 59 28·6	70 40 16	v S; R; s b M; stellar	61
		30·2	40 41	F; v S; R; p s b M	334
1536	II. 301	12 59 57·9	104 36 32	B; R; p s b M; 30″	351
		58·2	35 34	v B; R; p s b M; sky remarkably fine	352
1537	II. 189	12 59 58·9	95 51 56	F; p L; R; 50″; has * 9 m, 80″ dist s f	147
1538	III. 401	13 0 26·5	53 53 12	e F; S; R	331
		27·6	53 47	F; S; R; b M	131
1539	III. 654	13 0 28·1	47 25 18	v F; v S; R; 10″	151
1540	I. 42	13 0 30·4	96 56 0	Not v F; R; v g b M; 40″; has a * 8 m, n p	137
1541	Nova.	13 0 36·5	77 27 22	v F; S; l E; north of 2 small *s	338
1542	Nova.	13 0 36·7	37 9 13	p F; S; R; 8...10″	328
1543	II. 537	13 1 1·2	87 25 57	e F; R; l b M; sky not perfectly clear	145
1544	II. 366	13 1 39·7	60 11 1	F; l E	65

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1545	Nova.	13 2 20·9	35 34 50	not v F; S; irr R; g b M	345
1546	III. 305	13 2 54·9	59 26 31	e F; v S; R	64
		61·7::	27 35	F; R; distinctly seen in twilight, but R A doubtful to the extent of 10ˢ.	259
1547	I. 96	13 3 5·0	52 1 24	v B; v L; m E; 4′ l, 1′ br; v s b M to a nucleus, pos by diagram = 30° n f to s p.	73
		5·2	1 40	v B; m E, in pos 20° n f to s p by diagram; s m b M; 2′ long.	72
1548	Nova.	13 3 15·2	104 53 33	v F; R; b M; a ✻ 10 m 45° n p, dist 5′	352
1549	I. 85	13 3 21·4	66 10 15	v F; L; double or wedge-formed bicentral; pos 17°·0 per microm. Each neb v g l b M; a large ✻ (the first of a trapez) 24ˢ f.	409
		21·8	11 15	not v B; E; g b M; 50″; has a ✻ 9 m 23ˢ foll, the first of a trapezium.	424
1550	III. 820	13 3 27·2	39 0 16	e F; R; s p a ✻ 15 m	329
1551	II. 414	13 3 38·6	52 49 7	p B; S; p m E; p s b M	331
1552	II. 637	13 3 42±	93 26 26::	No description. R A by working list	147
1553	III. 669	13 3 52·8	105 51 16	v F; R; b M	354
1554	II. 746	13 3 54·6	108 36 28	B; R; p g m b M; 30″	355
1555	III. 545	13 4 5·4	84 21 31	e F; S; R	142
1556	II. 129	13 4 12·4	76 29 54	v F; R; p s l b M; 50″	338
		12·8	29 59	L; R; straggling borders; p s m b M	242
		13·8	29 44	F; p L; E; 30″ long	192
1557	Nova.	13 4 26·3	42 54 25	p F; R; 40″; has a ✻ 12 m 1½′ n f	255
1558	M. 53	13 4 32·3	70 55 26	A most beautiful highly compressed cluster. Stars very small, 12 . . . 20 m; with sc st to a considerable dist; irreg R, but not globular. Comes up to a blaze in the centre; indicating a round mass of pretty equable density.	25
		33·4	55 38	extremely compressed. A most beautiful object	26
		33·5	55 32	Seen by Mr. Baily. A fine compressed cluster, with curved appendages like the short claws of a crab running out from the main body.	63
		34·6	55 6	A mass of close-wedged stars 5′ in diam; a few = 12 m, the rest of the smallest size and innumerable.	61
		35·1	55 33	Observed with Mr. Baily	62
		. . .	. . . . .	Viewed. A most beautiful cluster	334
1559	II. 664	13 4 32·9	45 3 24	F; m E; 70° n f to s p; 90″ l, 20″ br	151
		37·0	2 53	F; a long ray 3′ l, 20″ br; v l b M	140
1560	III. 649	13 4 43·5:	57 17 49::	Obs somewhat doubtful. The P D may err 2′, as clouds prevented verification.	341
		46·0	17 11	e F; R; has a ✻ 14 m to n	74
		46·5	16 57	v F; E; S; 30″ s of a ✻ 13 m	131
1561	Nova.	13 4 45·6	83 1 58	v F; R; g b M; 20″	251
		46·4	1 59	e F; R; v g b M	250
1562	Nova.	13 5 7·7	42 1 3	F; R; g b M; 15″; twilight	257

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1563	III. 367	13 5 18·1	61 18 1	F; not v S; R	65
		22·2::	17 48:	e F; irr R. Sky growing thick	343
1564	I. 97	13 5 35·2	52 29 38	B; p m E; s m b M; a * n p	72
		37·6	30 32	a v B nucleus with F branches, position = 166°·8 per microm.	331
1565	II. 510	13 5 57·3	105 41 52	p F; R; b M; 25″. A * 12 m 1′ n p	354
		57·4:	41 3:	No description	157
1566	II. 511	13 6 21·4	105 29 15	p F; p L; R; 30″	354
1567	Nova.	13 7 34·9	59 24 9	v F	342
1568	II. 513	13 7 55·5	105 44 13	v F; R; 20″	354
1569	VI. 7	13 8 2·4::	71 25 41	v L; e F; a cluster of stars 19 or 20 m, with 4 or 5 = 15 m; irreg R; v g v l b M; diam at least 8 or 10′. A most curious and interesting object. The stars are just discernible. So faint, might easily be overlooked. R A of working list very much out, by reason of which the obs was nearly lost and quite spoiled.	334
		...	25 32	v F; v L; 7′ diam; v S stars 15....20 m. Its true R A much *precedes* that in the working list.	27
1570	M. 63	13 8 10·9	47 4 12	B; p m E; v s m b M, almost to a * pos 30° n p to s f. The s f end more diffused. Has a B * n p and a D * f.	151
1571	III. 306	13 8 13·3	58 8 36	F; S; R; b M. The first of 2	74
1572	III. 307	13 8 27·7	58 3 43	F; S; R; b M. The second of 2	74
1573	III. 308	13 9 32·8	58 0 30	v F	342
1574	III. 282	13 10 19·4	103 57 22	v F; p L; E	351
1575	III. 309	13 10 31·6	57 37 45	e F	342
1576	III. 117	13 10 32·0	101 49 45	v F; S; R; 15″; the s p of 3	352
1577	II. 193	13 10 34·5	101 45 2	B; R; s b M; 20″; the northern and second of 3	352
1578	III. 118	13 10 41·1	101 48 12	v F; p L; l E; 40″; the f of 3	352
1579	II. 313	13 11 5·3	110 55 7	B; R; p s b M; 35″	355
1580	II. 327	13 11 37·5	58 51 21	p B; p L; g b M	65
		39·7	52 45::	No description	259
1581	II. 539	13 11 46·9	103 11 22	p F; S; R; g b M; 15″	351
1582	Nova.	13 11 51·9	91 24 37::	v F; R; g b M. It is 40° n f a * 11 m.	146
1583	III. 633	13 11 59·0	48 41 53	v F; R; b M; 12″	155
1584	III. 650	13 12 15·5	56 1 31	F; S; R; b M; the s p of 2	74
		...	.....	Viewed. e F	337
1585	Nova.	13 12 23·2	55 58 1	F; S; between 2 stars; the n f of 2	74
		...	57 30	e F	337
1586	III. 619	13 13 44·6	50 32 54::	v F; l E; 30″ l	155
1587	III. 119	13 13 57·4	102 5 12	not v F; R. Nearly lost by looking too late, the R A of the working list being too great.	351
		58·3	3 58	F; R; g b M; 20″	352
1588	II. 826	13 14 3·4	31 27 32	v F; p m E; 30″	345
1589	II. 646	13 14 16·9	50 22 1	v F; L; R; v g l b M; 2′	73

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1590	III. 368	13 14 52·9	62 8 22	Not v F; p m E; 1 b M; 30″ l; pos 40° inclined to the parallel..	417
		54·7	7 38	Not v F; irreg fig; v g b M; sky rather dull.....	343
1591	III. 925	13 14 54·0	82 43 6	F; R; g b M; 20″.....	152
		...	45 ±	F; R; g b M; 30″. P D only rough, being taken much past meridian.	153
1592	Nova.	13 14 54·2	60 47 11	v F; L; makes an equilateral triangle with 2 stars 11 m, n p..	65
1593	Nova.	13 15 33·1	79 23 40	Not v F; S; R; g b M.....	120
1594	II. 666	13 15 40·4	46 1 16	F; R; g b M; 35″.....	151
1595	II. 653	13 15 45·5	75 7 40	F; R; g b M; 15″; a D ✳ follows $7^s·5$	420
		47·4	8 7	p B; R; not v s b M; a coarse D ✳ follows.....	338
		48·7	7 44	p B; R	192
1596	II. 328	13 15 50·2	57 32 38	p B; R; g b M. No other near	74
		52·5:	33 17	p B; R; follows a D ✳ of the third or fourth class.....	259
		...	32 30	p B; p L; s f a small group of stars 13 m	342
1597	II. 314	13 16 6·3	110 13 55	F; p L; 1 E; v g b M.....	355
1598	III. 84	13 16 31·0	75 21 54	e F; R; S; p s b M; 15″	192
		...	.....	Viewed; v F; R; b M; 15″.....	338
1599	III. 402	13 17 7·2	52 43 37	v F; R	71
		8·6	43 42	p F; R; v s m b M to a ✳. Has a ✳ 12 m preceding. The s p of 2 nebulæ.	331
1600	III. 403	13 17 17·7	52 40 1::	p B; R; the n f of 2	71
		18·1	42 37	p F; R; v s b M to a ✳.....	331
1601	II. 25	13 17 38·7	86 61 1	F; 1 E; v s m b M to a ✳ 12 m; 30″	145
		41·3	59 56	B; R; p s b M; 30″	142
1602	II. 667	13 17 45·9	45 51 12	Not v F; R; g b M	151
1603	Nova.	13 18 20·5	72 14 30	v F; R; has a ✳ 7 m, 6′ north	420
		22·1	14 32	e F; S; R; has a B ✳ n f	27
1604	III. 404	13 18 25·5	53 10 23	p B; b M; the s p of 2	72
		26·3:	10 27	Not v F; E; g b M; 40″; the s p of 2.....	331
1605	III. 405	13 18 45·5	53 7 38	v F; the n f of 2.....	72
		45·8:	6 54::	e F; L; R; it is 45° n f III. 404	331
1606	III. 651	13 19 25·3	57 5 36	e F; R; 30″	74
		26·1	4 40	Not v F; p L; E; the p of 2, very similar	337
		27·5	5 7	F; R; b M.....	131
1607	Nova.	13 19 32·4	71 20 8	v F; R	26
1608	Nova.	13 20 23·6	57 4 55	Not v F; p L; E; the following of 2, very similar	337
		23·8	5 36	p F; R; b M; 30″.....	74
		25·5	5 7	p F; E; 1 b M.....	131
1609	III. 784	13 20 27·3	33 37 40	v F; R	347
1610	V. 22	13 20 40·8	107 5 26	F; v m E in pos 128°·8 by microm; p g b M; 180″ l, 30″ br..	354
		41·2	4 48	F; L; E; v g b M; twilight.....	157

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1611	III. 672	13 20 51·8	42 28 59	v F; R; 50″	255
1612	III. 45 } III. 46 }	13 20 59·4	78 6 44	v F; two close together, or one E nearly in merid. A star 11 m n	242
		60·3	6 40	e F; E; involves a * at the S end, and has a * 6 m, 15′ s and a few seconds preceding.	120
1613	Nova.	13 21 0·0	72 3 45	F; p L; R; p g b M; 40″	420
		1·9	4 8	F; p L; R; v g b M	26
1614	Nova.	13 21 11·3	42 31 49	p F; R; v s b M; almost stellar	255
		12·3	32 19	p B; R	256
1615	III. 70	13 21 9·4	72 17 37	v F; has either a star excentric or a double nucleus	27
		...	17 35	F; S; R; 15″; has a * 7 m nf, 8′ dist. No R A procured	420
1616	Nova.	13 21 19·8	75 48 44	e F; R; 20″	338
		21·3	49 5	F; R; S; 15″	247
1617	II. 679	13 21 22·4	90 50 37	F; l E; g b M; 20″; the first of 2	146
1618	II. 680	13 21 27·4	90 46 42	F; nearly R; g b M; 30″; the second and brighter of 2	146
1619	III. 642	13 21 40·7	75 42 19	e F; R; 25″. (Seen also in Sw 192.)	338
1620	III. 652	13 21 58·0	57 59 17	v F; R; g l b M; 15″	342
		...	59 16	F; R; b M; much past merid, and no R A to be procured.	74
1621	Nova.	13 22 22·8	70 59 21	p F; R; g b M; 20″; a coarse triple * f	334
		22·9	58 36	v F; S; b M; has a considerable triple * following, dist = 8′.	61
1622	M. 51	13 22 37·1	41 56 9	A very bright round nucleus surrounded at a distance by a nebulous ring. (See fig 25, and the Note on this neb in the Appendix.)	255
		38·5	56 13	A most astonishing object, &c. (See Appendix as above.)	140
		38·9	54 53	A nucleus and double or divided ring, &c. &c.	257
		40·0	55 36	Place of the nucleus. The rings barely discernible for a haze.	329
		41·5	.....	p B; E; v g b M; seen through cloud	138
		43·8::	57 28:::	(See Appendix.)	256
1623	I. 186	13 22 46·0	41 51 ±	B; R; v s b M to a *. This nebula is the companion of M. 51 and is figured with it.	140
		47·0	51 16	...	329
		50·0	.....	...	138
		50·3	52 13	...	256
1624	III. 406	13 22 58·8	54 17 45	No description	337
		60·5	16 37	No description	71
1625	IV. 63	13 23 4·3	30 42 12	p B; irreg R; g b M; 90″; r; no nucleus seen	345
1626	III. 643	13 23 53·5	75 13 34	A F oval wisp attached to a * 11 m	192
1627	III. 9	13 23 55·4	81 48 17	F; S; R	253
		56·3	48 26	F; S; R; p s b M; 10″; almost stellar	152
		57·9	48 57	F; R; like a * with a burr; the first of 2	250
		...	48 ±	Seen in its place; p B. No R A observed	251
1628	III. 10	13 24 12·1	81 47 37	F; S; R	253
		13·4	48 27	F; R; s b M; 15″; like a burred *. The second of 2	250

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1629	III. 99	13 24 18·1	81 56 57	F; S; R; p s b M; 15″	153
		...	58 ±	F; not v S; R; p s b M. (Past merid.)	152
1630	Nova.	13 24 21·8	90 9 32	p B; S; R; v s m b M; 20″	145
1631	Nova.	13 24 51·8	81 49 47	e F	253
1632	III. 656	13 25 26·0	47 15 18	v F; R; g b M; 30...40″	151
1633	III. 926	13 25 37·0	82 38 32	A * 9 m with a F, very dilute nebulous atmosphere. (Possibly the minute of R A should be 26.)	153
1634	Nova.	13 25 51·1	71 16 8	v F; S; R; b M	26
1635	Nova.	13 26 12·6	26 24 36	R or l E; g b M	411
1636	II. 841	13 26 19·1	26 21 26	Not v F; p L; R; g b M; 35″	411
1637	III. 86	13 26 35·9	75 17 31	e F; R	338
		36·4	19 35	F; R; p s l b M; 25″	247
1638	III. 85	13 26 36·2	75 23 4	v F; S; R	192
		36·4	22 38	p B; S; R; s b M; 30″	247
		37·3	23 29	v F; R; v g l b M; 20″	242
1639	III. 87.	13 26 36·9	75 28 11	v F; R; g l b M; 20″	338
		...	28 0	v F; R; p L; R A not observed, but P D taken in time	192
1640	III. 407	13 26 43·0	54 25 57	F; S; R; has a * s p	131
		45·4	25 18	F; S; g b M; 15″; has * 10 m 30° s p, dist 40″	72
		45·9	25 27	F; R; b M. A star very near	71
1641	III. 928	13 26 52±	87 44 ±	v F; R. R A by working list; past merid.	145
1642	III. 408	13 26 54·9	54 19 53	F; S; R; g b M; 15″	72
		55·9	20 17	F; R	71
1643	Nova.	13 27 3·5	75 26 28	F; L; E; v g b M; 50″ l, 45″ br	247
1644	III. 100	13 27 26·0	82 31 2:	F; p L; R; very dilute; n f a * 9 m	153
		28·2	32 34	The faintest thing imaginable	251
		30·2	33 1	v F; S; R	253
1645	III. 425	13 27 30·3	54 27 32	F; S; R; has a v S * near	131
1646	III. 101	13 27 57·9	81 45 29	v F	250
		...	46 ±	v F; R; 25″. No R A taken; past merid.	153
1647	Nova.	13 28 29·7	86 21 33::	e F; v L; fills the whole field. Strongly suspected; yet a doubt remains.	143
1648	III. 620	13 28 44·2	50 46 26	p F; E or obscurely bicentral; l b M, pos of elongation 25° n f by diagram.	73
		45·7	47 49::	v F; p L; l E. P D probably erroneous from a shifting of the microscope.	155
1649	II. 297	13 28 52·8	107 0 50	v F; v L; p s b to a brighter kind of nebula; a good type of its class. It loses itself quite imperceptibly. Diam of the faint neb = 2′; of the brighter part or nucl = 10 or 15″. (See fig 39.)	354
		53·5	0 48	v F; p L; g b M; 40...50″	157
1650	I. 34	13 29 5·5	80 14 18	p B; v L; E, 60° n p to s f; p s b M; 3′ l, 2′ br	120

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1651	III. 72	13 29 20·6	73 9 8	e F; S; R; b M	26
		21·0	9 15	p F; R; 25″	420
		21·6	9 17	v F; S; R	27
1652	III. 369	13 29 29·1	61 42 31	v F; R; S	65
1653	III. 505	13 29 50±	84 37 1	F; R; b M; 30″. No R A taken, but inserted from working list	142
		...	36 ±	e F; S; R; rough P D. R A per working list	143
1654	II. 895	13 31 13·7	88 17 43	The first of 2 composing a double nebula; both v F; R; b M. The smaller of the two.	145
1655	II. 896	13 31 18·2	88 18 3	The second and largest of 2, composing a double nebula	145
1656	III. 673	13 31 18·9	40 50 23	v F; R; v S; g b M; 10″; in field with a double star	257
1657	Nova.	13 31 40·3	84 4 4	e F; among stars. Wind extremely troublesome	251
		45·6	3 45	v F; R; among some p B stars. (N.B. The R A of this obs to be preferred.)	250
1658	III. 370	13 32 3·6	60 44 1	p B; has a * 9 m 4′ dist; 45° s p	65
1659	III. 410	13 32 38·6	52 16 7	F; p L; r; has a * near	71
		38·8	16 38	F; S; irreg R; r	72
1660	Nova.	13 32 44·5	14 5 2	e F; S; sky perfectly clear	348
1661	Nova.	13 33 13·4	50 21 6:	p F; R; 20″; has a small * p	155
		13·4	20 21	F; S; R; g b M; 20″	73
		14·6:	21 56:	e F; R; has a * n p dist 3′	335
		14·8	19 56	No description	156
1662	Nova.	13 33 34·7	84 52 35	e F; S; between 2 stars	141
1663	M. 3	13 34 12·2	60 46 22	A most superb object, diam = 10ˢ·0 of time in R A. Not less than 1000 stars 11 m and under. They run into a blaze at the centre, and form as it were radiating lines and pointed projections from the mass, with many stragglers.	417
		18·0	45 51	I just see the stars through a cloud so thick as almost to obscure Arcturus; 6′ diam, but in a clear night no doubt more.	64
		18·1	46 8	Observed with Capt. Smyth, who "saw something remarkable" in a small * 2ᵐ or 3ᵐ preceding it, which proved on closer examination to be a fine first class double *.	415
		19·5	45 46	Very beautiful; stars 11....15 m; fills field, making lines and irregular rays of stars, and coming up to a blaze in the middle.	65
		20·7	45 38	A noble globular cluster 5 or 6′ diam, entirely resolved *when not a star near it, even Arcturus, was visible to the naked eye for clouds.*	343
1664	I. 98	13 34 35·5	53 28 42	B; R; first g and then p s b M; 50″	331
		36·3	28 22	p B; R; g m b M; 50″	71
		36·3	28 48	B; R; g m b M	72
1665	II. 798	13 35 15·6	33 28 15	v F; double neb; pos = 73°·0 by microm; a large star follows dist = 15′ ±.	347
		19·3	28 20	v F; l E; s p a bright *	346
1666	II. 668	13 37 52·5	47 38 28	v F; v S; R; almost stellar	151
1667	III. 785	13 38 50·1	33 51 20	e F; hardly more than a violent suspicion, owing to auroral light in the sky.	347

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1668	I. 180	13 39 16·3	45 18 28:	Not v B; E 45° n p to s f by diagram; g b M	151
1669	II. 533	13 39 38·9	85 12 28	v F; v L; l E; v g b M; 2′ l, 3′ br. In the obs the minute of R A comes out 38 instead of 39, but this is an obvious mistake.	143
		39·3:	12 35	v F; v L; R; v g l b M	141
1670	II. 688	13 40 ±	43 0 23	p F; R; m E	255
1671	II. 306	13 40 17·1	96 23 5	e F; R	137
1672	III. 681	13 40 21·8	50 51 15	p B; S; has two nuclei or involves a double star	155
1673	III. 621	13 40 32·4	51 19 7	e F; S; R	331
		33·2	20 39::	e F; a strong haze; P D uncertain	28
1674	I. 255	13 41 19·9	28 9 57	p B; S; m E in pos 57°·4 by micr; p s b M; 30″ l	344
1675	II. 710	13 41 39·5::	49 10 41::	e F; hardly visible for haze. The preceding of two in parallel. (N.B. As haze cleared, p B.)	335
		40·4	10 5	F; v S; R; s b M	73
1676	III. 422	13 42 16·6	55 32 26	v F; R	74
		18·4	32 0	v F; the first of 3; pos with III. 423 = 241°·5 by micrometer	337
1677	Nova.	13 42 26·5::	49 10 41::	The f of 2 in parallel; p B; p L; l E; g b M	335
		29·5	10 42	p B; S; E; l b M; the f of 2	73
1678	Nova.	13 42 37·8	84 9 30	v F; v L; v g b M; R	141
1679	III. 423	13 43 2·4	55 27 5	p B; S; R; p s b M; 15″; the second of 3	337
		...	28 ±	F; S; R	131
1680	Nova.	13 43 8·9	55 30 39	e F; at first sight very like a ✳, but on long attention a p L neb surrounds it. Pos with III. 423 = 159°·5 by microm.	337
		...	30 ±	p B; R; s m b M; taken much past meridian. No R A procured	74
1681	II. 307	13 43 9·7	95 12 16	F; L; R; g b M; 50 or 60″	147
1682	II. 669	13 43 10·9	47 47 14	F; R; g b M; 40″	151
1683	II. 685	13 43 19·4	91 21 34	F; R; a ✳ precedes	146
1684	I. 256	13 43 33·0	28 57 17	v B; R; p s b M; 40″	344
1685	II. 712	13 43 33·8	49 35 14	No description	156
		34·8	35 47	p B; S; l E; s b M; 15″	155
		39·8::	34 28	F; R; p s b M; 30″. Twilight and ☾; a very doubtful R A, and a presumed mistake of wires. If not, is a new neb.	357
1686	III. 549	13 43 33·9	86 49 28	p B; R; p s b M; 15″	143
1687	III. 929	13 43 36·8	87 3 17	A very insignificant cluster of v S scattered stars; or a S resolved neb.	144
		...	5 ±	The faintest thing imaginable; sky turbid. Not found till too late for the transit, and seen with difficulty.	145
1688	Nova.	13 44 18·6	86 20 1	F; irreg R	142
1689	II. 899	13 44 25·8	12 19 22	e F; R; 15″; sky perfectly clear	348
1690	II. 670	13 45 5·4	45 54 54	v F; R; p s b M; 30″	151
1691	III. 698	13 45 9·2	49 28 40:	S; irreg R; has a B ✳ 8 m, p	155
1692	II. 308	13 45 16·1	96 45 15	v F; S; R; b M. Dull and murky sky	137
1693	II. 686	13 45 29·9	90 35 42	p B; S; R; g b M; 15″	146
1694	III. 849	13 45 43·6	29 16 59	e F. Sky nearly perfect	344

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1695	II. 424?	13 45 47·1	55 40 36	p B; L; R; 40″. If this be my Father's nebula, there is an error of 6′ in his P D.	74
1696	II. 713	13 46 7·3	48 48 34	p B; R; b M	156
		11·0	46 17:	v F; L; a bright D * p; the first of 4	357
		14·3::	49 ±	Place extremely vague	155
1697	II. 697	13 46 8·6	51 15 7	p B; L; 1 E in parallel; v g b M; 90″ l	331
		8·8	14 29	v F; L; R; 1 b M; 2′	73
1698	II. 714	13 46 10·8:	48 53 29	The southern of a double neb, dist 1′ in meridian	156
		18·5::	51 ±	p B; S; the southern of 2 nearly in meridian; the second of a group of 4. Place very loosely taken.	357
		20·3:	57 ±	Place very loose, and P D especially so from fluctuating zero	155
1699	II. 715	13 46 10·8:	48 52 29	The northern of a D neb, dist 1′ in merid	156
		19·5::	50 ±	F; S; the northern and smallest of 2 in merid; one of a group of 4	357
		20·3:	56 ±	Place very loose, and P D especially so	155
1700	II. 415	13 46 13·4	53 1 12	p F; R; 30″; has a * 90″ dist, 25° n f	71
		14·1	1 8	F; R; 1 b M	72
1701	III. 506	13 46 24·8	83 49 36	e F, but the sky very dull	142
		25·4	50 3	e F; E	143
		26·0	49 37	p F; L; m E; r; 80″ l, 30″ br	253
		26·3	49 29	F; R; has two stars n and n f	154
		27·0	49 7	F; E; g b M; by diagram it is a narrow ray, pos 75° n f to s p	153
1702	Nova.	13 46 26·3::	48 49 ±	The last of a group of 4	155
		31·3	49 54	F; the last of 4. There is a * 9 m preceding the group	156
		...	47 ±	v F; L; the last of 4. P D very rough	357
1703	I. 6	13 47 33·1	83 54 41	p B; R; p s b M; sky not clear	142
		34·6	54 38	v B; R; p s b M; 30″	143
		36·2	54 59	B; R; p s b M; a * 8 m n f; 4′ dist	427
		36·3	54 16	p B; S; R; s b M; 25″	152
1704	III. 285	13 47 59·5::	94 39 36::	v F; v S; R. Observed too late; place precarious	147
1705	II. 534	13 48 2±	84 10 ±	v F; R; p L; g b M; 50″. R A not observed, but set down from working list.	143
		...	8 54	F; v L; R; v g b M; 2′	427
1706	III. 786	13 48 15·5	34 49 45	p F; S; R; g b M; 15″	347
		21·0	49 40	e F; R; s p a * 16 m; sky nearly pure	346
1707	II. 716	13 48 30·9	48 40 47	No description	357
1708	II. 843	13 48 40·3	28 28 38	No description	344
1709	III. 809	13 48 47·7	30 30 42	Not v F; S; E. I almost suspect it to be a double * 13 and 14 m involved in nebula.	345
1710	II. 889	13 48 55·2	83 4 12	p B; R; v g l b M; has a * 11 m, 5° n p	253
		59·4	3 47	F; S; 1 E; v g b M; follows a * 4 sec	154
		59·8	4 4	F; L; R; follows a * 12 m (whose dist from edge of neb = 1 radius by diagram).	251
		61·6	4 12	v F; R; has a * 11 m p, 70″ dist	250

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1711	III. 125	13 49 12·5 :	59 61 2	p B; R; g b M; 45″. No other near in the parallel, following	417
		16·1	59 46	p B; p L; R; g b M; 40″. No other in the parallel before or after, for some distance.	342
		17·3	59 36 :	Not v F; R; p s l b M; 20″. If this be III. 125, my Father's place is much out in R A.	258
1712	I. 187	13 49 25·2	41 56 32	B; v m E; v s m b M	256
		29·5	55 1	B; L; m E; s m b M to nucleus	257
		29·5	56 23	p B; m E (40° n f to s p, by diagram,); s b m to nucleus	140
		34·1	56 19	v B; m E; p s b M; 50″ l, 15″ br; pos = 40°·4 by microm	255
1713	Nova.	13 49 30·1	51 22 42	p B; l E; v g l b M	331
1714	II. 698	13 49 38·1	51 33 37	p B; R; p s b M; 40″	331
		38·8	33 54	v F; S; R; r	28
		40·7	32 48	F; R	73
1715	III. 546	13 49 45·7	82 54 42	Like a ✱ 15 m rubbed out	153
		...	55 ±	A nebula like a hairy star	250
1716	III. 547	13 49 52·7	82 49 32	A neb like a double ✱ obliterated; pos by diam = 55° or 60°.	153
		...	50 ±	Like a hairy star	250
1717	I. 181	13 50 3·0	47 19 28	Not v B; R; g b M; 40″	151
1718	Nova.	13 50 15·4 :	48 43 46 :	F; L; v g b M; has a ✱ 9 m, n f, 4′ dist	335
1719	I. 240	13 50 31·0	29 24 36	v F; sky not perfectly clear	344
1720	III. 666	13 50 37·9	92 22 32	F; S; R; g b M; 20″	146
1721	Nova.	13 51 6·8	12 59 7	A cluster of 11 stars 11 m, and 2 of 15 m	348
1722	I. 191	13 51 17·4 :	51 44 ±	The smaller and n p of 2 which nearly join, constituting a double nebula. The place merely estimated by diag from I. 190.	331
		17·7	42 28	v F; S; the n p of 2 very near	73
1723	I. 190	13 51 20·2	51 45 9	F; b M; E nearly in merid	28
		20·4	45 47	The larger and s f of 2 which nearly join	331
		22·2	44 13	F; E; l b M; by diag. The pos of the longer axis is about 60° n p and points towards I. 191, which it almost joins.	73
1724	III. 411	13 52 4·0	54 24 17	v F; v S; p m E in parallel	131
		8·1	23 22	e F; v S	71
1725	III. 412	13 52 22·0	52 55 18	F; S; E; b M	72
1726	III. 683	13 52 35·2	50 59 13	e F; p L	155
		46·1 : :	59 12	No descrip. R A hurriedly taken by comparison with a star in parallel and not to be depended on.	331
1727	III. 810	13 52 43·6	29 19 50	e F; e S	344
1728	II. 699	13 53 7·4	50 14 57	No description	357
		8·8	15 34	v F; S; R; b M	156
1729	II. 672	13 53 45·1	48 10 50	No description	156
1730	III. 11	13 53 47·3	81 8 4	v F; S; R; p s b M	154
		47·6	9 7	Not v F; S; R; p s b M; 12...15″	153
		48·4	8 7	F; R; g b M. Follows several stars	251
		49·3	8 27	p F; R; p s b M	250

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1731	Nova.	13 53 50·7	81 29 37	vF; R; bM; well seen	253
1732	III. 684	13 53 58±	50 0 31	vF; vS; R; bM; among a cl of st 10 m. R A by working list	73
1733	Nova.	13 54 21·1	24 15 46	pF; pS; R; psl bM; 20″; has a * 7.8 m; Δ R A = 37ˢ; Δ P D = 60″ ±.	411
1734	II. 309	13 54 25·7	95 9 52	The first of 2. Both L; F; vgbM; R; r; 3′ dist; 70° np. The larger taken.	147
1735	II. 310	13 54 29·7	95 12 41	The second and larger of 2	147
1736	I. 230	13 54 38·6	34 0 30	pB; mE; vsbM; 50″ l	347
		43·3	0 40	pB; S; pmE; psbM	346
1737	III. 653	13 55 6·8	56 40 17	vF; S; E in merid	131
		8·0	40 26	F; S; R; bM; 20″	74
1738	II. 827	13 55 15·7	29 49 50	pF; R	344
1739	II. 416	13 55 39·5	54 24 48	F; S; R; bM; has a * 11 m sp 1′ dist	72
1740	Nova.	13 56 ±	54 31 57	Taken for II. 416, which it cannot be if the last obs be correct. vF; S.	131
1741	II. 417	13 56 0·7	54 3 15	pB; R; sbM; 15″	337
		1·8	2 39	pB; R; vsmbM almost to a *	28
		3·0	2 27	B; R	71
1742	III. 413	13 56 7·7	54 9 50	pF; near a * 13 m sp	337
1743	II. 691	13 56 21·8	40 0 33	pB; L; vmE; psmbM; 4′ l, 20″ br; a ray with a nucleus.	257
1744	M. 101	13 57 9·1	34 48 40	F; vL; R; first g then vsmbM; 5′	347
1745	III. 286	13 57 40·2	94 38 16	vF; vL; R; gbM	147
1746	VI. 9	13 57 46·4	60 39 44	aL, v rich cl; 8′....10′ diam; stars 12....18 m; roundish figure.	417
		49·0	39 16	Fine L cl; stars 14 m downwards to a nebulous appearance; 6′...8′ diam. It will bear no illumination.	65
		...	.....	Viewed; a fine L cl 7 or 8′; vgbM, but no nucleus. The stars 11 or 12 m down to an irresolvable mass; irreg R; excessively compressed. A fine object. Barely discernible in the 20 feet finder ($2\frac{1}{2}$′ in aperture).	357
1747	III. 947	13 57 51·1	10 57 7	eF; pL; R; vgvlbM; 35″. R A precarious, owing to a great extra meridian correction.	348
1748	I. 231	13 58 47·8	34 17 10	pF; R; S; gbM; sky not quite clear	346
1749	Nova.	13 59 4·8	83 8 47	F; mE; vglbM	250
1750	II. 800	13 59 18·9	33 26 45	pB; S; pmE; bM; 18″ l, 12″ br	347
1751	III. 287	13 59 21±	95 17 ±	F; pL; R. R A by working list. P D roughly taken, past merid	147
1752	II. 32	14 1 52·0	71 38 26	pB; vS; has a vF double * in centre among several stars 12 m; a doubtful object.	334
		...	39 ±	vF; S; R; sbM	61
1753	II. 890	14 2 29·3	82 49 40	pF; pL; gbM; 25″	154
		30·0	49 37	pF; S; R	253
		30·7	49 31	No description	250
		...	52 ±	pB; bM; r. Viewed much past merid, and P D extremely vague.	153

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1754	II. 876	14 2 37·3	69 35 11	p B; v S; E	61
		. . .	36 ±	P D taken past meridian	334
1755	IV. 46	14 2 38·4	94 14 16	p B; R; p s m b M; 15″; seems to have * 18 m involved n p. .	147
1756	Nova.	14 3 41·8	87 56 32	a v F neb or a v S cluster of e S st	144
1757	II. 687	14 4 25·9	92 24 12	v F; L; 1 E; g b M	146
1758	IV. 49	14 4 32·7	92 20 57	F; S; R; b M	146
1759	II. 877	14 5 12·4	68 46 10	p B; R	409
1760	III. 685	14 5 36·6	49 53 20	F; S; 1 E; 15″	73
		36·8	53 5	No description	357
		37·0	53 44	F; irreg fig; seems to have a * in it	155
1761	Nova.	14 6 50·4	84 47 36	F; S; R; b M; 15″	143
1762	III. 134	14 7 5·9	63 53 17	e F; p L; a * 10 m 150″ dist n p	261
		8·7	53 10	p B; p L; m E; 2′ l, 30″ br	425
		13±	53 55±	p B; m E; 60″ l, 20″ br; a * 10 m p	350
1763	III. 804	14 8 20·5	31 25 57	e F. Moon rising, but no doubt	345
1764	III. 414	14 8 24·1	52 59 7	p F; v m E; a long narrow ray pos = 110°·3 by microm; v g v l b M; 90″ l, 12″ br.	331
1765	III. 47	14 8 34·3::	78 23 52	F; R; g b M	4
1766	II. 418	14 8 53·4	53 52 40	p B; R; p s b M	337
		53·8	49 59	R; v s m b M to 2 or 3 stars	28
		54·3	51 37	No description. (An extraordinary disagreement in P D, yet none of the observations is marked as defective.)	71
1767	Nova.	14 9 14·7	81 1 47	F; irreg fig; p L; g b M; r	253
1768	III. 731	14 9 26·4	49 43 9	F; R; the p of 2, or perhaps of 3	156
1769	III. 732	14 9 34·1	49 36 56	p F; S; R; g b M; 10″	357
		34·3	37 9	p B; R; perhaps a third neb near	156
		35·5	37 15	F; S; R; 15″	73
		. . .	37 45::	v F; v S; R; sky perfectly clear	155
1770	III. 551	14 9 44·5	81 38 30	p B; R; b M; 20″	154
		45·2	38 33	p B; R; g b M; 20″	250
1771	II. 419	14 9 52·4	52 38 15	E	69
		53·3	37 38	F; S; a double nebula or two which run together pos 10° n f by diagram.	72
		. . .	38 57	F; E	71
1772	III. 552	14 10 14·5	81 50 17	F; R; b M; 20″; only one seen with much attention. Sky perfectly clear.	153
1773	II. 194	14 10 16·0	64 4 10	v F; p L; R; v s v m b M, to a * 12 m, for which it is easily taken.	261
		17·1	4 20	B; v s v m b M; like a * with feeble atmosphere	425
1774	Nova.	14 10 16·9	76 19 29	v F; p m E; 30″ l, 15″ br. Just comes into the field with 18 Bootis.	338
1775	Nova.	14 10 51·9::	62 56 27::	v F; 1 E; 15″	350

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1776	I. 99	14 11 17·0	52 42 34	B; R; v s m b M to a ✱; v F at the borders	28
		17·0	43 5	v B; R; m b M	69
1777	III. 347	14 11 29·1	64 24 20	v F; R; b M	425
1778	II. 579	14 11 29·5	85 12 41	p B; p L; 1 E; g b M	142
		31·7	13 9	v F; L; g l b M; 90″	427
1779	I. 144	14 11 45·3	85 17 7	B; R; 40″; g b M; r; has a ✱ 12 m 1 diam of neb (by diagram) dist, n f.	426
		46·0	16 31	v B; p L; R; s b M	142
		47·0	16 39	B; R; p s b M; 18″	427
1780	Nova.	14 12 4·6	54 5 35	p F; R	337
1781	III. 12	14 12 14±	81 42 ±	Not v F; S; R; b M. (R A by working list.)	153
		...	42 ±	Seen; as also III. 551 in the same parallel, but considerably dist in R A.	251
1782	I. 145	14 12 21·4	85 58 33	F; S; 1 E	143
1783	I. 146	14 12 30·4	85 56 48	v B; R; v s m b M; a star 11 m n p and the neb I. 145 s p make a right-angled triangle with I. 146 at the right angle.	143
1784	III. 415	14 13 14·1	54 1 47	e F; L; 30 or 40″	331
		16·7	1 8	F; p L; the preceding of 2	72
1785	Nova.	14 13 29·3	54 0 33	Not v F; 20″; the following of 2	72
1786	II. 754	14 13 48·2	49 30 51	B; R; p s m b M; 20″	357
		49·0	31 23	F; R; b M	155
		49·4	31 14	p B; S; R; s b M; 10″	156
		...	33 ±	p B; R; g b M; 30″; has a ✱ 11 m 50° s p, dist 80″. No R A procured, and P D only rough.	73
1787	III. 110	14 14 3·9	75 18 20	v F; R; g b M. Is n p a ✱ 8 m 6′ dist	338
1788	III. 416	14 14 14·5	53 57 14	The n p of 2. Pos with the other = 330°·0 by micrometer.	337
		15·2	56 37	v F; S; R	71
1789	Nova.	14 14 14·7	54 5 39:	e F	28
1790	I. 235	14 14 20·8	32 29 47	v F; v L; R; v g b M; diam 2′ at least; ☾ and haze	345
1791	III. 417	14 14 26·0	54 1 20	p B; R; p s b M; 15″; the s f of 2; ☾	337
		27·7	0 39	v F; a stellar nucleus	28
		28·2	0 57	p F; R; 20″	71
1792	III. 121	14 14 53·8	105 56 58	F; v L; R; v g b M; 2′ diam	354
		...	56 43	F; L; R; v g l b M; 60 or 80″ diam; the first of 2; Δ R A = 15ˢ.	157
1793	III. 122	14 15 7·8	105 59 13	v F; L; 1 E; v g l b M; 90″	354
		...	59 23	v F; L; R; the second of 2; 60 or 80″ diam; Δ R A = 15″.	157
1794	III. 927	14 15 23·8	82 38 32	v F; E; g b M	253
		24·3	38 31	v F; R; b M; 12″	154
		24·7	38 55	p F; S; R	250
		25·5	38 17	No description	153
1795	III. 418	14 15 26·6	52 6 7	e F; S; R; (unless R A = 14° 15ᵐ 36ˢ·6)	331

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1796	III. 733	14 15 32·3 :	48 51 16::	The places of this sweep are bad	155
		37·1	54 14 :	F; R; b M; 12 ... 15″	156
1797	II. 177	14 15 41·8	74 35 7	p B; R; g b M; 40″	24
1798	III. 120	14 15 53·6	102 24 12	v F	351
1799	III. 688	14 15 54·9	92 25 57	F; p L; v g b M to a stellar point	146
1800	III. 734	14 16 11·0	48 51 14::	p B; R; b M; 15″	156
		13·1	49 44	v F; R; g b M; 12″	357
1801	III. 673	14 16 36·7	47 26 58	F; R; p L; v g b M; 80″. Sky very fine	151
1802	III. 136	14 16 42·2	64 37 5	p F; p m E; g b M; 30″; a ✱ 9 m follows 20^s in the parallel.	425
		...	37 35	v F; R; p g b M; 20″	261
1803	Nova.	14 16 49·3	56 10 46	F; S; R; v s m b M	74
1804	II. 420	14 16 54·2::	54 21 47::	p B; R; 30″	71
		58·8	21 38	p B; R; s b M; 30″	72
1805	III. 419	14 17 16·4	52 45 52	v F; S; 1E; v g b M	331
1806	Nova.	14 18 45·9	84 25 43	v F; R; v g b M; 25″	143
1807	III. 14	14 19 26·2	80 59 16	The faintest possible	250
1808	II. 329	14 19 55·9	55 59 1	F; S; R; v s m b M; 15 ... 20″; almost stellar	74
1809	III. 677	14 19 58·6	40 40 37	v F; p L; R; v g l b M; 30″	257
1810	Nova.	14 20 13·4	49 16 48	v F; S; R; g b M; 20″	73
1811	Nova.	14 20 20·4	77 51 2	v F; R; 15″; about 3′ f, and 40″ n of a ✱ 9 m	338
1812	Nova.	14 20 37·4	63 23 30:	p F; R; g b M; 20″. Precedes Piazzi xiv. 97	350
		40·7	23 15	p F; R; has a ✱ 7 m f	425
1813	I. 70	14 20 40·5	95 12 19	A fine small compressed globular cluster. I can barely discern the stars; they are 19 m 80″ diam; has a ✱ 7.8 m 90″ dist, pos 30° s f, and another 10 m, n p.	147
1814	II. 674?	14 20 52·0	47 58 14 :	No description	156
		52·5	58 38	F; E in parallel; 45″ l, 30″ br	151
		53·5	58 57	e F; S; R; sky perfectly clear	150
		54·0	58 58 :	F; p L; g b M; 35″	155
1815	III. 132	14 21 1·1	61 49 51	p B; S; E; s b M	65
1816	II. 580	14 21 4·0	85 57 51	e F; R; the n p of 2	142
1817	II. 581	14 21 6·0	85 59 51	v B; R; p s b M; 15 .... 20″	142
		6·4	60 23	p B; R; p s b M; 15 .... 20″	143
1818	I. 185	14 21 6·6	43 4 49	B; R; v g l b M; 40″	255
		7·1	5 22	Not v F; R; v g v l b M; 20″	256
1819	II. 357	14 21 11·0	66 3 0	e F; v S; R	425
		16·8	2 55	e F; R; v g b M; 15″	261
1820	I. 236	14 21 14·1	32 39 37	B; R; p s b M; 30″	345
		14·3	39 40	B; R; p s b M; 25″	347
1821	Nova.	14 21 23·3 :	58 50 12	v F; R; n of a ✱ 11 m; a ✱ 7.8 m precedes	258
1822	III. 126	14 21 51·0	59 12 57	p B; v S; close to and n p a ✱ 12 m; pos from ✱ = 333°·5 by microm	342
		55·4::	14 1	F; S; has a ✱ in it and a B ✱ foll it	65

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1823	II. 150	14 22 14·4	81 57 53	v F; L; R; 60″	152
		15·4	57 49	p B; R; g b M. Wind very troublesome	251
1824	III. 645	14 22 28·1	75 14 13	The faintest perceivable; the first and northern of 2	338
1825	II. 891	14 22 33·9	83 15 27	p B; p L	253
		35·2	15 54	p B; p L; R; b M	153
1826	II. 330	14 22 50·3	58 1 38	F; S; R; b M; 25″	74
1827	Nova.	14 22 51·5 :	75 19 52 :	The s f of 2; the faintest perceivable	338
1828	III. 420	14 23 0·6	52 52 42	p F; nucleus elongated, or has a F double * in it. Pos = 115°·5 ± (microm).	331
1829	II. 421	14 23 18·5	53 55 20	(II. 421, *not* III. 421.) p B; R; p s b M; 20″; a * 9 m follows 18ˢ·5 nearly in parallel, and a * 14 m, pos 155°·0 from neb, dist 50″.	337
		18·9	55 0	B; R; m b M; a star near or in it	69
		21·2	54 9	F; R; r	28
		...	55 12	Seen. No description. Working list much out in P D	71
1830	II. 892	14 23 30·4	82 59 57	v F; p L; irr fig	250
		30·8	59 5	v F (growing hazy)	154
1831	III. 289	14 23 32·1 : :	63 51 5 : :	e F. Place extremely precarious	261
		...	.....	Viewed; v F; R; v g b M. In or near its place per working list.	425
1832	II. 695	14 23 49·6	39 37 45	p F; v L; R; v g b M; 2′; r; stars = 20 m	257
1833	II. 27	14 24 3·0	81 10 27	p B; R; g b M; 30″	153
		3·1	9 57	p B; L; g b M; 90″	253
1834	Nova.	14 24 52·2	78 43 32	v F; R; 10″. Stellar; hardly distinguishable from a star	4
1835	Nova.	14 24 52·8	84 47 46	v F; p L; R; has a * 15 m, n f, involved or very near	142
		52·9	48 0	F; p L; R; has * 13 m, n f involved	143
1836	III. 310	14 25 22·7	57 34 41	v F; R; 1 b M	74
		...	36 ±	Viewed. It is pointed to by a D * preceding	258
1837	II. 893	14 25 23·2	83 47 2	F; R; g b M	253
		23·8	47 7	p B; p L; g b M	250
		24·0	46 59	v F; R; b M; 20″	251
		24·8	46 55	v F; R; b M; growing hazy	154
1838	II. 696	14 25 39·1	39 18 13	v F; p m E; s f a star 15 m	257
1839	II. 422	14 25 39·5	52 56 35	F; S; E; b M	72
1840	III. 289	14 26 34·9 : :	63 46 57	F; R; r; has 3 stars 9.10 m n p	350
1841	II. 894	14 26 37·1	83 52 39	e F. Third class. Windy, but sky very clear	251
		41·0	53 17	Just following a *. Cloud renders the observation doubtful. (N.B. The obs makes the P D 81°, but it is pretty evident that there is a mistake of 2° in reading the index, and that this belongs to II. 894.)	153
		...	53 7	v F; b M; some doubt if it be a nebula	253
		...	53 17	Among stars and seems attached to a * 12 m like a wisp	250
		...	55 33	e F; S; R. Taken beyond meridian, and probably a hurried observation.	143

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
1842	I. 189	14 26 48·0	39 47 15	B; L; E; r; p g m b M	257
1843	I. 237	14 26 58·5	31 19 44	B; 1E in merid; g m b M; 50″	345
		71·1::	21 13:	B; L; R; v g b M; 40″. Noted in the MS. as a hasty observation, and with a doubtful R A caught in quitting the field.	225
1844	III. 421	14 28 51·5	52 42 48	F; S; R; b M	72
		52·6	41 59	F; R or 1 E	28
		53·1	44 2	p B; R. The preceding of 2	331
		54·6	43 17	v F; E	71
1845	Nova.	14 29 5·1	52 45 12	v F; S; R	331
		5·5	45 3	v F; v S. The following of 2	72
1846	III. 582	14 29 8·7	86 57 51	e F; E; about 10ˢ following a * 7 m	142
		...	58 12	F; seems to be a double nebula (pos by diagram = 140° ±) foll a * 6 m.	426
		...	58 34	a v F ray 60″ l; follows a * 7 m dist 5′	427
1847	II. 681	14 29 10·4	89 38 52	p B; g b M; 1 E	144
1848	I. 188	14 29 26·2	40 30 48	B; S; p m E; p s b M; pos nearly in the parallel	257
1849	II. 808	14 29 29·7	34 46 0	F; irreg fig; r; has * 10 m, 2′ s f	347
1850	II. 648	14 29 59±	47 28 7:	F; R; r. R A by working list	150
1851	II. 423	14 30 23·9	52 41 25	p B; S; b M	69
		25·4	41 38	p B; R; b M	72
		...	41 57	p F; R	71
1852	II. 700	14 30 26·4	50 47 56	F; S; irreg fig; b M	73
		27·2	47 49	No description	156
		...	48 27	F; p L; 1E; 40″ l; in a scalene triangle of stars 10.11 m	331
1853	II. 675	14 30 29±	47 38±	v F; R; b M; follows an arc of 4 B st	151
1854	II. 575	14 30 41·9	83 53 51	B; R; p s b M; 30″	143
		43·0	53 27	p B; S; R; g b M; 25″	253
		43·8	53 32	p B; p s b M; 30″	152
		44·3	53 13	B; p S; R; b M; has * 11 m 15ˢ prec	154
1855	II. 649	14 31 16·1	48 44 41	F; S; R	155
		36·4	47 33::	v F; p L; R; scarcely visible, for ☾. (N.B. The great difference of R A from that of the 155th sweep is probably owing to mistaking the moveable micrometer wire for the fixed wire of the eye-piece.—The P D of this obs is also evidently faulty.)	357
1856	III. 895	14 31 27·4	69 13 11	e F; S; v g b M; the p of 2; a double * between	334
1857	I. 182	14 31 27·9	89 32 52	B; R; p s b M; r; 20″	144
1858	Nova.	14 31 32·9	69 17 1	e F; v S; the f of 2, close to a D *	334
1859	Nova.	14 31 34·8	48 49 14:	No description	156
		36·6	48 42:	F; p L; E nearly in merid; g b M	155
1860	III. 671	14 31 38·8	106 44 29	e F; L; R; 60″	354
		39·5	43 53	v F; p L; very ill defined	157

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1861	Nova.	14 31 57·5	42 36 39	vF; E; 40″1; S of a coarse D ∗; the preceding of 2	255
1862	III. 550	14 32 9·2	85 48 33	vF; R; vglbM; has a ∗ 9 m 45° nf	143
		...	47 52	vF; spa ∗ 8 m, 1½ diam from edge of nebula	426
1863	II. 682	14 32 12·8	89 34 35	pB; S; lE; bM	144
1864	III. 675	14 32 20·4	42 35 ±	The second of 3 in a line (two R; one m E) south of a double ∗. P D from Sw 255.	256
		27·5	34 39	Not e F; R; psbM; 20″; the second of 3	255
1865	Nova.	14 32 44·5	42 33 9	vF; R; psbM; 15″; the third of 3 in a line	255
1866	I. 184	14 32 58·3	106 31 5′	F; R; pgbM; 20″; has a ∗ 15 m nf; certainly not of first and hardly of second class. Sky perfectly clear.	354
		58·3	30 26	pB; mE; bM, almost to nucleus; has a ∗ 10 m 90° s	157
1867	III. 657	14 33 33·5::	46 28 23::	eF; pL; E; seen only with great attention. Place estimated from III. 658.	151
1868	III. 658	14 33 43·5	46 29 53	vF; S; R	151
1869	III. 686	14 33 48·4	50 37 14	No description	156
		54·1	37 36	vF; S; R; bM	73
1870	III. 133?	14 35 11·2	60 33 1	vF; L; R	65
1871	III. 896	14 35 19·6	70 23 21	vF; pS; R; glbM	334
1872	II. 538	14 35 46·4	87 35 32	L; irreg R; gbM; r	144
1873	I. 171	14 36 3·7	47 26 42	pB; R; sbM; several small stars near	150
1874	I. 126	14 36 17·6	87 19 17	A long p B ray with a p B nucleus; 3′ long	144
1875	I. 183	14 37 37±	89 31 ±	F; R; gbM; r; 30″; is not entitled to be called first class. Sky perfectly clear.	144
1876	III. 690	14 38 13·3	108 22 6	F; S; R; bM	355
1877	II. 809	14 38 27·5	35 51 25	vF; R forms an obtuse-angled isosceles triangle with 2 = stars 10.11 m, one p, one sf; dist of each 3′.	347
1878	III. 687	14 38 35·4	50 32 57	eF; just visible. ☾	357
		36·7	32 58	pB; R; psbM; 15″	155
		37·5	32 5	F; S; R; gbM; 20″	73
1879	III. 885	14 39 50·0	70 46 56	vF; lE in parallel; vglbM	334
1880	Nova.	14 42 22·7	84 10 27	vF; a double nebula, both individuals eF	253
1881	II. 576	14 44 43·2	85 20 21	pB; R; sbM; 25″	143
		...	19 46:	No description. R A lost	142
		...	20 14:	F; S; R; gbM; 15″	427
1882	III. 129	14 45 0·3	59 27 35	vF; S; R; pgbM; 15″	258
1883	Nova.	14 45 7·2	48 42 4	B; R; sbM; 15″	156
		7·9	42 14:	pB; pL; R; gbM; 20″; a ∗ 8 m, np	155
		10·7	40 42	pF; lE; pslbM; 20″	357
1884	III. 130	14 45 17·8	59 30 25	vF; R; pgbM; 20″	258
1885	III. 554	14 45 28·6	85 46 18	Not vF; gvlbM; a narrow ray, 90″1, 15″br	143
		...	45 4	Not vF; mE; pos = 140°·0 ±; 90″1	427
		...	45 37	vF; vmE; a ray, pos = 148°·4 by microm; 90″1	426

No.	Synonym.	AR 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1886	Nova.	14 47 11·9	106 32 41	F; S; R; b M; has a * 16 m s p near	354
1887	II. 676	14 47 58·5	46 45 22	S; R; almost stellar; s b M; 15″	150
		59·2	45 8	p B; R; s m b M; 20″	151
1888	II. 677	14 48 55·6	46 48 42	S; R; p s b M; 12″; like a burred star	150
1889	III. 691	14 49 10·2	108 35 7	p F; R; b M; 20″	355
1890	III. 976	14 49 25·1	59 5 34	e F; p L; 40....50″	65
1891	Nova.	14 50 22·1	39 37 22:	p F; S; v s b m, to a * 13 m; the first of 3 in a line. A star 6.7 m near.	257
1892	III. 131	14 50 32·3:	59 21 8:	v F; R; v g l b M; 20″; has a * n f	258
		...	20 48	e F	65
1893	III. 679	14 50 47·1	39 37 36	p F; S; v s b M to a * 13 m; the second of 3 in a line. A star 6.7 m near.	257
1894	II. 539	14 51 22·9	87 25 32	B; s b M to nucleus; E pos 75° n p	144
1895	III. 678	14 51 31·9	39 38 1	p F; S; v s b M to a * 13 m. The third of 3 in a line; a * 6.7 m near.	257
1896	I. 127	14 52 34·3	87 37 2	B; R; p s b M; 40″	144
1897	Nova.	14 52 44·3	87 42 32	v F; v S; R	144
1898	II. 756	14 53 36·5	35 24 50	B; R; s b M; precedes a splendid D *	347
1899	II. 539	14 55 40±	88 7 32:	No description. R A by working list	144
1900	Nova?	14 55 56·6	122 27 28	A very strongly suspected nebula; but I cannot be quite sure (from the low situation) it is not a star.	353
1901	I. 128	14 57 52·4	87 43 37	B; R; p s b M to nucleus; 30″	144
1902	II. 543	14 58 31·4	87 47 44	p F; S; l E; p s b M	144
1903	II. 544	14 59 12·2	86 46 12	p B; R; p s l b M; among many stars	426
		13·7	46 19	p B; S; R; g l b M; 12″; among stars	427
		14·4	46 23	B; S; l E; p g b M	143
1904	IV. 71	14 59 52±	70 53 59::	A star of fully 6 m, with a supposed nebulous appearance about it, but of whose reality I cannot satisfy myself, as it "blinks" with the star behind the wire.	334
1905	II. 751 II. 752	15 0 0±	69 48 ±	A double nebula; pos of the individuals, centre from centre, 20° n p; 2′ dist. Both E; R A from working list; rough P D. (See fig 77.)	61
1906	Nova.	15 0 23·3	46 42 17	F; R; g b M; 20″	150
		24·4	46 43 21	Not v F; S; R; p s b M; 15″	151
1907	II. 585	15 0 58·3	86 17 12	p B; p L; R; g b M	426
		60·7	17 19	p B; irreg R; g b M; 30″	427
		62·2	17 33	p B; S; E; has a * 14 m closely f	143
1908	II. 545	15 1 9·3	88 52 27	p B; S; E; p s b M	144
1909	I. 219	15 1 47·1	33 34 40	v B; p m E; g b M; 50″ l, 20″ br; pos 326°·0 by microm.	347
1910	II. 757	15 5 23·0	32 20 38	B; irr R with ray-like appendages; g b M; r; 30″	225
1911	Nova.	15 6 32·4	48 8 9	F; R; b M; 12″	156
1912	II. 659	15 6 52·7	48 6 8	p B; R; b M; 15″; the P D differs 5′ from my Father's	156
1913	II. 678	15 7 24·5	47 24 27	F; R; g b M; 30″	150

No.	Synonym.	N. P. D. 1830·0.	R 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1914	II. 650	15 8 55·4	47 19 58	p B; p m E; p s b M	151
		55·8	19 22	v B; p L; p m E; g b M; r	150
1915	III. 660	15 8 55·8	47 10 ±	F; R; g b M	150
		60·3	10 8	v F; l E; b M; small	151
1916	M. 5	15 9 56·4	87 16 27	A most magnificent, excessively compressed cluster of a globular character. Stars 11 ... 15 m; diam in R A = 10 sec of time; the more condensed part projected on a loose irregular ground of stars. The condensation is progressive up to the centre, where the stars run together into a blaze, or like a snowball; the scattered stars occupy nearly the whole field. The neighbourhood is poor in stars. (See fig 87.)	144
1917	II. 759	15 11 24·0	33 4 28	p B; g b M; a ray 6′ or 8′ long at least; pos = 155°·0 by microm	225
		26·2	2 20	B; a superb ray nebula, at least 7½′ long, and narrow; pos = 159°·9 by meas; at first v g b, then p s m b M.	347
1918	III. 374	15 12 5·4	91 57 22	v F; R; b M	146
1919	I. 148	15 13 28·9	84 19 13	B; R; p s b M; diffused at borders; many stars near	143
		29·6	18 12	p B; E; p s b M; 90″ l, 40″ br; among many stars 11, 12, 13 m	253
		30·7	19 37	B; R; v s b M to a * 12 m; among stars	427
		33·3	18 56	p B; ill defined, roundish fig; g b M; among several stars	152
1920	Nova.	15 13 35·4	43 29 44	p B; p m E; v g l b M; 60″ l, 40″ br	255
		36·8	30 29	v F; L; m E; v l b M; n of a D *	256
1921	Nova.	15 15 7·5	47 39 42	v F; R; v g b M; 40″	150
		7·8	39 19	No description	156
		8·3	40 39	e F; L; R; 60″	357
		10·3	40 8	F; p L; l E; v g b M	151
1922	III. 661	15 15 43±	47 44 ±	No descr. R A by working list; P D rough	151
1923	III. 874	15 18 18·9	71 19 7	p B; S; R; p s b M; a * 7.8 m, 6′ n	334
1924	II. 651. 1	15 20 1·5	47 44 4	The s p of 2 very near constituting a double neb. The fainter and smaller.	156
1925	II. 651. 2	15 20 2·5	47 43 59	The n f, larger and brighter of the double neb. Pos of the other 35° s p, dist about 15″. Not described as double by my Father.	156
		3·5	43 57	p B; b M; R; has a * excentric	150
		5·6	43 28	Not v F; S; bicentral; pos 45° s p ±	357
		6·4	44 3	F; R; b M; 30″	151
1926	II. 401	15 21 55·4	92 14 25	p B; irreg fig; v g b M; 40″	246
1927	II. 178 } II. 179 }	15 26 38·9	74 14 42	A fine S double nebula; the individuals are F; R; s b M; r; dist = 1′. Both alike.	24
1928	II. 96	15 28 44·4	72 49 32	F; l E; g b M	27
1929	Nova.	15 29 9·4	83 27 7	v F; v L; R; v g b M; r; diam = 9ˢ of time. With long attention it is seen to be composed of excessively minute stars like points rubbed out; and is in fact a globular cluster, but to see it thus requires long and perfect tranquillity of the eye. A very interesting object. (See fig 89.)	253
1930	III. 634	15 29 41·7	49 39 52	F; S; R; g b M; 12″; 2 very L stars follow	357
		44·6	40 25	e F; S; R; two *s 8 m, n f, dist 5′	73

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1931	II. 762	15 30 9±	32 44 53	F; L; R; 40″; taken much past merid and P D only rough. R A per working list.	225
1932	Nova.	15 32 13·6	57 40 33	v F; S; R; b M; 12″	74
1933	II. 655	15 33 37·5	73 39 42:	v F; R	24
1934	II. 764	15 35 42·2	30 6 3	B; R; p s b M; r; 25″	225
1935	II. 425	15 37 43·6	87 2 54	v F; v S; R; 10″	427
		48·0	3 27	F; R; g b M; 20″	144
1936	III. 635	15 38 25·3	48 21 6	F; R; b M	155
		28·3	20 44	No description	156
1937	III. 636	15 38 29·9	48 20 21	p B; R; b M	155
1938	II. 97	15 39 17·6	71 34 49	p B; R; p s b M; 20″	334
		19·3	34 34	p F; R; g b M; 30″; between two coarse double stars	262
1939	II. 583	15 45 39·4	88 56 27	p B; S; l E in parallel; g b M	144
1940	Nova.	15 47 35·3	83 34 7	p B; p L; E; 30″ l, 18″ br	253
1941	Nova.	15 48 47·2	83 29 57	S; R; nearly stellar; but about 10″ at the centre has nearly a uniform light, and a burr surrounds it.	253
		55·2	30 44	p F; v S; R; much condensed in the centre. A disc with a burred border. Almost a planetary neb.	153
1942	III. 646	15 49 43·2	73 37 22	e F; v S	27
1943	III. 73	15 49 46·2	73 32 22:	e F; v S; in the same field with III. 646	27
1944	III. 622	15 56 28·7	52 10 30	Not v F; R; S; has * 12 m 40″ dist and 30° s f	72
		29·1	10 27	e F; S; R; has * 10 m 40° s f	71
		...	11 ±	e F; R. P D a mere guess	28
1945	Nova?	15 57 22·9	81 26 22	A * 7 m which I strongly incline to think has a nebulous atmosphere about 2′ diam.	253
1946	III. 637	15 58 34·2	48 51 4	p B; v S; R; b M; 6″ ... 8″ diam	156
		35·6	50 40	p B; v S; R; almost stellar or p s b M; diam 10″	155
1947	III. 553	16 1 17·4	88 50 12	F; L; p m E; v g b M; 2½′ l	144
1948	III. 74	16 2 44±	72 51 2	e F	27
1949	III. 889	16 6 9·6	56 30 56	v F; S; R; b M	74
1950	III. 888	16 9 7·8	57 36 35	v F; v g l b M; 30 ... 40″	258
		9·7	36 21	v F; S; R; b M	74
1951	III. 688	16 10 15·1	53 52 33	No description	72
		16·3	50 59	v F; S; R	28
1952	II. 151	16 10 31·5	82 10 35	F; p L; l E; v g b M; 50″ l, 40″ br	153
1953	II. 402	16 12 58·4	91 52 32	e F; v L; oval; 3′ l, 2′ br; cloudy; 3^{m} preceding nearly in the parallel is a fine double star.	146
1954	Nova.	16 13 39·9	51 48 33	v F; e S; R	72
1955	III. 623	16 13 46·1	51 49 14	v F; v S	73
		46·9	50 13	F; S; R	72
		...	50 ±	Has a coarse double * 10° n f, 2′ dist (past merid. No R A observed, and P D rough).	71

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1956	III. 624	16 16 58·5	51 40 19	v F; irreg R; r	28
		61·7	40 48	F; S; R; b M	73
1957	Nova.	16 19 20·5	48 40 29	F; R; b M; sky very clear	155
1958	III. 638	16 19 25·8	48 42 49	No description	156
		28·0	43 9	p B; R; b M; 20″	155
1959	III. 639	16 20 9·6	49 8 53	F; S; R	73
1960	II. 652	16 22 0·1	48 40 28:	v F; irreg R; among stars	155
		1·2	41 52	p B; p L; R; g b M; 40″	357
1961	II. 875	16 22 48·8	50 4 26	F; S; R	73
1962	III. 640	16 23 57·9	48 48 29	No description	156
		65·1	48 4	p B; S; R; b M; 12″. Probably a mistake of 5^s in reading the chronometer in one or other obs.	155
1963	III. 641	16 24 18·4	48 59 57	F; v S; R	73
		...	62 ±	Rough P D. Past merid	155
1964	III. 890	16 24 21·0::	54 33 57	F; irreg fig; r; 2 or 3 of its stars seen, also one 13 m 30″ dist n f. R A reduction fluctuating and uncertain in this sweep.	71
		27·9	34 8	v F; E; near a *	72
1965	Nova.	16 27 9·3	54 17 48	F; S; R; g b M; has a * 11 m 75° n p dist 40″ (by diagram).	72
1966	III. 893	16 30 41·4	50 37 31	v F; R; between 2 stars 14 m	357
		42·3	37 56	v F; S; between 2 stars	73
		...	38 ±	Seen. Rough P D. No transit	155
1967	Nova.	16 31 14·3	53 27 38	v F; v S; s m b M to a * 12 m; 12″	72
1968	M. 13	16 35 35·1	53 12 57	Very rich cluster; irreg figure; v L; v g m b M; stars 10 . . . . 15 m, of which there must be thousands; does not come up to a nucleus; has hairy-looking curvilinear branches. (See fig 86.)	71
		36·3	12 39	Irreg R with scattered stars in streaky masses and lines. Excessively condensed, to a perfect blaze. *s 11 . . . 20 m; 7′ or 8′ diameter. Most magnificent object. The state of compression indicates a globular form not much denser at the centre.	28
		39·7	12 45	A very fine and striking object, but nothing to add to the description of Sw 71.	72
1969	II. 701	16 37 13±	52 50 39	No description; R A a mere guess	28
1970	Σ. 5. N.	16 37 18±	65 53 ±	Struve's fifth nebula in the list at the end of the Dorpat Catal of D stars. v B equal to a star 8 or 8.9 m, 8″ diameter, and of a uniform light, but with the edges boiling and ragged. A fine object like a star out of focus. Viewed between clouds. Struve's place.	263
1971	M. 12	16 38 24·8	91 38 22	v rich globular cluster. The stars 10 . . . 16 m; v g m b M, but has stragglers in lines and branches extending some distance from the most condensed part, which is 3′ diam. Comes almost up to a blaze in the middle, and has a * 10.11 m in the centre.	146
		...	38 25	Irreg R; v L; 10′ diam with stars from 10 to 20 m	5
		...	.....	Viewed June 1, 1833. Very like M. 10, but the stars more separated and fewer. It is also rather larger. A fine object. Stars 10.11 . . . . . 15 m.	—

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1972	M. 10	16 48 10·8	93 50 ±	A globular cluster of scattered stars, but twilight and moon interfere. (P D from another sweep, not having been taken.)	75
		14·3	49 42	Is brighter than 12 M and rather larger and looser. (*This* disagrees with an obs of 12 M.) The bright part = 4′, but the cl fills two thirds of the field = 10′. Stars 9 . . . 15 m.	146
		. . .	. . . . .	L; roundish; g p m b M; 10′ stars 15 . . . 20 m	5
		. . .	. . . . .	Viewed June 1, 1831. A superb cluster of very compressed stars, g b M. The stars are 10 . . . 15 m, and run up to a blaze in the centre, but I see no nucleus. Diam about 6′; a noble object.	—
1973	III. 689	16 48 44·0	53 13 47	e F; v L; E in parallel; 2′ l, 1′ br	71
1974	Nova?	16 49 11·3	50 6 39	A suspicious object. It is pointed to by a F double * n f. Doubtful whether a nebula or a v F double star, with perhaps a third star near (of course ill seen).	357
1975	M. 19	16 52 6·9	116 0 0	A fine globular cluster, stars v S, 12 . . . . 18 m, with one = 10m, and one 10.11 m; nearly R; v g p m b M, but does not come up to a blaze (*i. e.* to a confusion of the stars with one another). Insulated; 3′ diam. It forms a link between I. 70 and 10 or 12 M.	148
		. . .	. . . . .	Viewed July 1, 1823. F; R; g b M; r; fills ¼ field; one or two *s seen, but the twilight too strong.	—
1976	VI. 11	16 54 7·1	114 30 52	B; L; b M; r; but too much twilight	30
1977	VI. 12	16 59 35·7	116 20 10	v B; R; p s b M; 90″; resolved; the stars are 19 or 20 m. This then is entitled to the name of a globular cluster.	148
1978	Nova.	16 59 42·7	116 20 5	F; S; v s b M; is a companion to the globular cluster VI. 12.	148
1979	M. 9	17 9 6±	108 20 ±	R; v g l b M; 3 or 4′ diam; v faintly seen in strong twilight. R A from Catal. P D very roughly determined.	269
1980	II. 767	17 13 16·0	17 30 2	v F; R; g b M; 25″ s f a small d * 2′ dist	428
1981	IV. 11	17 18 59·8	113 36 9	p B; R. Planetary?	30
		64·5::	35 39	p B; R; 40″. Twilight	31
1982	I. 44	17 28 16·8	113 47 36	A neb, with a p B star attached	30
		20·5	47 31	No description	31
1983	M. 14	17 28 42·3 :	93 8 25	A globular cluster; v L; 8′ or 10′ diam; the stars so excessively minute as to be scarcely discernible. A striking object. Place probably very inaccurate.	5
1984	Nova?	17 36 55·3	114 48 59	A cl of v S stars. Twilight	30
1985	I. 150	17 38 45·5	110 17 33	p B; R; g b M; 60″. Strong twilight	269
		. . .	. . . . .	Viewed; p B; p L; p s b M; 90″; easily found by the working list.	268
1986	II. 586	17 39 7·5	109 57 55	p B; p L; R; r; 40″	268
		8·5	56 38	p B; R; g b M; 60″; a star 15 m n p	269
1987	III. 741	17 39 43·9	17 48 32	v F; v S; R; b M; 6″; 90″ n of * 8 m	428
1988	Nova?	17 42 25·6	115 20 54	Suspected; small; twilight	30
1989	Nova.	17 44 42·5	66 52 41	A S, R, very perceptible disc 1″ or 1½″ diam, with a v F nebula surrounding it—among many stars 12 and 14 m, none of which are so affected. A curious object. (See fig 42.)	266

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
1990	M. 23	17 46 41·8	108 61 45	A v L, p rich, coarse, scattered cluster which fills the field. Stars 11 and 12 m.	276
		61·0	57 48	A star 10 m in centre of a beautiful discrete cluster of 60 or 70 stars 10 and 11 m and one of 9.10. They run in lines and arches. It is loose and straggling, and the sky around has a? dotted appearance.	269
		61·9	58 18	A v large, coarse, straggl cluster of about 100 stars 9.10...13m. It is announced several minutes before by an increased number of stars in the field.	33
1991	IV. 41	17 51 56·9	113 1 29	The double star Sh 379 in the centre of the trifid nebula IV. 41. (See my 5th Cat of double stars. Mem. R.A.S. and fig 80.)	275
		62·4	0 41	A careful drawing taken, but the neb is not clear from twilight and clouds. (N.B. This drawing is unfortunately lost, and that engraved in fig 80 is constructed from much less elaborate sketches, aided by memory.)	32
		64·3	0 6	v L; trifid, three nebulæ with a vacuity in the midst, in which is centrally situated the double star Sh 379, neb = 7′ in extent. A most remarkable object.	30
		...	0 43	Seen in its place, but clouds prevented observation.....	31
1992	Nova.	17 54 3·6	78 56 57	A coarse and poor cluster of L stars.....	196
1993	M. 21	17 54 25±	112 30 2	A tolerably rich, sc, coarse cl; one * 9 m, the rest 10....12..	275
1994	II. 197	17 56 51·5	115 0 52	F; L; l E; b M; resolved.....	30
1995	Nova.	17 59 5·3	108 26 52	A v coarse and scattered but p rich cluster of L and S stars. Has several double stars in it.	268
1996	Nova.	17 59 33·3	114 7 27	Several stars affected with nebulosity: the brightest taken ...	30
1997	VIII. 54	18 0 40·4	106 49 7	Large poor straggl cluster. No other near the place of VIII. 54.	163
		...	45 ±	Very coarsely straggling and loose, hardly entitled to be called a cluster. The place (roughly taken) is that of 2 or 3 bright stars.	36
1998	VII. 30	18 2 32·3	111 36 10	A v L, v loose clus, pretty rich, fills the field; stars 11...13 m	275
1999	Nova?	18 3 35±	112 11 4	A cluster composed of 2 or 3 clusters of very small stars, and loose large ones. Perhaps this is an outlier of VII. 31.	275
2000	Σ. Neb. 6	18 3 50·4	83 10 57	A beautiful round, perfectly well defined and brilliant disc, equalling a * 8.9 m. White equably bright. Well seen in broad morning twilight. A * 9.10 m follows, 2′ dist. The sweeping power shows it as a * of large diameter, which could not escape examination in a good night; with 240 the disc seen as described. It cannot be more than 4″ diam.	153
		...	11 24	B; R; 8″ diam; rather hazy at the borders. It is something between a planetary neb and a B R neb. The light is pale and dull, but stellar, and equals a * 8.9 m. Two stars follow, the nearest distant in R A 14ˢ·5. A fine and curious object. On long and careful attention I cannot get rid of the hazy border and reduce it to a sharp round disc.	279
		...	.....	Just caught in the evening twilight and shown to M. Struve the moment of his arrival at Slough, Aug 19, 1830, having travelled together from London.	282
2001	VII. 31	18 5 37·1	112 10 26	P rich; 3 or 4′ diam; irreg fig; the stars v S	30
2002	Nova.	18 7 1·3	109 55 12	A double star in a faint neb. (See fig 30.) A very remarkable object.	270
		...	55 38	An oval nebula, involving a fine double star (N° 2827 of my 5th Catalogue,) for which see further descriptions.	269
		...	55 56	A double * h. 2827 involved in a p B large nebula 50″. See description of that *.	268

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2003	VIII. 55	18 7 44·0	106 41 50	A cluster with a triple * in it	274
2004	M. 24	18 8 27·5	108 28 13	A glorious concentrated part of Milky Way, almost amounting to a globular cluster. Stars 14 and 15 m.	269
		28·9	29 2	Fine cluster of stars 15 m; R; 6′; the stars are all of a size. The cl seems connected with the Milky Way.	270
2005	Nova.	18 8 38·0	105 0 8	Loose straggling cluster; stars 10..12 m	34
2006	M. 16	18 9 15±	103 50 34	No description	34
2007	M. 18	18 10 ±	107 11 42	A poor and coarse cluster. Contains about a dozen stars 10 m and 15 or 20 more 12..15 m.	270
2008	M. 17	18 10 44·2	106 17 55	The principal star in the preceding arc of the horse-shoe-like portion of the nebula M. 17. See fig 35.	163
		46·8	14 5	The small insulated, resolvable knot in the preceding, strait branch of the neb.	274
		51·8	14 19	The same knot. See description of this neb in the Appendix. See also the figure.	358
		...	15 48::	A most curious object, not unlike the nebula in Orion (as it used to be figured, like a Greek capital omega, Ω.) There is in it a resolvable portion or knot distinctly separated from and insulated in the rest as if it had absorbed the nebula near it. (A figure carefully drawn.) (The P D inaccurate, being much past merid.)	33
		...	15 27::	A large extended nebula. Its form is that of a Greek Ω with the left (or following) base-line turned upwards. The curved (or horse-shoe) part is very F, and has many stars in it. The preceding base-line hardly visible. The following, which is the principal branch, occupies nearly half the field ($7\frac{1}{2}'$.) Its light is not equable, but blotty. Strong twilight.	48
2009	Nova.	18 13 40±	102 6 42	A loose straggling cluster of stars 11..12 m	34
2010	M. 28	18 14 4·7	114 57 29	Not v B; but v rich, excessively comp globular cl; stars 14..15 m; m b M; a fine object.	30
2011	Nova.	18 21 23·0	103 16 16	A closely clustering portion of the Milky Way, which is one continued cluster here.	34
2012	II. 205	18 21 32·8	113 34 37	p B; R; g b M; 40″	30
		35·2	35 7	A beautiful little globular cluster of excessively minute stars, 60″ diam; seen in twilight. It must be p B when seen in dark night. (Sky very pure.)	275
2013	VI. 23	18 22 47·2	107 0 11	A rich, p comp cluster; irreg fig having a vacancy in the middle; stars = 11..15 m.	36
2014	VIII. 14	18 23 20±	107 27 11	A very loose parcel of v small stars, hardly noticeable as a cluster	36
2015	M. 22	18 25 59·1	114 1 16	A magnificent globular cluster; g b M but not to a nucleus. The stars from 12 to 20 m. Those 12 m are equally scattered over it, but those of 20 m form the central mass.	30
		61·2	1 11	A superb, v m comp, R cluster. Stars 11..15 m; not very well defined. Rather more comp to the n f side than at centre; admirably seen in twilight.	275
2016	Nova.	18 26 50·6	66 33 38	A v poor cluster 8th class	266
2017	Nova.	18 32 34·3	94 55 2	A L p rich cl of straggling stars, having a vacuity in M and broken into 2 or 3 clusters. Fills field. 70 or 80 stars of all magnitudes from 10 to 18 counted. Extended, in parallel. The most comp part f.	83

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2018	Nova.	18 33 4·5	96 22 46	A more than usually condensed portion of the enormous cluster of the Milky Way. The field has 200 or 300 stars in it at once.	84
2019	M. 11	18 42 0·1	96 27 42	A beautiful irregularly R cl 10′ or 12′ diam. The stars are all 11 m except one = 9 m whose place is taken. Examined with high magnifiers [I have often viewed it with 800 and even 1200]; it is broken into 5 or 6 distinct groups with rifts or cracks between them.	82
		1·1	28 27	A glorious object. The bright * 9 m out of the centre taken.	85
2020	Nova.	18 43 27·4	79 51 0	A p considerable cl; 15′ diam; irreg fig, 50 or 60 stars large and scattered. The place is that of the double * No. 870 of my third catalogue.	88
2021	Nova.	18 44 31·0	110 6 12	A p rich cluster, figure like the letter S, 7′ in extent. Stars 9. . . . 13 m. Counted 40 of them.	268
2022	III. 143	18 44 50·3	112 54 20	A little knot of 8 or 10 stars crowded together. It is 1′ 40″ south of υ^2 Sagittarii, and on same meridian.	30
2023	M. 57	18 47 13·2	57 10 37	The annular nebula in Lyra. The diameter of the ellipse in R A = 6ˢ·5 : : It has a small star f exactly on the parallel of the centre, and distant from the edge rather more than the breadth of the ring.	198
		13·4	11 7	Annular neb between β and γ Lyræ. Pos of longer axis of annulus = 57°·0 by microm. The small * f is almost exactly on the parallel of the centre, dist about = breadth of ring. The central vacuity is not *black*; a nebulous light fills it. The edges are not *sharply* cut off, very slightly ill defined. See fig 29.	197
		17·6:::	11 31	R A not good, the sweeping zero having been interrupted by the disturbing effect of the side motion in viewing objects.	199
		. . .	13 ±	No R A, very rough P D; viewed; diameter in R A = 5ˢ·375 by a mean of 4 careful obs. The star following it = 11 m. It follows the centre 4ˢ·31, and its pos from centre = 96°·4 by microm. The neb has a mottled look. [N.B. This mottled look, however, is something quite different from the appearance called resolvable.]	168
2024	Nova.	18 49 ±	79 51 30	A cluster discovered with the 7-feet equatorial, Sept 5, 1828.	—
2025	Nova.	18 52 0·5	90 41 27	A considerable cl; not rich, but fills the field. *s = 12 m; place that of a double * No. 874 of my third catalogue.	80
2026	Nova.	18 52 13·8	108 46 32	A * 10 m in a p rich, roundish cluster 8′ diam; stars 12 . . . 15 m.	268
2027	Nova.	18 53 25·7	78 37 43	The central star (double) in a coarse and poor cluster.	196
2028	Nova.	18 54 47·7	60 58 3	A p L, poor cl of stars forming irreg groups or patches, 11.12 m; diam = 8′.	159
2029	Nova.	18 56 25·5	88 27 44	A cluster of loose small stars of various magnitudes; fills the field.	78
2030	VII. 19	18 59 18·7	86 1 39	A cl of small stars; fig irreg	78
		21·7	0 53	A v L, v rich cl, composed of 2 or 3 clustering groups running together; place that of the most condensed part.	278
		22·8	3 22	L, loose cl; fills field; the most condensed part is 3′ in extent. Stars = 12. . 14 m.	77

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2031	VII. 62	19 0 16·4	85 35 ±	Pretty compressed cl; irreg fig, P D by the Sweep 77 being out of the limits of the sector.	79
		18·5	.....	Pretty rich; S; m compressed; oval or rather fan-shaped. The stars 11 . . 12 m, 4′ in extent; the n f side most comp.	278
		...	35 26	p comp; irreg fig; 2′ diam; st 15 m.....	77
			32 49	p comp; S; R or irreg; taken out of merid.....	78
2032	IV. 14	19 5 39·1	92 60 9	v F; R; v l b M; r; 30″. Nothing observed about it remarkable enough to entitle it to a place in class IV.	82
		42·3	59 54	v F; L; R; v l b M; diam in R A = 4ˢ·5.....	83
2033	Nova.	19 6 34·7	85 25 8	Coarse; not very rich; eighth class	278
2034	Nova.	19 6 55·2	106 33 35	A fine, L, loosely scattered cl of large with some small stars. Fills 2 or 3 fields.	274
		...	30 ±	A very large straggling space full of loose stars, 8, 9, and 10 m	163
2035	Nova.	19 8 5·0	91 12 51	A cluster; poor; loose; irreg fig; stars 10 and 11 m	81
2036	M. 56	19 9 46±	60 6 6	A * 9 m precedes, about 1′ diam. (The R A in these early sweeps is liable to great errors.)	8
		52·1::	6 37	Fine; v compressed; m b M; stars 11 m; a * 9 m precedes. Clouds interfered.	197
		55·8	7 8	p rich; S; irreg R; g b M but not to a nucleus; 2½′ to 3 diam; stars 13 and 14 m, well seen in full illumination of field. A few scattered stars.	159
		56·6	7 10	L; R; v g b M. I see the stars which are v S and of different sizes. It fades gradually away at the borders.	7
		57·1	6 50	No description	199
		58·3	6 49	Fine comp cluster; R, inclining to a triangular form; b M; stars 12 . . . 14 m. A fine object, diam 3′.	198
2037	III. 743	19 10 9·4	83 45 19	A most beautiful, v L, F planetary nebula. Diameter in R A = 6ˢ·5 = 1′ 37″; its light nearly uniform, only very little hazy at the edge and perhaps rather brighter at the southern limb. Its nature seems to have been overlooked or mistaken by my Father, who has placed it in his third class. In Milky Way. Many stars in field, one 11 m near the n f limb.	280
		...	46 29	Pos of the small * near the edge, from the centre = 53°·0 by microm.	281
2038	Nova.	19 11 50±	91 24 34:	An e S stellar neb = a * 15 m; it is ⅔ of a diam of field (=10′) from a double star which it follows, to S. Pos from the star = 240° ±. The R A is excessively loose.	5
2039	VIII. 81	19 15 56·3	68 9 23	Has a double star h. 886 in it	267
		56·9	8 53	Coarse, poor cluster; stars 10 . . . 11 m. The southern of a group; is a first class double *.	266
		57·5	10 2	Place that of a double * at the northern extremity of the more condensed part of a L, loose, poor cluster of st 10 . . . 15 m.	90
2040	Nova.	19 17 36·7	86 48 13	The first of 3 stars 9 m, nearly in the parallel, joined by a rich clustering portion of the Milky Way.	278
2041	VIII. 21	19 20 7·8	65 11 55	v L; p rich; very straggling; stars 10 m; fills field.....	167
2042	VI. 14	19 23 10·0	70 5 7	A rectangular cluster, v m comp; 3′ or 4′ l, 2′ br; stars 14 . . . 18 m; among B stars.	364
		10·2	4 57	e F; p L; v g b M; 4′ l, 2′ br; composed of stars 17 or 18 m..	362
		12·6	4 6	A curious object, 4′ l, 1½′ br, extended in merid. The largest st 16 m	90

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2043	VI. 38	19 23 25·4	81 7 10	A cluster. Has a * 16 m, one or two 18 m, and neb	89
		26·1	7 17	A very small compressed fan-shaped cluster of stars 11 ... 18 m, diam = 1′; a * 11 m on the n f side forms the vertex of the fan.	280
		26·6	7 22	Doubtful if a resolved cl or a neb of first class. p L; R; b M; 60″; with 2 or 3 accidental stars of the Milky Way.	88
		28·5	7 22	A v S roundish cluster, 40″ diam, of v S stars, one brighter than the rest and = 15 m. It is like a nebula well resolved, and is a curious object.	196
2044	Nova.	19 32 21·0	43 64 41	A double * in the southern part of a fine, large, pretty rich, coarse cluster of about 100 stars 11 .... 14 m; it fills the field.	205
		64·9	58 50	The centre of the more condensed part of a considerable cluster, 10′ diam, of irregularly scattered stars.	206
2045	III. 744	19 33 21·0	100 42 35	Not v F; p L; R; b M; r; 50″	86
2046	Nova.	19 33 53±	63 35 ±	v L, p rich, straggling cluster; it more than fills the field. Stars 10 ... 15 m.	167
2047	IV. 51	19 34 20·3	104 32 37	Planetary nebula. B; R; equals a * 9 m in its light; diam = 10″ by estimation. Perfectly round; there is no central vacuity (power 320). The light, though not hazy, is turbid, not like stars, but a kind of curdled appearance, very singular. Has two stars very near. The nearer, A, 15.16 m; pos 309°·5, 312°·8, 313°·0; the first measure taken with 320, and better than the others. The further, B, 15.16 m; pos 82°·1, 78°·0 (with 320). Dist of A 30″, of B 50″. (See fig 46.)	365
		21·3	33 29	Exactly R; = * 8 m; disc = 10″ or 12″ in diam; has 2 stars 12 m near. Pos of A = 307°·0, of B = 81°·5. Central measures. Light equable, and disc very lucid, yet a little (not hazy, but) as if boiling at the edges, with a suspicion that it may not be well defined.	163
		22·7	32 54	Exactly R; diam estimated at 8″; the light equable and equals a * 6.7 m. It is exactly like a planet and two satellites. Distance of A, the nearer, 20″, Pos 45° n p; of B, 25″, 20° n f.	34
2048	Nova.	19 35 22·7	50 12 7	A beautiful cluster, v rich, v L; stars 11 ... 15 m and 1 = 7 m n f, a reticulated mass, central part = 4′, but fills field with its loose stars. A very fine object.	359
2049	VII. 18	19 35 56·9	67 5 58	p rich, irreg R; 5′ diam; a cl of loose stars; the chief = 10 m, the rest = 11 ... 12. Four or five in centre form a lozenge.	266
2050	IV. 73	19 40 18·8::	39 54 0	A most curious object. (See fig 43.) A * 11 m surrounded with a v B, perfectly R planetary neb, of equal light throughout. Diameter in R A = 3ˢ·5. Perhaps a very little hazy at the edges. With 320 the * is not seen double.	207
2051	VIII. 73	19 42 2·6	82 30 40	A * 8 m in a poor cl, hardly to be called a cluster. (Night very bad.)	89
		...	31 ±	Coarse; straggling; 15′; not remarkable; chief * = 9.10 m..	88
2052	VII. 9	19 43 47·2	67 20 14	Fine large coarse cl; fills field. Stars 11 ... 12 m, some outliers = 9, 10 m.	266
2053	Nova.	19 45 11·5	31 0 24	A * 7 m in midst of a field full of 40 stars 10 ... 12 m	366
2054	VIII. 16	19 45 21·6	61 1 38	Coarse irreg R; with detached portions of smaller stars. Those in the main cluster = 11 or 12 m.....	7
2055	VIII. 18	19 45 28±	78 45±	Viewed. In place by working list? It is a coarse straggling part of the Milky Way.	196

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2056	M. 71	19 46 5·7	71 41 14	v rich; m comp; g b M; an irreg R cl of v S stars, inclining to triangular form. In a rich part of Milky Way.	360
		8·0	38 31	v L; loose; fills field; a fine object; stars 11 . . . 16 m; the most condensed part = 3′, of an acute triangular figure, the angle northwards.	90
		12·1	38 42	An irreg R mass of closely packed st; g b M; 3′ or 4′ diam; a decided cl; but towards the s p the Milky Way is immensely rich.	364
2057	VI. 16	19 46 53±	72 33 ±	A quantity of Milky Way stars, immensely close, one small patch of which may be the cluster VI. 16.	362
		. . .	. . . . .	An insignificant bunch of little stars in the Milky Way. Hardly more marked than the general mass, which is astonishingly rich here.	92
2058	VIII. 19	19 47 17·0	78 20 12	A small, poor cluster; the preceding of two distinct clusters. The stars 11 m.	196
		. . .	. . . . .	Viewed. Is a coarsely clustering part of the Milky Way	125
2059	Nova.	19 48 7·0	78 17 12	A poor, small cluster. The following of two, just alike	196
2060	M. 27	19 52 8·6	67 43 ±	(See fig 26.) A nebula shaped like a dumb-bell, with the elliptic outline completed by a feeble nebulous light. Position of the axis of symmetry through the centres of the two chief masses = (by microm) 30°·0 or 60° n f . . s p. The diam of the elliptic light fills a space nearly equal to that between the wires (7′ or 8′). Not resolvable, but I see on it 4 distinct stars 1 = 12 m at the s f edge; 2 = 12.13 m, almost diametrically opposite; 3 = 13 m in the n p quarter, and 1 = 14.15 m near the centre. Place that of the centre.	166
		10·0	45 11	Place the most condensed part of the southern head; diameter in R A = 25ˢ·0. A most extraordinary object; v B; an unresolved nebula, shaped something like an hour-glass, filled into an oval outline with a *much* less dense nebulosity. The central mass may be compared to a vertebra or a dumb-bell. The southern head is denser than the northern. One or two stars seen in it.	90
		13·3	44 7	I showed a friend the oval filling up of the outline of this strange object as delineated in Sw 266, and he saw it well.	267
		15·0	44 14	Like a double-headed shot or a dumb-bell. The light perfectly milky; the s p head is a v l the brighter. The outline is filled up elliptically with a F nebulosity as in figure, which, I think leaves ansæ as if inclined to form a ring. Two S st in it and many more near, one close to edge (No. 1 of Sw 166). A most amazing object. Position of greater axis of the elliptic outline = 117°·1; of axis of symmetry 31°·4 (microm).	266
2061	Nova.	19 54 58·2	79 12 19	A pretty rich oblong cl; 10′ l, 5′ br; stars equal and of 13th mag. In Milky Way. Place that of a double ∗.	196
2062	III. 144	19 55 12·4	56 54 26:	A small bunch of very minute Milky Way stars, so small as almost to look nebulous; n p is another.	199
		13·9	56 23	A nebulous-looking patch; 12″ diam; in Milky Way; ill-defined; perhaps only some e minute stars mixed with larger which are distinct.	198
		15·0	56 21	F; S; R; among a field full of stars.	168
2063	Nova.	19 55 28·2	34 20 3	A small pretty close cluster; irreg R; 3′ diam; stars 12 . . . 16 m.	211

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2064	M. 75	19 56 2·5	112 23 31	v B; R; v s v m b M; 2′; a bright R ball 15″ diam, in an atmosphere 2′; 320 does not show the stars but makes it more resolvable.	369
		2·7	23 38	p B; R; p s v m b M; r; 90″	298
		2·9	24 10	Not B; S; R; p s b M; 2′ diam; r, but not resolved. An insignificant object.	275
2065	Nova.	19 56 12·0	94 1 59	A little compact knot of 7 or 8 stars taken at first for a nebula, (and liable to be mistaken for one hereafter). Stars 19 m.	83
2066	VII. 59?	19 58 12·2	46 28 50	A coarse rough cluster. Taken for VII. 59, but the place does not agree.	203
2067	Σ. 2630	19 59 30·6	54 42 17	A double ✳ Σ. 2630, in a cluster of 5 bright and many small stars.	168
2068	Σ. 2631	20 0 45·7	69 23 2	A double ✳ the chief of a coarse straggling group of stars 10 .... 13 m, hardly entitled to be called a cluster.	362
2069	VIII. 86	20 1 39·0	52 14 43	A coarse scattered cluster of about 60 stars. The largest (10 m) taken.	200
2070	Nova.	20 4 51·5	54 39 36	A double ✳ in a cluster of a good many stars 10 ... 13 m	168
2071	VIII. 20	20 4 51·7	64 1 10	Splendid cluster. More than fills the field; loose and straggling; poor in stars, one = 6.7 m whose place is given; the rest 9, 10, 11.	167
2072	IV. 13	20 9 31·6::	59 59 ±	Planetary nebula; diam [by inexperienced estimation] = 1′; light equable, exactly round; v F, a mere ghost; P D roughly taken and of no value. Sept 4, 1825.	7
		32·9	57 16	e F; 15′ diam; strongly suspected to be annular, but the darkness in the centre is not striking.	199
		33·5	56 43	e F; annular; pretty sharply defined; a very little elliptic; the northern limb is the brightest; the darkness in the middle requires some attention to see, but once seen it cannot be mistaken. A most curious object, resembling much the annular nebula in Lyra, but rounder, smaller (not above half the diameter,) and far fainter. (See fig 48.)	198
		...	.....	Viewed Sept 7, 1825, past merid, the transit being missed owing to its faintness. It is exactly R, but decidedly brighter at the edges than in the middle. It is a round miniature of the annular neb in Lyra (40″ estim diam,) having a darkness in the middle. I made my assistant come up and look at it. He said it had a hole in it. (N.B. Much better seen than last night (Sweep 7), and more attentively examined.)	8
2073	Nova.	20 13 55·5	109 50 39	A ✳ 10 m, with a considerable nebulous appendage s p, in which by glimpses may be fancied a star 15 m.	268
		56·5	51 35	A ✳ 10 m, with a nebulous wisp, in which by glimpses a ✳ 18 m may be seen; pos = 194°·9 by microm. A very curious object.	297
		56·6	50 22	A ✳ with a nebula attached in which is a small ✳ or nucleus 17 m.	270
2074	Nova.	20 14 29·7	64 47 10	A small straggling cluster of stars 10..11 m. One of the 9 m, whose place is taken.	167

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2075	IV. 16	20 14 46·1	70 26 7	Fine planetary nebula; B; exactly round; rather hazy at the edges, but not materially brighter in the middle, but *no hollow*. It has four small stars near it like satellites. (See fig 47.) Pos of B = 358°·0 by micr, dist estim 30″, 10 m; of D pos = 41°·2, 60″, 13 m. Clouded suddenly before I could measure the others.	364
		48·0	25 40	Exactly R; F; diam = 2ˢ in R A = 30″±. Its light is a little mottled, but it is well defined. Lies between 2 stars, but nearer to the southern (A) than to the northern (B); A is 85° s f (*i. e.* pos = 175°), and the centre of the neb is $\frac{1}{10}$ of its diam to the preceding side of their line of junction.	90
		48·8	26 7	Fine planetary nebula. R; diam = 18 or 20″; a little hazy at the edges, or rather pretty much so, so as to be ill defined. Has 4 stars near; one of them (B) = 10 m, pos = 359°·0; dist 40″; another (C) = 11 m, pos = 104°·8, 60″; another (A) is very nearly in a line with B and the centre, perhaps a degree or two to the following side; the neb is pretty bright.	362
2076	III. 141	20 14 56·5	115 20 32	v F; L; R; v g l b M; 3′ diam; r; the sky hazy.....	289
2077	VIII. 56	20 17 0·8	49 44 48	A poor and coarse but rather brilliant cl, 2 st 9 m (the n p taken) and 30 or 40 more 10....12 m.	183
		2·0	49 ±	A fine cluster of about 30 stars, one = 8 m taken, (but very coarsely); one = 9 m, and many stragglers 10....16 m.	201
		12·9	47 7	p B; S; the stars are 11 m, and two are 7.8 m. Place that of the s f. 40 stars counted, 5′ long, 3′ broad.	359
		...	50 ±	A fine close cluster of p L stars, not rich; irreg fig	180
2078	M. 29	20 17 45·5	52 1 48	A coarse cluster of 8 large stars (10 m), and a dozen or 20 smaller in a roundish form. (Milky Way.)	200
2079	III. 142	20 24 16·6	92 35 51	v F; p L; l E in merid; the n p of 2	81
		20·6	35 38	v F; p L; p m E; or two joined; nearly in the meridian	288
2080	Nova.	20 24 33·1	92 36 51	v F; v S; the s f of 2.....	81
		36·5	36 8	v F; among small stars	288
2081	I. 103	20 25 50·8	83 9 39	Globular cluster; diam in R A = 4ˢ; all well resolved; p g b M; a * 9 m precedes 7ˢ·5.	281
		51·9	9 55	Observed with M. Struve the evening of his arrival at Slough .	282
		52·1	9 37	A beautiful, v compressed, B, R, globular cluster, 3′ diam, well resolved. Stars = 16....20 m. A p B * p.	280
2082	VII. 17	20 27 15·6	68 20 ±	Place of the chief * 10 m of a coarse, poor, straggling cluster	166
		...	23 ±	Very poor. The large star taken but carelessly, as it offers no interest.	90
2083	VI. 42	20 27 56·4	29 56 37	A * 11 m with a rather poor cluster of stars 12....15 m; ☾ near full, but probably in dark night a rich cluster, 5′ in diam, fan-shaped, and a B * at the point.	218
		59·6	55 42	Fine, rich, p compressed cluster; 5′ diam; stars 11...13 m, rather convex on the p side.	367
		64·3	55 44	Very fine rich cluster; 5′ diam; stars 12 m and nearly equal; shape rather convex towards the preceding side.	366
		72·1	.....	Very fine rich cluster; stars 11....16 m, (not stated what part of the cluster taken, probably the middle; whereas the foregoing observations evidently refer to the preceding bright star).	214

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2084	IV. 76	20 31 16·9	30 26 2	a v F, v L patch, no doubt a cluster 8 or 10′ in extent, v g v l b M; but I cannot see the stars.	367
		18·9	26 14	v F; e L; v g l b M; r; 5′ or 6′; irreg fig. A curious object; no doubt a great cluster of e F stars. Requires the eye to be well prepared for seeing it.	366
		21·7	27 11	v F; v L; v g b M to near the middle, and then p s b M; 8 or 9′ diam; is barely resolvable; seems to be an enormous cluster, immensely distant.	214
2085	VIII. 23	20 33 17·6	73 56 54	Poor, large, scattered cl; the brightest ✱ = 10 m.	92
2086	III. 219	20 35 48·6	78 5 58	v F; S; 15″ precedes and is attached to the double star No. 1566 of my fourth catalogue.	196
2087	II. 426	20 38 35·1	90 18 16	p F; S; R; g b M; 15 ... 20″	81
		36·2	17 8	e F; S; R; l b M; 12″	294
2088	V. 15	20 38 38·6	59 53 30	The place is that of k Cygni, through which the nebula passes. It is very long and winding and runs northward from k full 2 fields' breadth (30′). One branch is pretty conspicuous, even in a little moonlight. The nebulosity is milky, and does not seem to arise from small stars of the Milky Way ill seen.	178
		38·9	53 56	The neb extends southwards far beyond k Cygni, but is e F; the northern part is p B (at least in a very clear night) and extends to two stars. P D = 59° 26′ 56″. [A drawing made, which with others made since has served for the construction of fig 33, which represents this extraordinary object.]	199
		38·6	.....	Northwards from k Cygni 27′ extends a curved tail of nebula of a serpentine form, fading very gradually into two tails forming a fork. Its general direction is in the meridian. Barely attains k Cygni, and is there of extreme tenuity. Requires a fine night and the eye well prepared by at least 3^m exposure to darkness.	198
2089	II. 427	20 38 41·1	90 19 36	F; v S; R	81
		41·7	18 33	e F; v S; 6″	294
2090	M. 72	20 44 5·1	103 10 26	F; R; g b M; resolved into very small stars; 2 or 3′ diam....	10
		5·8	10 9	p B; v compressed cluster; irreg R; barely resolved; v g b M; 3′ diam; many straggling stars near, but none so small as those of the cluster.	365
		6·5	10 13	F; R; 2′ diam; g b M; r, but I do not see the stars separated enough to count them. Sky beautiful. Has a ✱ 9 m 30° s f, dist 3′. Is rather an insignificant object.	34
2091	VIII. 76	20 48 51·0	43 22 10	A star 9 m; the largest of a cluster	210
		77·6	18 22	A ✱ 11 m. The last of that magnitude in an irregular triangular cluster 6′ diam; poor and straggling.	209
2092	V. 14	20 49 19·1	58 57 1	Place of the southern and brightest star of a trapezium south of the bifurcation of this nebula. The neb is e F, v L, and straggling, extending at least 4 fields (= 1°). Its direction is (by diagram) about 20° n p to s f, and near the middle it forks into two chief branches. (See fig 34.) In the trapezium (or oval) above spoken of are 6 stars 1 = 11 m; 2 = 10 m; 3 = 12 m; 4 = 14 m; 5 = 15 m; 6 = 12 m. The northern branch of the fork is the principal, and passes s of a double ✱ (7).	199

See next page.

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s 22·7	° ′ ″	The same star in the nebula V. 14. The nebula is of great extent, passing obliquely through and rather under (to the s of) a small constellation, being densest where under it; but it is extremely F and only to be seen with an eye well prepared and in a very clear night. The whole neighbourhood seems affected with wisps or cirro-stratus-like masses of nebula.	198
2093	Nova.	20 50 4·4	60 26 6	(See figure 82.) A most wonderful phenomenon. A very large space 20′ or 30′ broad in P D, and 1m or 2m in R A full of nebula and stars mixed. The nebula is decidedly attached to the stars and is as decidedly not stellar. It forms irregular lace-work marked out by stars, but some parts are decidedly nebulous, wherein no stars can be seen. A figure (from which the drawing for the engraving was copied,) represents general character, but not the minute details of this object, which would be extremely difficult to give with any degree of fidelity.	8
2094	VIII. 82?	20 50 28·0	45 10 50	Coarse, poor, p L cluster; stars small	203
		...	.....	Viewed. A mere clustering portion of the Milky Way	189
2095	Nova.	20 52 22·0	90 51 31	e F; S; E in the meridian	81
2096	V. 37?	20 53 12±	46 20 ±	An immense nebulosity all around this place, but too ill defined to fix the limits. R A that of V. 37, from working list, not being settled by the obs.	203
2097	I. 52	20 53 36±	74 28 49	B; R; g b M; 60″; R A from working list, no transit being procured.	12
2098	IV. 1	20 54 50·5	102 2 46	Fine planetary nebula. The disc is exactly round, and nearly of an equal light throughout; blueish white; a little haze about it: has a * 15 m n p (about 80°) dist = 3 diameters.	10
		52·0	1 53	Round; v B; equal to a * 6.7 m; the light perfectly equable, only a little dim at the edges; diameter = 300″.	9
		54·3	2 4	v B; diam 20 ... 25″; a little oval, perfectly well defined	365
		55·0	1 40	Exactly round; a very little hazy at the borders; the rest of the disc quite equable; light blue; diam 10 or 12″. [See fig 44. M. Struve has given as measures of the diameters of this nebula 25″ and 17″. From the general tenor of the foregoing obs I am disposed to think this ellipticity greater than the real.]	34
2099	I. 192	20 55 25·0	36 6 23	L; E; r; has an appearance of two nuclei or points of greatest condensation; it touches a fine double star.	211
		36·0::	6 55	L; E; 60″ l, 40″ br; r; one star is very plainly seen; it is rather wedge-shaped, pos = 225° ±. A double * is close to it. R A very doubtful.	—
2100	Nova.	20 55 27·1	103 10 11	e F; R; r; 60″	48
2101	Nova.	20 56 6·5	43 20 50	A cluster. No further description.....	210
2102	II. 203	20 56 21·8	60 46 18	p B; S; p s b M; 12″; has a * 10 m, pos 345°·0 by microm; field full of stars.	177
		23·8	46 48	p B; R; p s b M; 15″	178
2103	VIII. 57	20 59 38·5	49 11 7	A loose straggling coarse cl. Stars 10 ... 11 m, place that of 3 *s 10 m in a triangle in the closest part. Several st precede the cl, which seems to be an outlier of the second branch of the Milky Way.	183
		101·0	8 31	A poor and loose cluster; place that of a double star, h. 1613 of my fourth Catalogue.	180
2104	Nova.	21 2 11·7	75 14 19	A scattered cluster of small stars	12

No.	Synonym.	R 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2105	VIII. 74	21 2 29±	39 50 24	A curious scattered cluster of triple stars; R A taken from working list.	207
2106	Nova.	21 3 49·3	56 58 6	A cluster, not very rich; irreg figure, 8′ l, 5′ br; stars 11...15 m	199
2107	Nova.	21 5 9·8	45 0 51	A star 6.7 m situated just beyond the n f edge of a L, p rich cluster, 11....15 m, 20′ long, 7′ broad. Extended from n f to s p.	210
2108	Nova.	21 6 18·4	86 10 55	e F; field feebly illuminated by ☾, but I remained satisfied of its reality.	79
2109	III. 858	21 6 20·7	87 51 53	e F; R; 1 b M	95
		22·9	51 25	e F; R; barely visible; night exquisite	94
2110	VI. 24	21 6 34·7	48 11 8	v F; L; irreg fig; p rich; not m b M; 2 or 3 p L stars, the rest 16....18 m; 5′ diam.	204
		40·9	13 3	v F cl of e S st, 15....18 m; irr fig; p L; v g l b M; 4′ diam; a delicate object.	183
2111	Nova.	21 8 20·3	54 30 41	No description. A cluster	168
2112	III. 145	21 11 17·4:	64 16 47	F; R; 20″; the R A may be 2ˢ or 3ˢ out	172
2113	Nova.	21 12 43·6	99 30 3	v F; R; g b M; near a double star	86
2114	Nova.	21 14 34·8	33 7 25	A F, S, poor cluster, 8′ diam	212
2115	Nova.	21 15 16·0	39 54 40	The chief * of a coarse, poor cl	207
2116	VII. 51	21 17 5·4	44 21 8	A neat, pretty compact cluster of 50 or 60 stars 4′ diam; irreg fig; a * 13 m taken, the chief in the preceding part.	203
		7·2	20 32	A * 10 m, the preceding of a cl, 4′ in diam, and pretty rich	209
		7·6	20 28	A fine cluster of a triangular figure; the preceding * taken	210
2117	Nova.	21 17 31·5	54 13 24	A poor cluster, stars 10 m	168
2118	VII. 50	21 18 33·0	42 42 27	A double *. The chief of a poor cl	209
2119	Nova.	21 20 26·6	42 48 6	A very poor and small cluster of an oblong figure. It is followed by a loosely scattered mass of stars.	210
2120	M. 15	21 21 43·0	78 34 19	v B; v L; irreg R; g b and v s m b M. A magnificent globular cluster; comes up to a perfect blaze in the centre, like a protuberance or nipple; not the condensation of a homogeneous globe; it has straggling streams of stars, as it were, drawing to a centre. It is not *round*. Has a * 8 m, 30ˢ following in parallel.	14
		...	36 ±	Superb; very comp; irreg R; v S stars 15 m, all distinct but running together into a blaze in middle; 4′ or 5′ diam. One * 8 m n f dist 10′.	13
2121	III. 859	21 22 47·0	88 15 13	v F; S; R; has a * 14 m south. Dist from centre = 1 diam (by diagram).	295
2122	VII. 52	21 23 16·9	43 38 57	A * 10 m, the chief of a p rich, fine, L, coarse cluster. Stars 10....13 m.	—
2123	Nova.	21 23 46·7	73 19 19	A coarse scattered cluster	12
2124	VI. 32	21 24: 35·7	39 10 30	A ruddy * 11 m in midst of a beautiful cluster of stars 16...18 m; 8′ diam; not very comp; ☾ troublesome.	207
		47·4	9 4	A rich fine cluster of st 11...16 m; it fills field; but the most comp part is about 6′ in extent. The middle of the cluster taken, but no particular star fixed upon. [N.B. This and the former obs disagree in the minute of R A, this giving 23, the other 24. The latter is probably right, agreeing better with my Father's determination.]	384

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2125	M. 2	21 24 39·6	91 34 11	A fine large globular cluster; it shines out between the clouds, and I see the stars of which it consists; and the determination of its place is good, though there is not a star now to be seen with the naked eye for clouds. (See fig 88.)	81
		40·0	91 34 18	A most superb cluster; round; stars e S; 12, 13, 14 m; they are evidently globularly arranged, and not internally condensed towards the centre more than the spherical form would make them appear to be; but in the middle they blend into a blaze of light. It is like a heap of fine sand! With 9 inches aperture I can just see the stars; with 6 it is resolvable.	288
		...	35 ±	A most glorious cluster of stars 15 m compressed up to a blaze. Its most crowded part takes 6^s to pass the wire, but there are straggling stars, although few, of the same size as the rest. There must be thousands of them. The total light of the cl not exceeding a star 6 m, it follows that several thousand stars 15 m = 1 of 6 m.	96
2126	M. 39	21 26 7·8	42 18 52	A * 7 m, one of a large loose cluster of stars 7 .... 10 m; very coarsely scattered, and filling many fields.	209
2127	Nova.	21 27 57·8	44 45 3	The chief star (9 m) in a cluster of the 8th class. The double * No. 1660 of my fourth catalogue belongs to this cluster.	210
2128	M. 30	21 30 41·5	113 55 26	Fine cluster; irreg R, with two projections A, B, at its northern side. (See fig 90.) A is directed from the central brightness and consists of 3 or 4 bright stars 12 m; its position taken with microm = 350°·4: B originates in the preceding side of the centre, and is directed in a position 331°·7 in a line not passing through the centre: diam = 6′, stars = 12 m; fine object; has a * 9 m preceding it (2 or 3 diameters by diagram).	299
2129	Nova.	21 38 8·4	36 9 35	A small, poor, but neatly defined cluster of stars 10 ... 12 m; with appendages n p at some distance.	212
2130	VII. 40	21 38 20·3	37 5 2	A star 9.10 m of a ruby red colour in an oval annulus of small stars 4′ diam.	384
2131	IV. 75	21 39 2·2	24 40 41	A very coarse triple star involved in a nebulous atmosphere; a curious object. The neb is e F and graduates away.	221
		4·7	40 17	Three stars in a nebula. Pos of A and B = 296°·3, Δ R A = $8^s·0$; pos of A and C = 46°·3, Δ R A = $8^s·0$; the place is that of A.	224
2132	II. 261	21 40 20·6	68 37 4	F; R; v g l b M; 30″; r	166
		21·5	37 44	v F; irreg R; 40″; r	90
2133	Nova?	21 41 21·7	60 49 46	Strongly suspected neb, or a v F double star with nebulosity. Has a * 11 m n p.	177
2134	VII. 66	21 41 51·0	24 58 57	The chief star in the s f part of a large, pretty rich, loose cluster of st 12 ... 14 m; diam 10′; has more than one * 10.11 m in it.	221
2135	III. 452	21 45 56·7	87 51 33	F; R; p L; 40″, v g l b M.....	295
		57·7	51 5	p F; S; R; p s b M	95
		58·8	51 8	e F; p L; b M; a glorious night	94
2136	VIII. 67	21 48 56·7	28 11 31	One star 8 m (place taken), 4 = 10 m, 2 = 11 m, and a few smaller.	217
2137	III. 930	21 50 10·6	107 19 11	Suspected, but the state of the air is most unfavourable	37

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2138	III. 692	21 51 52·1	104 5 16	The faintest thing imaginable	10
		...	5 41	v F; E; P D only a rude approximation	34
		...	5 53	v F; R; v g b M; r; 90″	9
2139	II. 247	21 52 25·5::	73 5 23	R; g b M to a nucleus; has a * 89° s p, dist 90...100″	11
		31·2::	4 19	p B; R; g b M; 60...90″. [N.B. The right ascensions in these early sweeps cannot be relied on.]	12
		34·4	4 24	B; R; p s b M; 20″; equals a * 10 m	92
2140	III. 693	21 52 46·6	111 22 2	v F; S; R; l b M; the first of 2	299
2141	Nova.	21 52 52·7	35 59 25	The chief * 9 m of a v L, loose clustering group which fills two fields and is pretty rich of large stars.	212
2142	II. 595	21 52 56·1:	109 43 51	e F; p L; R; the R A may err 10^s	285
		59·4	44 5	v F; p L; R; p g l b M; 50″	297
2143	II. 1	21 53 11·0	111 37 26	p B; p L; v m E; position = 64°·3; p s v l b M; 2′ long	299
2144	Nova.	21 53 28·6	111 17 36	v F; p L; irreg R; v g l b M; the second of two	299
2145	Nova.	21 55 14·3	80 0 0	A coarse straggling cl. Stars 9.10 m	14
2146	II. 599	21 55 52·8	49 46 8	v F; l E; S; v g l b M; 15″	183
2147	VII. 53	21 58 30·4	44 20 18	A * 10 m about the centre of a fine L rich cl; stars 9...12 m; fills field.	210
		31·0	20 17	Place of * 10 m near the middle of a fine L p rich cluster; 50 stars from 10 m to 13 m counted. It fills field. Moon full.	209
2148	Nova.	21 58 35·5::	62 43 0::	e F; R; b M; ill-defined; a v F double star 45° n p 4′ dist points just to it.	103
2149	II. 207	22 0 16·9	59 29 20	B; R; 30″; g b M	199
2150	II. 897	22 0 56·7	107 28 41	No description	37
2151	III. 862	22 3 0·4	49 49 36	e F; S; E; among 3 stars, with which however it seems not connected.	183
2152	III. 931	22 4 59·5	107 54 31	v F; R; b M; 20″	37
2153	II. 606	22 5 30·0	45 29 43	A most e F nebulous appearance, which is probably only a few minute stars. No other near.	204
2154	VIII. 63	22 6 30·8	33 34 23	A * 10 m, the chief of a p compact cluster of 15 or 20 stars 10....17 m. One, 11 m, is of a ruby colour.	211
		31·1	33 45	A poor cl. South of the chief * is a ruby star 10 m. (N.B. These ruby stars often occur in clusters.)	212
2155	VIII. 75	22 8 30·4	40 57 50	A double * in a very loose straggling cl which more than fills the field.	207
2156	III. 932	22 8 31·2	106 25 43	v F; R; v g b M; has * 13 m south, at a dist from edge = 1 diam by diagram.	274
2157	VI. 29	22 8 55·4	36 30 57	A Milky Way cluster. Stars 14...15 m. It is more crowded than the Milky Way, so as to run up to a condensed but faint mass of light.	384
2158	III. 933	22 11 11·3::	106 38 11::	e F, but certainly seen; p L; vision v bad	37
		15·7	37 43	p F; l E; g p m b M; 20″	274
		17·2	36 57	v F; R; but hazy. In occasional glimpses p B	273
2159	Nova.	22 14 19·0	32 45 52	The chief * of a coarse p rich cluster which fills the field. Stars 10...15 m.	215

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2160	II. 284	22 18 8·5:	74 43 3	F; R; g b M, to a bright point	11
		12·7:	42 59	F; irreg R; b M; near a v F double * and one large *	12
2161	Nova.	22 18 33·5	33 1 32	Large, coarse, not extremely poor, the stars scattered and 10...16 m.	215
2162	Nova.	22 19 29·1	61 45 56	v F; R; 12″....15″; among stars	177
2163	VII. 41?	22 21 10·2	38 2 35	A Milky Way straggler; a poorish cluster of stars 12....13 m	384
2164	Nova.	22 21 51·5	104 53 37	F; p L; a strong suspicion; almost sure	273
		52·2	53 8	v F; R; v g l b M; 20″; twilight commencing	274
2165	IV. 31	22 23 15·6	104 59 37	F; p L; R; v s b M to a S, F, R nucleus; diam 2′; has a * s f in pos 352°·5 by micr; dist 3′.	273
		15·7	60 23	F; E; s b M; twilight commenced	274
		16·7:	59 51	F; R; b M; 15″; by obs R A = 22^m 16^s·7, but this is an obvious mistake.	37
		18·5	58 57	F; S; R; v s b m to a * 14 m	373
2166	Nova.	22 23 31·3	59 54 58	v F; R; v g b M; 12″; fog coming on	178
		40·3	54 16	v F; R; v l b M; 20″. Both obs are correctly reduced, and their difference in R A has probably arisen from a mistake in one or other of the moveable wires for the fixed.	177
2167	II. 476	22 25 19·5	101 13 15	v F; p L; b M; 2′	34
		20·0	13 38	p F; p L; R; g l b M; diam 4^s of time	86
		20·1	15 16	e F; hardly discernible	10
		21·0	14 13	F; R; v g b M; r; 2′	9
		22·1	14 12	e F; p L; R; g b M; 40″ or 50″; it precedes a double * 43^s·5 and is 1′ north of it.	372
2168	II. 428	22 25 31·9	85 18 18	Not v F; S; p s b M	94
		34·3	18 46	p B; S; R; p s b M	95
2169	III. 180?	22 26 14·3:	70 33 ±	No P D obtained for clouds, but found by working list; e F	90
2170	III. 237	22 28 19·9	69 15 7	p F; irreg R; v g v l b M; 15...20″	290
2171	Nova.	22 29 2·1	80 20 30	v F; R; v g l b M; 20″	305
		3·2	20 19	e F; E in parallel	15
		3·8	20 20	e F; e in parallel; 60″ l, 40″ br	13
		...	20 19	e F; l E; b M; extended in parallel	14
2172	I. 53	22 29 17·4	56 28 46	v B; p L; s m b M; E 70° n p to s f; 90″ l, 30″ br. If I. 53, the working list is 9′ out in P D.	105
		...	30 ±	B; m E; p s b M; r; 30″ l, 12″ br; has another nebula 14^s·5 following; pos about 55° s f, n p.	168
2173	II. 233	22 29 18·1	67 4 36	B; S; m E in pos = 163°·0 by microm; v s m b M to a * 11 m	166
		18·6	5 7	p B; S; m E; s b M; pos about 70° n p to s f; the preceding of 2.	290
2174	III. 166	22 29 31·9	56 27 9	e F; it is n f from I. 53; pos by microm = 61°·8; Δ R A = 14^s·5.	168
2175	II. 234	22 29 38·3	67 5 6	F; S; E nearly in parallel; v g l b M	166
		41·6	5 27	v F; m E in parallel; 60″ l; the following of two and a third suspected.	290

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2176	Nova.	22 31 28·4	79 52 0	e F; p L; 60″ l, 30″ br; a certain obs.....	304
		...	.....	Viewed; e F; about a radius of the field (= 7½′) n p ζ Pegasi.	305
2177	Nova.	22 33 5·4	33 29 23	A star 9.10 m, chief of a p rich, v L, very coarse cluster.....	211
2178	II. 705	22 34 0·1	29 36 27	B enough to be noticed and caught in sweeping in full moonlight, with the ☾ on merid; p g b M; R; no nucleus seen.	218
2179	II. 442	22 35 41·0	91 3 18	v F; S; R; p s b M; 15″	288
		42·2:	2 55	p F; R; 25″; clouds interfered with the R A obs which may err 2ˢ or 3ˢ.	371
2180	III. 477	22 37 3·1	101 54 16	e F; R.....	10
		5·5	54 21	v F; p L; R; v g v l b M	373
		6·1	53 57	v F; p L; R; s b M, very dilute at borders	34
		6·9	53 7	e F; R; 20″	372
		...	53 53	F; R; 1′ diam; no other near	9
2181	II. 598	22 38 34·0	113 11 26	p B; l E; g b M; 20″	299
		35·2	11 34	p B; R; b M; 15″	293
		35·6	11 51	p F; R; v g b M; 30...40″; several small stars near	370
2182	VIII. 77	22 39 28·1	32 42 28	A L, p rich, v coarse cl of stars 9.10 m and below. (No particular * taken.)	211
		72·0	48 36	A double *, the chief of a fine, p rich, L cluster, 10′ diam; stars 9...13 m.	214
2183	III. 216	22 41 26·4::	79 16 59	F; R; g b M; a star precedes	15
		32±	17 30	p B; R; 20″; has a * 11 m near. The preceding of two neb. The * by diag is 1 radius of the neb n p its edge.	304
2184	III. 217	22 41 32·9	79 12 5	p B; R; the following of two.....	305
		39·5::	12 5	p B; S; R; p g b M	304
2185	II. 443	22 41 52·0	92 26 43	p F; R; p s b M; 50...70″; has a * n p; pos by microm = 350°·3.	288
		52·8	26 5	p B; R; s b M to a * 13 m; 25″. It has a * 12.13 m, 1′ north	371
2186	II. 702	22 42 37·0	111 30 26	p B; R; g b M; 20...30″	299
		38·7	30 22	p B; irr R; p g b M; 30″	293
		39·1	30 46	Not v F; l E; g b M; 60″ l, 40″ br	370
2187	II. 453	22 42 46·7	96 27 24	e F; R; v g b M; sky dull.....	184
		48·6	27 48	No description.....	186
2188	Nova.	22 43 20·2	38 43 24	A double star, the last of a poor cluster of about a dozen stars	208
2189	Nova.	22 43 39·9	89 48 24	p F; irreg R; b M; 60″; r	93
		41·6	48 31	p F; R; g b M; 30″	295
2190	VII. 43	22 47 32·3	30 4 16	A S cluster of small stars 12 m, diverging in a fan shape; a * 10 m follows.	214
		39·5	5 3	A * 10 m in a cluster of v S stars 15...18 m; p rich; v g b M. A * 8 m is 2′ south.	213
2191	III. 745?	22 48 4·9	33 47 48	A large patch of the Milky Way, consisting of stars so small as to be quite nebulous. If this be not III. 745, I find no other.	211

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2192	III. 576	22 48 5·0	54 32 13	F; S; R; b M; 12″. A double ✻ s p points back somewhat n of the neb.	168
		22±	54 36 ±	e F; p L; R; a coarse double ✻ 6 m precedes a little to south. Hurried obs.	105
2193	Nova.	22 49 6·3	30 54 58	VIII class; pretty compact, poor cluster; stars 9 ... 11 m....	213
2194	III. 465	22 49 29·7::	77 47 19	e F; R; b M	15
		34·3	46 25	v F; R; 15″; has a double ✻ foll.....	305
		...	46 45	e F; S; R; precedes a neat D ✻ 5^s	304
2195	III. 243	22 49 45·7	64 45 20	F; E in parallel; g b M; 60″ l, 30″ br	167
		...	48 ±	Viewed in place; v F; L; irreg fig; r.....	172
2196	Nova.	22 50 20·2	36 33 31	A large oblong cluster which fills two fields. Place that of the double star h. 3157 of my fifth Catal.	384
2197	II. 450	22 51 10·9	103 42 53	irreg R; p F; s b M almost to nucleus, r. The northern of a double neb. (See fig 73.)	9
		12·5	42 41	F; R; p s b M, rather the brighter of 2	373
2198	II. 451	22 51 11·4	103 44 23	p F; irreg R; s b M almost to nucleus, r; the southern of a double neb.	9
		12·5	44 21	F; R; p s b M	373
		...	44 26	The southern of a double nebula	10
2199	II. 251	22 51 38·5:	74 55 23	p B; L; v g b M; E pos 85° n p to s f.....	11
		39·4	56 11	No description	175
2200	II. 590	22 52 48·4	89 9 8	Hardly visible for ☾, but sure of object	108
		48·6	9 18	v F; v S; p s b M	295
2201	II. 212	22 52 51·8	60 46 10	B; L; l E; p g b M; 60″; has a stellar point in the centre ..	178
2202	III. 210	22 53 27·2	74 56 1	No description. The first of 2.....	175
2203	III. 211	22 53 36·2	74 56 38	No description. The second of 2.....	175
2204	III. 230	22 54 41·6	82 1 59	F; S; R; v s m b M; equals a ✻ 12 m with a v F wisp about it. At first seems a star.	281
2205	I. 55	22 56 24·0	78 35 19	p B; irreg R; r; I see 2 or 3 stars in it; E between 2 stars. (See fig 63.)	14
		26·0	35 30	B; m E; pos by micr = 192°·0; p g m b M; has a ✻ 12 m n p; a large ✻ s, and one or two 15.16 m in or near the middle.	304
		26·9	35 35	p B; m E, pos by micr = 11°·8 (= 191·8); 2′ l, 30″ br; between 2 small stars. Has two v S stars in it.	305
		28·8:	35 50	p F; b M; E in merid between 2 stars; 90″ l, 40″ br	13
2206	Nova.	22 57 8·7	87 22 23	v F; E; p s b M; 20″ l, 8″ br	295
2207	Nova.	22 57 58·3	56 48 46	v F; S; R; b M; 12″; has a ✻ 10 m, 5′ p in same parallel ..	168
2208	III. 558	22 59 27·3	106 32 16	e F; v L; 2 or 3′; the faintest thing imaginable; half way between two coarse double stars in same parallel.	307
2209	III. 203	23 0 36·0:	72 45 23:	e F; E like the tail of a comet; l b M	11
		36·8	44 13	v F; m E; pos 45° n f to s p; 4′ l, 1′ br	92
2210	III. 184	23 2 55·2	93 5 3	Not v F; v S; R; b M; well observed.....	96
		58·8	3 55	Not v F; R; g b and s m b M to a ✻ 15 m	371
2211	II. 2	23 2 56·3	119 28 9	F; R; b M; 30″; has a ✻ 10 m, 10° n p; 4′ distant	292

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2212	Nova.	23 3 14·3	77 59 19	e F; seems to have a * in centre	15
		15·5	59 19	e F	14
2213	VII. 44	23 4 4·0	30 21 1	A fan-shaped cluster composed of two principal lines of stars drawing to one about 2′ l; pos 248°·8 by microm.	214
		10·6	21 18	A v pretty fan-shaped cluster of p B close stars in two lines with other smaller to N. A * 10 m taken. Another 11^m dist 19^s·0; pos = 244°.	213
2214	III. 220	23 4 16·5	78 14 20	p B; p L; R; g b M; 30″	304
		16·6	14 30	p B; p L	305
		18·3::	15 0	F; R; v g l b M	13
2215	II. 229	23 5 56·4	86 25 43	F; S; R; b M; the s p of 2	95
		58·0	25 19	v F; irreg R; b M; the s p of 2; pos by microm 48°·0	302
2216	II. 230	23 6 5·4	86 23 25	v B; L; E, 10° n p to s f; 80″; the n f of 2; a * 10 m s f	95
		7·0	23 19	B; m E; pos about 5° n p to s f; 80″ long; the n f of 2, pos of the other 228°·0.	302
2217	Nova.	23 6 7·8	67 14 6	F; S; R; p s b M; 12″	166
2218	Nova.	23 6 35·7	71 56 43	The n p of 2	92
2219	Nova.	23 6 48·2	71 57 43	p B; R; 20″; the s f of 2	92
2220	II. 235	23 6 59·7	93 18 52	p B; R; a bright double * f	96
2221	Nova.	23 7 ±	78 21 ±	F; R; b M; place very loose; two or three more nebulæ suspected in the neighbourhood.	174
2222	III. 221	23 7 14·4	77 37 31	F; R; v g b M; 30″	175
		14·7	37 50	p B; p L; R. Has a * 16 m in the centre. The n p of 2	304
		14·7	36 49	F; R; b M; 30″; the n p of 2, the place by reference to the other	15
		16·8::	39 40::	F; R; v g b M; place very uncertain by estimation from the other.	13
2223	III. 222	23 7 19·7	77 44 19	p B; S; R; s m b M; a B * near; the s f of 2; the R A supposes a mistake in the wire.	15
		22·9	43 16	p B; R; p s b M; 20″	175
		24·0	44 10	p B; p L; R; has a * 16 m in centre. The s f of 2	304
		25·8::	44 30	e F; b M; the R A supposes a mistaken wire	13
2224	II. 467	23 7 20·0	84 14 9	B; S; R; p s b M; 15″	302
2225	III. 182	23 8 44·8	72 14 8	F	92
2226	II. 236	23 9 22±	95 34 7::	p B; S; R. R A from working list	96
2227	II. 431	23 10 5·5	98 28 44	F; R; l b M; 15″; sky not good	184
		10 9·3:	30 18	p B; R; p s b M; 15″; R A doubtful 2 or 3 seconds	186
2228	I. 104	23 10 18±	99 25 17	v F; L; m E; night unfavourable	372
2229	Nova.	23 11 19·9	82 31 9	e F; e S; sky clear	281
2230	II. 439	23 11 37·4	82 44 28	B; p L; R; p s b M	280
		39·5	43 10:	p B; R; b M; 30″. P D inaccurate	89
2231	III. 435	23 11 54·1	82 31 39	p F; R; p s b M	281
2232	II. 250	23 11 56·0	73 42 53	B; R; s b M; 60″	11
		58·8:	41 55	p B; R; b M; 25″	92

No.	Synonym.	Æ 1830·0. h m s	N.P.D. 1830·0. ° ′ ″	Description and Remarks.	Sweep.
2233	II. 440	23 12 6·7	82 42 48	B; R; p L; p s b M	280
		7·0	42 10:	p B; R; b M; 30″; P D inaccurate	89
2234	II. 441	23 13 5·3	82 2 29	A double star with some singular nebulous appendage. The stars are 14 m.	281
2235	IV. 52	23 13 20·3	29 45 1	A star 9 m with a v F nebulous atmosphere or a nebula rather excentric towards the s p side.	214
2236	II. 600	23 13 56·7	50 3 35	v F; E; v g l b M; 40″ l, 20″ br	180
		59·1	5 40	F; L; m E from a bright to a faint star; v l b M; $2\frac{1}{2}'$ l, 20″ br. See fig. 60.	183
2237	Nova.	23 16 21·5::	75 39 23	F; R; g b M; 40 . . . 60″	11
		. . .	38 45	e F; R; g b M; 30″; appears as M. 71 does in the 7-feet reflector with the double eye-piece.	1
2238	M. 52	23 16 43·9	29 20 12	A ruddy star 9 m in the p part of a p rich irreg cl of stars 13 m, all separate, 6′ diam; a v little more comp in the s f part.	218
2239	III. 212	23 17 22·4	76 43 26	v F; S; R; p s b M; 15″	175
2240	Nova.	23 17 24·2	63 54 0	F; v S; p s m b M; 6″; almost stellar; a star 10 m p; dist 1′ in parallel.	172
2241	IV. 18	23 17 42·1	48 24 24	A fine Planetary Nebula. Diameter 12″; with 240 beautifully defined, light, rather mottled, and the edges the least in the world unshaped. It is not nebulous, but looks as if it had a double outline, or like a star a little out of focus. A perfect circle. Has a star near; pos 68°·1, well measured over the centre of the nebula. See fig 45.	183
		43·2	23 33	v B; R; blueish white; 8 or 10″ diam. It has no haze at the edges, but ? if it be not enveloped in an e F nebulosity (perhaps arising from glare) and also the star 13 m whose pos is 61·9 and Δ R A = 4ˢ·0. The light is a very little mottled and not absolutely planetary. It is = a * 7 m. (N.B. These *satellites* of planetary nebulæ ought to be especially attended to.)	180
		44·0	23 53	Diameter in R A = 2ˢ·0 of time. The attendant star is double A = 12 m; B = 13 m, pos of A = 58°·5; Δ R A from centre = 4ˢ·0. The nebula is not perfectly round; light equal, but a very little hazy at the edges.	204
		44·3	23 40	Exactly R; 2ˢ·5 of time = diam in R A. Has a * 13 m pos 69°·0; dist 30″; the light of the disc is perfectly equable, and equals a star 8 m.	189
		46·2	23 40	Exactly R; = a * 8 m; a * 13 m n f; pos = 65°·6 by microm; dist = 30″. [N.B. The great discordance in the measured positions of the satellite-star seems to arise from the star being double, and taken for a single one. Whenever this occurs, it is a source of error, and should be most carefully guarded against in all future observations of this interesting object.]	190
2242	III. 226	23 18 41·3	78 28 39	p B; R; v s b M, almost to a star	15
		44·9	28 0	p B; S; v l E; b M; has a * 8 m p	305
		45·0	28 10	p B; S; R; a star 10 m precedes in parallel near the neb	304
		45·8	29 0	p B; S; R; 20″; m b M, with a hazy border. Approaching to a stellar, or a planetary character. [A mistake in the wire presumed in the transit observation.]	13

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2243	Nova.	23 19 18·6	82 9 4	F; R; g b M; 30″. The p of 2	281
2244	Nova.	23 19 28·6	82 9 49	v; F; R; g b M; 20″; the f of 2	281
2245	II. 226	23 19 57·8	68 30 37	F; v R; p L; l b M; very symmetrically situated in the southern part of a lozenge of 4 stars, on the longer diagonal, forming an elegant object. See fig 85.	91
		59·1	30 28	v F; R; v g b M. Occupies the southern half of a lozenge of four stars, its centre being just upon the longer diagonal.	166
2246	III. 860	23 20 21±	58 35 ±	S; R; query if not stars; R A by working list. P D rough.	100
2247	II. 242	23 20 21·2	73 37 53	e F; S; it is a v F neb of third class	92
		22·5 :	38 3	v F; R; g b M; 20 .... 30″; near a double ✳	11
2248	III. 426	23 21 50·1	87 2 3	e F; L; 60 .... 90″	295
		...	2 ±	e F; L; 90 .... 2′	302
2249	VIII. 69	23 22 3·7	41 49 2	A bright coarse cluster 7′ diam; seen in full ☾. Place of the chief ✳ = 7 m; about a dozen 9 .... 11 m, and many 12 .... 14 m	209
		3·9	47 54	A poor scattered cluster. Place of a ✳ 8.9 m in preceding part. Full ☾ on merid; so that I could not see the small stars.	208
		...	49 20	A ✳ 6 m in the middle of a cluster of about 50 stars coarse and straggling.	207
2250	III. 213	23 23 50·0	75 5 31	e F; p L; forms a triangle with 2 st 10 m, near it	175
2251	Nova.	23 26 13·5::	74 52 23	v F; v S; g b M; 10″; has a ✳ 1′ dist n f	11
2252	Nova.	23 26 21·2	86 2 18	e F; hardly perceptible; a ✳ 12 m precedes	94
		21·3	2 28	e F. The s p of 2	95
2253	Nova.	23 26 30·3	85 58 58	v F, but brighter than the preceding	95
2254	III. 579	23 26 34·6	46 37 28	e F; follows a ✳ 9.10 m. (? if not an e F double ✳.)	204
		36·7	37 50	e F; R; 20″; has a ✳ 11 m, 45° n p; dist 25″	190
2255	VIII. 62	23 26 58·0	18 1 12	A ✳ 8.9 m, the chief of a scattered cluster of 30 .... 50 stars, 10 .... 15 m. It more than fills the field.	378
		62·5	1 47	A poor and coarse cluster of large and small stars. The largest (= 9 m) taken.	228
		...	1 ±	A star 8 or 8.9 m, the chief of a poor and diffused cluster of small stars.	229
2256	II. 244	23 27 4·4	75 38 31	p F; R; p s b M; 15″	175
		...	37 ±	v F; R; g m b M; 20″; r; like a blotted star	1
2257	Nova.	23 27 30·6	88 46 48	p B; S; R; p s b M; in field with 16 Piscium; a star 12 m near, s p; (dist = 1 diameter of neb by diagram).	295
2258	Nova.	23 27 47·8	90 38 40	Not e F; p L; l E; g b M; has a ✳ 10 m exactly south, dist 2′	371
2259	III. 146	23 29 58·4	63 55 32	p F; R; b M; 20″	172
2260	II. 432	23 30 0·6	97 27 48	v F; L; R; v g b M; 60″	186
		2·5	27 32	p B; p L; p m E; irreg fig. Sky not quite clear	184
		5·0	27 9	No description	185
2261	I. 110	23 30 7·5	103 53 56	e F; L; m E; sky quite clear	373
		9·4	53 53	Irreg R; g b M; 2′ diam; r. I certainly see one star near the middle.	9

No.	Synonym.	R 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2262	I. 111	23 31 5·1	103 14 26	p B; R; p g m b M; 40″	373
		6·2	13 53	p B; R; v s m b M.	9
2263	Nova.	23 33 47·1	64 42 12	v F; a star 14 m with a nebulous brush extended towards the star, and on its s p side; position from the star by diagram = 250° or 260°. This disagrees with my Father's description of II. 208, which is said to be s f a star, but this may be a mistake for s p; but then also the R A disagrees 2^{m} and the P D 6′. It can hardly, therefore, be the same object.	172
2264	II. 255	23 35 36·8	80 10 9	B; R; a B ✱ f	15
		37·1	10 30	B; R; p s b M; 25″; a ✱ f	305
		37·2	11 10	F; R; s b M; 20″; has a ✱ f	89
		45·3::	10 30	B; R; g m b M; 60″; has a small ✱ one diameter following. [N.B. The R A is good for nothing, as are all those in the early sweeps before the chronometer was used.]	13
		...	9 44	R; s m b M almost to a nucleus; has a ✱ 1′ dist, 20° n f	14
2265	II. 256	23 35 41·9	81 0 38	p B; R; s b M; 20″; r	280
		...	0 5	p B; R; p s b M; 15″; has a ✱ 15 m, dist 1′; pos = 153°·8 by microm.	305
		...	0 15::	F; S; R; b M	89
2266	Nova.	23 37 3·4	21 11 30	About a ✱ 8 m is a very extensive space which I am certain is affected with nebulosity.	223
2267	III. 427	23 37 53·2	87 8 53	Not v F; L; R; 40 or 50″ diam	295
		57·4	8 26	Not e F; p L; R; 1 b M	94
		...	8 ..	p B; L; near 2 B stars 10 and 11 m	95
2268	II. 213	23 38 32·0	61 27 42	p F; L; v g b M; 70″; r	177
2269	III. 437	23 39 18·2	84 4 32	F; S; R; g b M; 12 ... 15″	300
		...	5 ±	p F; S; R; 15″	302
2270	Nova.	23 40 3·4	86 46 2	v F; p L; R; v g l b M; 40″; a ✱ 13 m, 1′ n	300
		...	46 14	v F; L; R; has a ✱ 13 m north	302
2271	III. 854	23 40 34·3	59 57 45	p B; p s b M; 12″; query if not a F double ✱ with neb	178
		36·6	57 41	v S; r; I am sure I see 2 stars; a suspicious object, *possibly* (not very probably) a nebulous D ✱.	177
		37·1	58 3	B; v S; query if not 3 small stars close together	100
		37·6	57 55	B; S; R; perhaps a ✱ or two in it. [N.B. The obs makes the P D 59° 52′ 55″, but there is an obvious mistake of 5′ in the reading off of the Index.]	102
		40·2	57 21	Query if not 3 or 4 stars and nebulosity	104
2272	VII. 55	23 41 39·3	22 55 50	a v L, v coarse, rather poor clust of ✱s 11 ... 15 m. The most comp part taken.	223
2273	Nova.	23 42 21·4	63 47 56	v F; S; irreg fig; appears by glimpses to contain a v F double ✱, but it *is* a nebula.	172
2274	II. 230	23 42 22·6	70 46 20	p B; R; b M; 25″	91
		26·5	48 35	p B; S; R; b M; the n p of two	92
2275	II. 231	23 42 43·6	70 48 20	p B; E; b M; has a v S almost stellar neb about 45° s p dist 40″	91
		48·0	50 15	p B; E; b M; has a smaller neb, 60° s p, 35″ dist. (See fig.)	92

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2276	Nova.	23 43 6·5::	74 41 23	A cluster of scattered stars 10 m	11
2277	II. 851	23 43 32·6	59 40 20	The faintest conceivable	102
		36·2	41 ±	e F; s p a ✱ (by diagram ✱ 70° n f, dist 1 diam of neb from edge).	104
		...	42 ±	e F; R; near a ✱	178
2278	III. 231	23 44 39·3	83 4 9	F; R; b M	281
		39·9	4 3	p B; R; p s b M; 20″	280
2279	III. 232	23 44 46·9	83 3 53	p B; R; p s b M; 20″	280
		47·3	3 49	p F; R; p s b M; the brightest of 3	281
2280	Nova.	23 45 6·3	83 4 19	F; S; R; the faintest of 3	281
2281	III. 233	23 45 13·0	82 58 4	p B; p L; R	281
		13·6	58 18	p B; p L; g b M; 40″	280
2282	II. 468	23 46 37·5	85 1 34	B; S; R; p s m b M; among three stars	300
		37·5	1 44	p B; S; l E; p s b M; among three stars	302
		38·0	2 18	p B; R; b M; r; a ✱ 7 m precedes 30ˢ ±	95
		39·5	2 18	p B; R; b M	94
2283	Nova.	23 48 12·4	29 33 44	v S and close cluster. One ✱ 10 m with a great many very minute stars close to it.	216
		14·6	32 52	A p rich, S, condensed cl. One ✱ 10 m, the rest 13 m	219
2284	VI. 30	23 48 28·7	34 13 48	A most superb cluster, which fills the field and is full of stars; g b M; but no condensation to a nucleus; st 11 ... 18 m. The place is that of a double ✱.	211
2285	VII. 56	23 48 31·3	29 43 52	A double ✱ in the p part of a pretty rich cluster; diam 4′; st 12 ... 13 m; the f part most comp.	219
2286	Nova.	23 49 15·5	80 10 20	v F; v S. Query if not a star	305
2287	Nova.	23 50 4·3	30 55 43	A star 7 m, the chief of a v L coarse scattered but poor cl which fills the field. Stars 10 m.	213
2288	III. 466	23 50 15±	80 12 55	e F; irreg fig; p L; 40″	305
2289	III. 867	23 50 18·2	87 18 43	e F; not v S	95
2290	II. 232	23 50 45·7	70 10 15	p B; S; R; b M; has a ✱ 10 m 60° sp, dist 65″	91
2291	II. 10	23 50 56·2	76 8 26	F; S; E; irreg fig; 18″	175
2292	Nova.	23 51 46·8	40 13 40	A double ✱ in a tolerable cluster in which is one star 9 m	207
2293	Nova.	23 52 17·5	84 42 9	v F; S; R; p s b M	302
2294	III. 855	23 52 42·7	59 31 30	e F; S; R; s b M; double; the s p of 2	178
		42·8	30 27	e F; very little more than a suspicion, and could not find the object again. [N.B. A diagram made at the time represents the two nebulæ in their right position; therefore no doubt but the wire of the transit was mistaken,]	114
		...	30 31	e F; seen by glimpses in a fog	104
2295	III. 856	23 52 44·3	59 29 ±	e F; a companion to III. 855; v doubtful	114
		45·5	29 57	e F; b M; like a blurred star	106
		46·2	31 10	e F; S; R; s b M	178

No.	Synonym.	Æ 1830·0.	N.P.D. 1830·0.	Description and Remarks.	Sweep.
		h m s	° ′ ″		
2296	H. MS.	23 53 37·4	77 58 36	e F; follows 2 st which point a little s of it. It is called a suspected nebula by my Father in his Sweeps.	174
		39·3	58 31	"Suspected nebula." Verified; a * 11 m p to n, and another v S, point a little south of it.	175
		...	57 ±	"Suspected nebula." Verified, being found in the middle of the field by setting the telescope on the place per working list; but it is so nearly a star as to be easily mistaken for the third * of a triangle.	15
2297	II. 240	23 54 32·5	74 47 33	B; L; irreg R; v g b M; 2′ or 3′ diam; no nucleus.....	11
2298	III. 436	23 55 ±	83 35 18	v F; R	280
2299	Nova.	23 55 7·8	83 27 45	v F; p L; R; g b M	281
2300	II. 227	23 55 16·7	70 10 5	p B; m E; 1 b M; 2′ l, 20″ br; pos 45° n f to s p by diagram..	91
2301	Nova.	23 55 47·5	85 44 40	B; S; m E; v s m b M to a *; 12″ l, has a * p	300
		...	.....	Viewed; p F; E; follows a s *; the first and southern of 3 in a line.	302
2302	Nova.	23 56 1·1	22 16 20	The central part of what I am positive is an enormously L, but e F neb of a round figure, though I cannot trace its limits. The night exquisite. I swept often across it to be sure, but always recurred to the same place. No doubt but can never be seen but in the best state of the air and sky. Diam 10′ ±.	223
2303	Nova.	23 56 23·5	84 1 44	Not v F; S; R; 12″; a * 9 m n p	302
2304	Nova.	23 56 24·0	85 44 14	v F; S; g b M	302
2305	VIII. 29	23 56 29·8	111 39 39	A triangular group of about a dozen stars	293
2306	Nova.	23 56 45·5	85 43 49	v F; S; R; s b M; has a * n f	302
1	III. 868	0 0 2·0	86 19 35	&c. &c.	&c.

ERRATA AND ADDENDA.

Page 361, line 9, ... *for* 2500 *read* 2300
—— 361 —— 10 .... *for* 2000 *read* 1800
—— 388 Obs. 536 .... *for* II. 880 *read* II. 280
—— 379 —— 344 .... *for* P D 52 50 56 *read* 53 10 56.

Omitted Nebula.—R.A. $13^h\ 56^m\ 23^s{\cdot}6$; P D 33° 21′ 50″; v F; Sweep 546.

APPENDIX.

THE manner in which the observations, whose results are above stated, have been performed, that is to say, the method and order in which the business of a sweep is conducted, having been stated at large in my catalogues of double stars, it will not be necessary to recapitulate the particulars here; but it would not be right for me to lay before the Royal Society the present collection of reduced observations unaccompanied by some explanation of the manner in which the reductions have been executed, and how the numbers here set down as the mean right ascensions and north polar distances of objects for the epoch 1830, are concluded from the numbers registered at the moment of observation, especially since the method actually pursued for this purpose is materially different from that taken to reduce my earlier catalogues of double stars, being at once much more exact, and far less troublesome. This change has of course involved the necessity of a recalculation of all the sweeps which had been reduced on the original plan; and although this has proved a work of considerable labour, the advantage of the adoption of a uniform system throughout the reductions is more than an equivalent for the time and trouble it has cost—not to mention the detection of several errors in particular cases, and the satisfaction of a general verification of the great body of the former computations.

Every complete observation registered in the sweeping books contains the following particulars: 1st. The time, shown by a chronometer (of unknown error and rate), when the object passed one or other of the vertical wires of the eye-piece, or finally left the field, after which, though it might be recovered, and viewed and described at leisure, by withdrawing the tube from its bearing against the ladder, yet no further determination of time was practicable, other than a very rude one, by taking the transit of some small star, on the same parallel, and then temporarily fixing the tube in a new position, remote from the ladder, and noting the difference of right ascension between that star and the object, by their transits afresh across the wires so displaced.

2ndly. The wire across which the transit was observed is noted in the next place, and the first step in the process of reduction consists in applying to the

observed times of transit a reduction to the first wire, when not directly observed, founded on a knowledge of the interval between the wires and the extent of the range of the field of view, as also of the approximate polar distance of the object.

3rdly. The third datum given by observation is the reading off of the brass sector attached to the end of the tube, by the lateral microscope. The sector is graduated to degrees and minutes, and the seconds are estimated, which is easy, as each minute is nearly a tenth of an inch in length. Though I have no reason to apprehend any error in the graduations, or in the values of the degrees, minutes, &c., into which the arc of this sector is supposed to be divided, both are regarded as unknown elements, whose values, if necessary, might be investigated, but into which, by reason of the system adopted, there is no occasion to inquire, further than to be satisfied that their errors are of an order so small as not to bring into question the *identity* of an object.

These are the data furnished by observation for every object in a complete sweep; and I shall now explain how from these data, compared with the mean places of all those known objects which are to be found in authentic catalogues brought up to a given epoch, and which occur in a sweep, the mean places of all the *unknown* ones for the same epoch may be obtained, with the greatest degree of accuracy of which the system of observing is susceptible,—without the necessity of taking into direct consideration any uranographical or instrumental correction whatever,—and that in a manner which, as will appear, carries with it a moral certainty of eliminating (so far as they can be eliminated by any process) whatever errors may have been committed in the observations of the zero stars. In fact, if we consider all the corrections which we can possibly have occasion to apply to observations of this kind, whether arising from the uranographical reductions, (viz. precession, aberration, nutation and refraction,) or from instrumental mis-adjustment, such as extrameridional situation of the plane of the sweep, or its deviation from a vertical; error and rate of the chronometer; error of evaluation of the divisions of the sector, &c.; or, lastly, even from instability of the instrument itself, due to hygrometrical or pyrometrical causes, whose operation, though very irregular, is still to a certain extent gradual; we shall find that they are all functions of two quantities, —the time elapsed since a given epoch, or, which comes to the same thing, the

sidereal time at the moment of observation; and the inclination to the horizon of the line of collimation, or, which comes to the same, the polar distance of the object. Hence it follows that in all cases the mean R. A. of an object observed must necessarily be derived from the observed chronometer reading, (reduced to the first wire,) by adding to that reading a reduction (R) which is some certain function of these two quantities, and that the mean polar distances, also reduced to the same fixed epoch, will in like manner be had from the reading of the index arc or lateral sector, by adding thereto another reduction (r), which is also a function of the same quantities. We have therefore, if we call α and ϖ the mean R. A. and polar distance of any object, t the time (by chronometer) of its transit over the first wire, and i the reading of index arc, two equations of this form:

$$\alpha = t + \text{funct.}(\alpha, \varpi)$$
$$\varpi = i + \text{funct.}(\alpha, \varpi).$$

This form, however, is unsuitable to our purpose, the quantities α and ϖ being themselves the object of inquiry; but it is easy to give the equations a more available form, if we consider, 1st, that α and ϖ are never materially different, the former from t, the latter from $p + i$, where p is the polar distance corresponding to $i = o$; and 2ndly, that we intend to have no concern at all with the *analytical form* of the functions involved, which, so far as our purpose goes, may be regarded as unknown or arbitrary. Denoting then by F and f, other forms of functions equally unknown with the former, we are at liberty to suppose our equations transformed as follows:

$$\alpha = t + \mathrm{F}(t, i)$$
$$\varpi = i + f(t, i)$$

Our attention must now be directed *not* to discover *à priori*, by theory, the analytical forms of the functions F, f; *but*, *à posteriori*, from observation, to tabulate their values, or, in other words, to reduce their calculation to a simple process of interpolation between their observed values as concluded from the zero stars. To this end we must put the above equations under the form

$$\mathrm{F}(t, i) = \alpha - t$$
$$f(t, i) = \varpi - i$$

and putting F $(t, i) = \mathrm{R}$ and $f(t, i) = r$, we must first ascertain the values of R, r from each of the zero stars observed, with the corresponding values of t and i given by observation, and then tabulate them by interpolation, for all the other values within the limits of the sweep.

With respect to the first of these operations it is very easy. For in the case of a zero star, α and ϖ are given by the standard catalogue, brought up to the given epoch if required, and t and i are the actual readings off of the chronometer and index arc, the former being merely reduced to the first wire, by an appropriate table, when that wire is not observed. The problem then is reduced to this,—given the values R, R′, R″, and r, r', r'', &c., of two functions of t and i, of whose analytical form we are ignorant, to interpolate these functions, and tabulate their values for every value of t and i within certain limits. The principle on which this problem may be easiest and most generally resolved, as well as with the highest degree of probability which the case admits, is an extension of the method I have used for interpolating the angles of position of double stars. We may regard R and r as the third or vertical coordinates of two curved surfaces, of which t and i are respectively the first and second or horizontal coordinates. Having, therefore, obtained a number of corresponding values of the three coordinates, we have given so many points in each curve surface, or rather which *should* lie in such surface were all the observations free from error. Since that, however, is not the case, the surface, such as it theoretically ought to be, did we know its true form, will not pass *through* but *among* the points in question; and it must be our care so to describe it as to deviate as little as possible from them while yet preserving a seemly and moderate flexure in itself—at least if we have no reason to believe that jumps exist in the instrumental errors.

A graphical process which should require us to describe a curve surface through or among given points in space, would be difficult, but fortunately in the case before us the difficulty may be evaded. For the limits of a sweep in polar distance being only three degrees, the amount of flexure of either of our curve surfaces in the direction of the coordinate i will of necessity be trifling, and may be disregarded. The surface therefore will be one of a cylindroidal nature, in which the ordinate is of the form funct. (t) + funct. (i), so that if

we denote by A, B, and a, b, such functions of these respective variables, we shall have

$$R = A + B$$
$$r = a + b$$

where A, a, are functions of t alone, and B, b, of i alone. Thus the interpolation of the functions R, r, is reduced to that of the functions A, B, a, b, each of which involving only one independent variable, the precepts given in my paper above alluded to, apply immediately to its interpolation, and enable us to tabulate its value with the greatest readiness.

The process which I have used throughout the reduction of the sweeps has been grounded on these principles, and may be thus summarily described.

1st. From the registered chronometer and index reading, compared with the standard catalogue adopted, deduce the reductions, in R. A. and N. P. D. of all the known stars which occur in the sweep, or the zero stars, as I have called them. By the reductions, I mean the quantities in time or in space which must be applied to the observed chronometer or index reading to produce the catalogued R. A. or N. P. D. for the epochs. These are the quantities R, R′ and r, r', &c.

2ndly. Take a piece of paper, divided into squares, either ruled or printed, of which every tenth line in both directions should be stronger than the rest. On this, choosing one direction (suppose the horizontal) for measuring off the values of the independent variable t, let the other (the vertical) be devoted to measuring off those of the function A corresponding to those values of t: and in this way lay down a series of points on the paper, having R, R′, &c., for their ordinates and the values of t corresponding, for their abscissas.

Through, or among these points, so as to make the least deviations consistent with a gentle and moderate curvature, or, if possible, with a rectilinear form, describe a curve, which may be called *the reducing curve in right ascension, for time*, and then read off the values of its ordinate R, which correspond, not to the *observed values* of t, but to a regular arithmetical or tabular progression of this quantity; for instance, to every tenth, or twentieth, or thirtieth minute, according to the rapidity of its variation. Lastly, enter these readings off of the interpolating curve in a table, which will therefore express the values of the

unknown function A, and may accordingly be used as a table of reductions in R. A. for that part of the reduction which depends on the time.

3rdly. Suppose A, A′, A″, &c., to be the values of A taken from this table corresponding to the values t, t', t'', &c., of the time, at the moments of observation of the zero stars; then, since $R = A + B$, we have $B = R - A$, and similarly $B' = R' - A'$, and so on. Thus, then, we get a set of values of B, B', B'', &c.; and these being in like manner laid down on a paper of engraved squares, and an interpolating curve drawn, read off, and tabulated as in the case of A, we get a table of values of B to be used for that part of the reduction in R. A. which depends on the index arc.

These tables once constructed, we may apply them immediately to the reduction of all the observations of unknown objects in R. A. which were made on the first wire. But for those made on the second, or at leaving the field, a further correction will be required, viz. the interval between the wires, to be applied negatively to the observed chronometer reading. This correction is of the form $c.\ cosec\ \varpi$, or $c.\ cosec\ (p + i)$, where p is the polar distance of the *top* or *zero* of the sweep. By numerous observations made for the purpose, I have determined the value of c in my eye-piece as follows:

for the second wire, $c = 31^{s}{\cdot}09$;

for the final exit from the field, $c = 58^{s}{\cdot}69$.

In order, however, to avoid the trouble of making this subtraction, as a separate operation, for all the unknown objects which happen to have been observed under these circumstances, it is preferable to construct three independent tables of B (with which this correction, depending on i, unites itself,) to be used for observations made on the first or second wire, or at the exit from the field, which we shall denote by B^1, B^2, B^3.

To reduce the index readings to polar distances, for the adopted epoch, a process exactly similar must be used for determining a and b. A table of a being first constructed, the equation $b = r - a$ gives us the means of interpolating and tabulating the values of b. In this case, however, there is no occasion to form tables for the other wires, the bisection of the object by the horizontal wire being alike in all parts of its passage through the field, except within a degree or two of the pole.

To reduce a sweep, then, in the most general case, we require six tables, viz.

two for the values of A, a, whose argument is the registered time, per chronometer, and four for B^1, B^2, B^3, and b, having the index reading for their argument. The construction of these tables in the manner described, and their application when constructed, is attended with very little difficulty, when once the computer is accustomed to the construction and reading off of the interpolating curves. In most cases, however, the value of A is so nearly constant, that its variation (in such observations as these) may be neglected: whenever this is the case, the table for interpolating A may be suppressed, and its constant value simply added to those of B^1, B^2, B^3, which are always required. It is therefore advisable universally to regard B^1, B^2, B^3, as containing the constant part of A, by which procedure all occasion of mistake arising from change of method is taken away. Most usually also the value of B^1, so increased by the constant part of A, is the same throughout the limits of the sweep. When this is not the case, it is ordinarily owing either to extrameridional situation of the telescope, or to rapid hygrometrical changes, or lastly, to wind. But with its causes we have no concern, further than to endeavour to reduce its amount when inconveniently great, by a motion of the instrument in azimuth.

The values of a are liable, as I have found by experience, to considerable fluctuations, and that in very variable degrees at different epochs of the observations. Hygrometrical changes have some influence: but by far the worst, and most intractable part of these fluctuations appears to have taken its rise from the shifting of the line of collimation, owing to the mirror taking a new bearing in its cell. I regret that I did not earlier perceive this cause of error. It has only recently occurred to me, and the remedy almost at the same instant suggested itself in a simple, and what I trust will hereafter prove an effectual application of the collimating principle of RITTENHOUSE and KATER. It consists in attaching to the *inside* of the wooden tube of the reflector a small achromatic telescope, having its object-glass turned towards the speculum, and its eye-end projecting at right angles to the axis of the tube through an aperture in the side, the cone of rays being deflected outwards at a right angle by a small mirror 45° inclined to its axis. In the focus of the object-glass, (thus rectangularly deflected,) is fixed a cross of fine spider-lines, strongly illuminated by a lamp (capable of being shut off when not wanted), which also serves to illumi-

nate the field. The cross is so situated that its image, seen in the telescope as an object infinitely distant, (according to the principle of the collimator,) makes with all its arms, angles of 45° with the horizontal and vertical wires of the sweeping eye-piece. In the beginning of a sweep, the intersections of both crosses are brought to exact coincidence (by a method presently to be explained); and it is evident that if in the progress of the sweep the slightest shifting of the mirror in its cell should produce a motion of the line of collimation, it cannot fail to be detected by the apparent recess of the two crosses from their original common intersection. A relative motion, to the amount of two seconds of space, either laterally or vertically, cannot possibly escape detection, as I have convinced myself by many trials; and so satisfactory has this mode of overcoming the difficulty in question proved, that I have no hesitation in saying that the only obstacle to the use of large reflectors for the nicer purposes of exact theoretical astronomy, (viz. the error caused by the shifting of the mirrors in their cells, by reason of their great weight, and the danger of securing them by strong pressure,) has ceased to exist*. It is not, however, sufficient to have the means of readily detecting error, without possessing that of correcting it with equal readiness, or at least measuring its amount. A very simple and effectual contrivance accomplishes this. The two adjusting screws by which the mirror case is supported against the bottom of the tube are terminated, outside of the latter, by large disks or wheels of wood about six inches in diameter, grooved at their edges. Round these, re-entering cords are conducted over pulleys, to a convenient point within reach at the mouth of the tube, forming a kind of reins, which hang loose when not in use, but by tightening or drawing one or other of them, any motion, however large or

* My first collimator consisted of a small object-glass, by FRAUNHOFER, of about one inch and a half in diameter, and twelve inches focus. When applied to the twenty-feet reflector, as described in the text, it formed an admirable microscope with its full aperture,—an extraordinary proof of the perfection of its construction, this being doubtless the severest test to which an achromatic object-glass can be possibly subjected. The most beautiful object I can remember to have seen in telescopes was Jupiter entering, perfectly defined, and with all the appearance of a real globe, into the image of a small glass globule, placed in the focus of the collimating telescope. It seemed like the mutual penetration of two solids, or rather two essences of different natures, the one bright and ethereal, the other dark and adamantine. This most exquisite specimen of workmanship was destroyed by an accident. That with which I have been forced, temporarily, to replace it, bears no comparison with the original.

minute, may be given to the line of collimation at pleasure. By the aid of this mechanism, the perfect adjustment of the line of collimation (to the full extent of the optical powers of the instrument,) is performed in an instant, and may, if we please, be repeated at every observation, being attended with no trouble. Nay, the line of collimation may be purposely deranged to any extent, and immediately corrected. So that by graduating the grooved disks, and adopting an index to each, a very complete distance and position micrometer for the measurement of double stars might be formed, in which, if necessary, two lucid points might imitate the two stars to be compared.

To return, however, from this digression, and to illustrate by an example what is here said of the method of sweeping, we may take that of sweep 384, in which the zero stars run as follow:

No.	Name of Star.	Observed Chronometer.	Wire.	Observed Index.
		h m s		° ′ ″
9	Piazzi, xxi. 383 ..	21 57 5·0	1	1 5 30
13	3 Lacertæ	22 18 23·5	1	0 25 0
22	P. xxii. 276	22 53 21·0	1	0 25 30
29	P. xxiii. 73.....	23 17 25·0	1	2 7 45
31	P. 0. 70	0 46 22·0	2	0 47 35
41	P. i. 130.....	1 30? 57·0	2	2 1 30
49	4 Persei	1 52 42·5	1	2 40 50
60	P. ii. 115	2 26 44·5	1	0 14 30
65	γ Persei	2 54 9·5	1	1 51 15
79	P. iv. 7	4 5 8·5	1	2 12 0
83	1 Camelop.....	4 21 8·5::	2	2 32 40
84	2 Camelop.....	4 28 9·0	1	2 8 0

By comparing the observations with Piazzi's catalogue brought up to 1830·0, and with that of the Astronomical Society for the same epoch, we get the following values of R, r.

No.	R.	r.
	m s	
9	−1 27·8	−39 1 6
13	−1 31·0	−39 2 15
22	−1 30·5	−39 1 53
29	−1 35·7	−39 1 49
31	−1 30·9	−39 1 44
41	−1 36·4	−39 1 22
49	−1 41·3	−39 1 9
60	−1 34·9	−39 1 43
65	−1 37·8	−39 1 16
79	−1 39·1	−39 1 25
83	−1 40·5	−39 0 48
84	−1 38·2	−39 0 17

Constructing now an interpolating curve to pass among a series of points laid down from the chronometer readings taken as abscissæ, and the values of R as ordinates, we get the following Table of A, by inspection of the course of the curve, as read off upon the squares of the interpolating chart.

t =	A =	t =	A =
h m	m s	h m	m s
21 0	−1 27·5	1 0	−1 35·3
22 0	−1 29·7	2 0	−1 36·8
23 0	−1 31·8	3 0	−1 38·0
0 0	−1 33·6	4 0	−1 39·0
1 0	−1 35·3	5 0	−1 39·8

Taking out now from this Table the values of A corresponding to the times of observation, and subtracting them from those of R, we find the following for the interpolated residues or values of $B^{(1)}$.

No.	R. A.	No.	R. A.
	m s		m s
9	+0 1·9	49	−0 4·7
13	−0 0·6	60	+0 2·4
22	+0 0·8	65	0 0·0
29	−0 3·3	79	0 0·0
31	+0 3·8	83	−0 1·1
41	−0 0·3	84	+0 1·2

Laying these down in like manner on a divided chart, we get the interpolated values of $B^{(1)}$ as in the following Table, beside which are also annexed those of $B^{(2)}$ and $B^{(3)}$, obtained by adding to $B^{(1)}$ the corresponding values of $-31^{s}\cdot09 \cdot \operatorname{cosec}(39^\circ - i)$, and $-58^{s}\cdot69 \cdot \operatorname{cosec}(39^\circ - i)$; $39^\circ - i$ being the approximate polar distance of any object in the sweep in lieu of $39^\circ + i$, because the telescope is directed between the zenith and pole, where i is taken negatively.

$i =$	$B^{(1)}$ for 1st Wire.	$B^{(2)}$ for 2nd Wire.	$B^{(3)}$ for leaving Field.
° ′	m s	m s	m s
0 0	+0 3·1	−0 46·3	−1 30·2
20	+0 2·5	47·3	31·6
40	+0 1·8	48·3	32·9
1 0	+0 1·2	−0 49·3	−1 34·2
20	+0 0·5	50·3	35·6
40	−0 0·2	51·4	37·0
2 0	−0 0·8	−0 52·5	−1 38·3
20	−0 1·4	53·5	39·7
40	−0 2·1	54·5	41·1
3 0	−0 2·7	−0 55·6	−1 42·6

A process exactly similar being gone through for a and b, we find $b = 0$, and for a, the following Table.

$t =$	$a =$	$t =$	$a =$
h m	° ′ ″	h m	° ′ ″
21 0	39 2 8	1 0	39 1 34
22 0	1 59	2 0	1 24
23 0	1 51	3 0	1 10
0 0	1 43	4 0	0 55
1 0	39 1 34	5 0	39 0 36

These Tables constructed, all we have to do to reduce the whole series of objects comprised in the sweep (89 in number), is to take out from them, by proportional parts, the quantities corresponding to the registered time and index, and apply them with their proper signs. Thus, for example, the star Σ. 446 in the cluster VIII. 80, which is No. 308 of the general series in this paper, was observed in this sweep as follows:

No.	Chronometer.	Wire.	Index.
	h m s		° ′ ″
73	3 38 14·0	1	1 9 0

And the process of reduction stands as follows:

	h	m	s		°	′	″
Chronom.	3	38	14·0	Index	− 1	9	0
A.	−0	1	38·7	a	+39	1	0
B(1).	+0	0	0·8	N. P. D. 1830·0	=37	52	0
R. A. 1830·0.....	=3	36	36·1				

With regard to the limits of probable error in the determination of places of such objects as have been only once observed, and which therefore admit of no check by the context, it may be right to say a few words. I consider the probable error of a single good observation, free from mistakes in the readings and reductions, and occurring in a tolerably regular sweep, in which the zero stars are in sufficient number, not to exceed a second and a half of time in R. A. and 30″ in P. D. Mistakes, however, will unavoidably occur in the wire observed, in the minute of time (owing to misadjustment of the chronometer hand), and in the numerical process of reduction. All these are sure to be detected, and are easily corrected, when two or more observations of an object exist; but when one only has been obtained, it remains liable to them all. I can only hope that such cases are not numerous. There is, however, one mode in which a mistake in the R. A. may arise, not so easily detected, and which though of rare occurrence, has certainly been committed occasionally, and has no doubt been the cause of some, if not all, the very bad discordances between right ascensions determined in different sweeps. This is when the position wire of the micrometer, having been left in a direction nearly parallel to the meridian, has been mistaken for one of the fixed wires of the eye-piece, and the transit of the object over this, registered, in lieu of its passage across the true first or second wire. The error thus produced may be of any amount less than the interval of the wires, and though habitually guarded against by setting the position wire obliquely after reading off, has evidently crept in, in some few cases, by the neglect of this precaution.

With respect to the discrepances, and apparent contradictions, which will be found in the descriptions of one and the same nebula in different sweeps, they are to be accounted for by differences in the states of the atmosphere, the mirror, and the eye, and will not appear at all surprising to any one accustomed to observation of this nature. At the same time they will serve to show what caution we ought to use in admitting such discordances between descriptions of different observers furnished with different telescopes, as evidences of real changes in any nebula.

Explanation of the PLATES, *with a List of the Nebulæ figured in this Paper.*

Plate.	Figure.	
IX.	1.... 6	Figures illustrative of degrees of brightness. Fig. 1. eF; Fig. 2. vF; Fig. 3. F; Fig. 4. pB; Fig. 5. B; Fig. 6. vB.
	7....12	Figures illustrative of degrees of central brightness. Fig. 7. vlbM; Fig. 8. lbM; Fig. 9. bM; Fig. 10. pmbM; Fig. 11. mbM; Fig. 12. vmbM.
	13....18	Figures illustrative of gradations of brightness from without inwards. Fig. 13. vgbM; Fig. 14. gbM; Fig. 15. bM; Fig. 16. pmbM; Fig. 17. mbM; Fig. 18. vmbM.
	19....24	Figures illustrative of degrees of elongation of form. Fig. 19. vlE; Fig. 20. lE; Fig. 21. E; Fig. 22. pmE; Fig. 23. mE; Fig. 24. vmE.

List of figured Nebulæ.

Plate.	Figure.	Number in Observations.	Synonyms.	R. A.	N. P. D.
				h m s	° ′
X.	25	1622	M. 51	13 22 39	41 56
	26	2060	M. 27	19 52 12	67 44
	27	1486	M. 64	12 48 23	67 23
	28	218	V. 19	2 11 58	48 25
	29	2023	M. 57	18 47 13	57 11
	30	2002	Nova	18 7 1	109 56
	31	311	IV. 69	3 58 36	59 40
	32	838	M. 97	11 4 49	34 4
XI.	33	2088	V. 15	20 38 39	59 54
	34	2092	V. 14	20 49 20	58 57
XII.	35	2008	M. 17	18 10 45	106 15
	36	368	M. 78	5 38 2	90 1
	37	1357	V. 24	12 27 53	63 5
XIII.	38	112	II. 252.....	1 15 0	77 59
	39	1649	II. 297.....	13 28 53	107 1
	40	731	IV. 60	10 28 7	35 37
	41	1456	M. 94	12 42 52	47 57
	42	1989	Nova	17 44 43	66 53
	43	2051	IV. 73	19 40 19	39 54
	44	2098	IV. 1	20 54 53	102 2

Sir J. F. W. Herschel. del.

F. Basire sc.

Fig. 25.

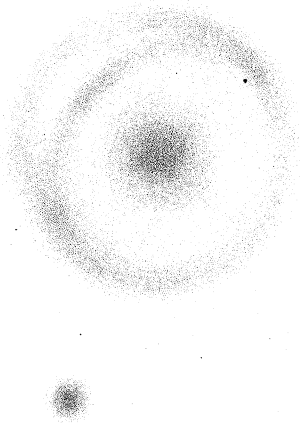


Fig. 26.

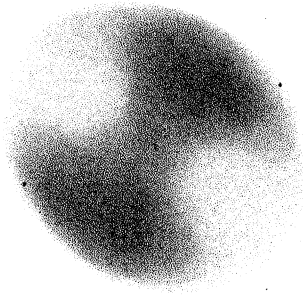


Fig. 27.

Fig. 28.

Fig. 29.

Fig 30.

Fig 31.

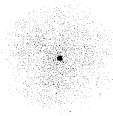


Fig. 32.

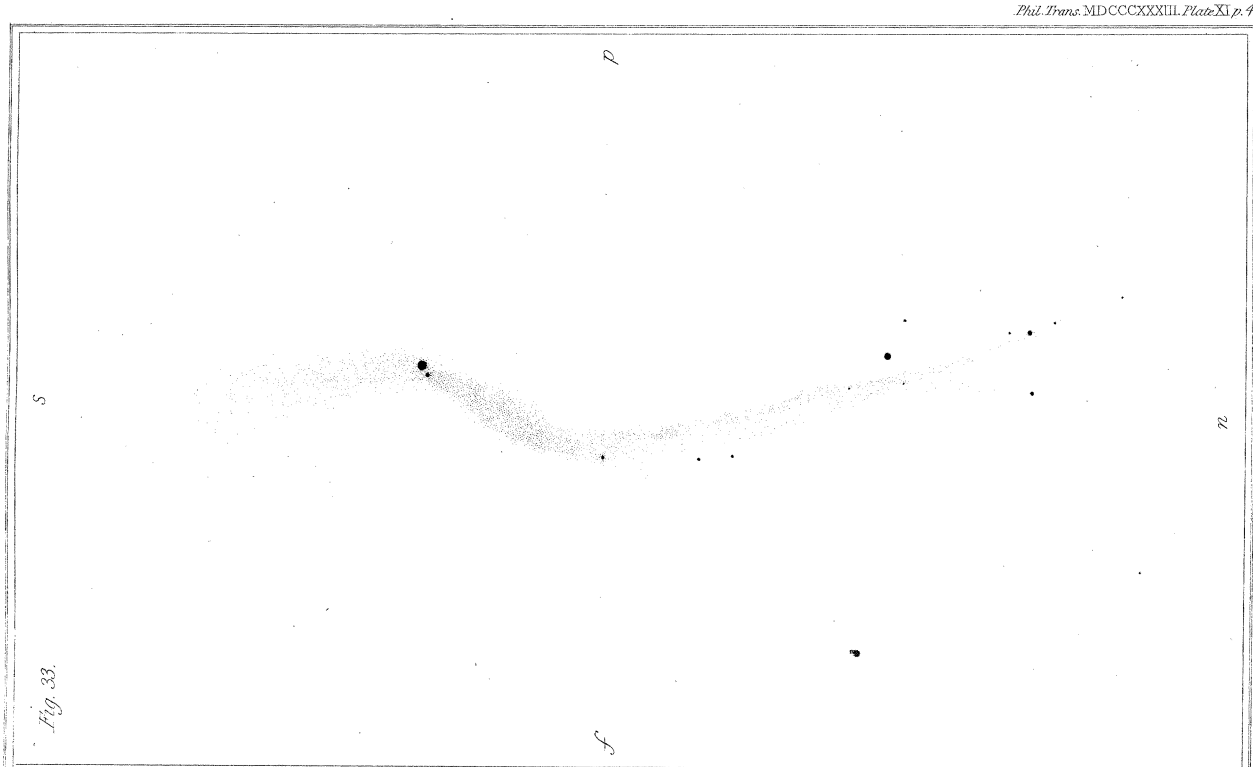


Fig. 33.

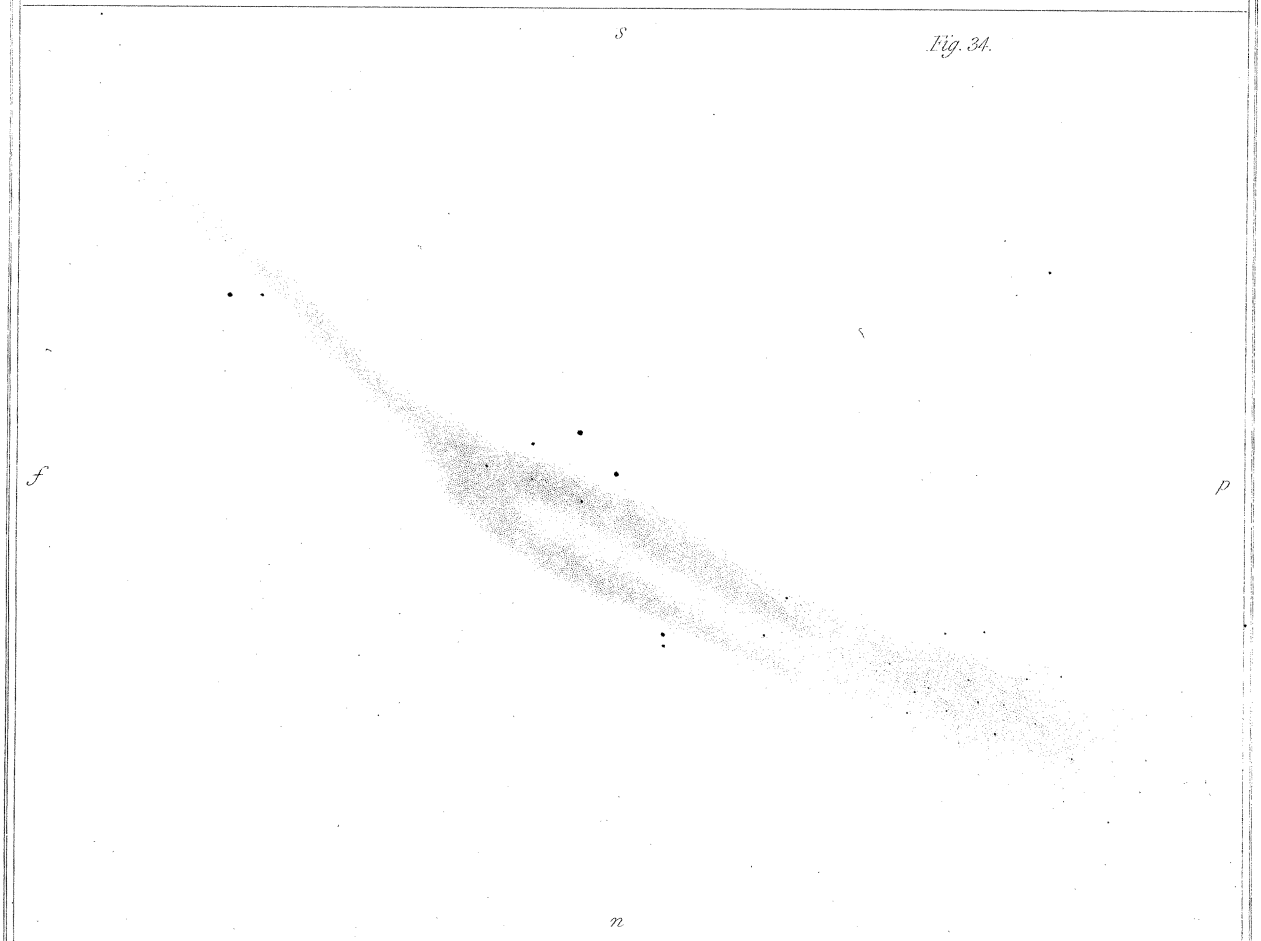


Fig. 34.

Fig. 35.

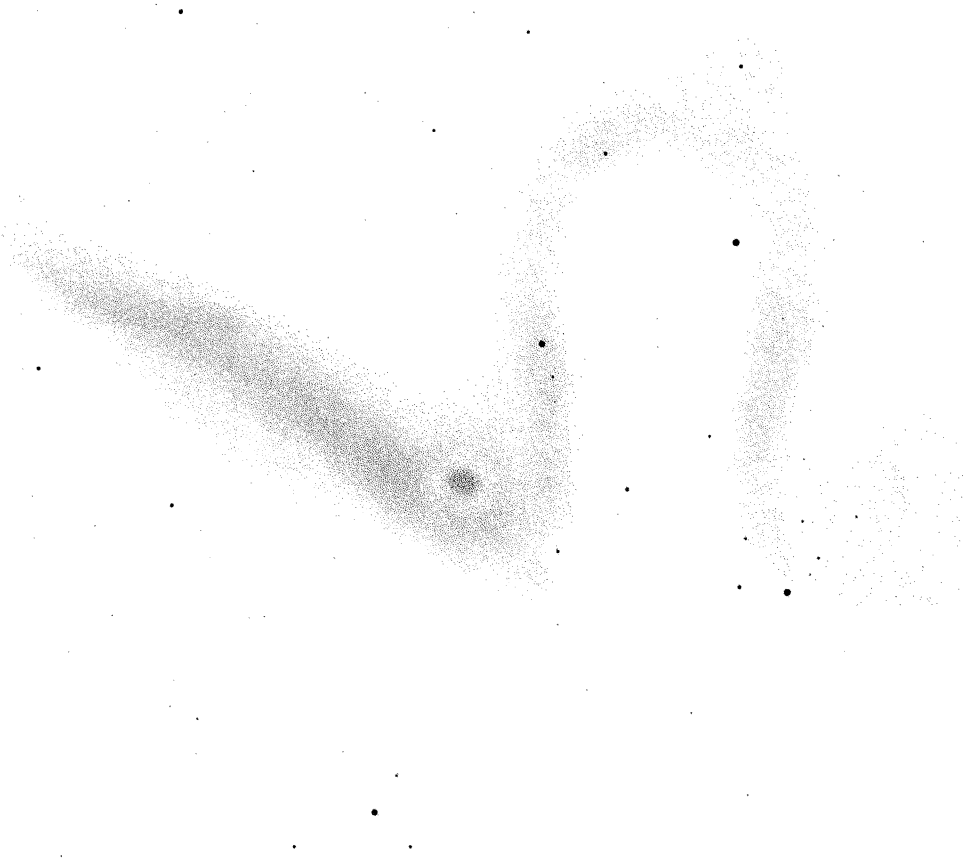
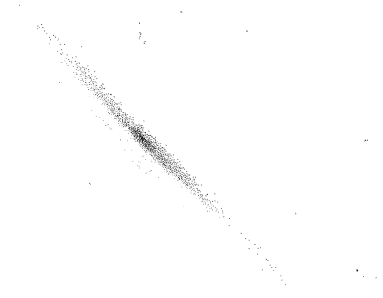


Fig. 36.

Fig. 37.



Sir J.F.W. Herschel del.

F. Chevis sc.

Fig. 38.

Fig. 39.

Fig. 40.

Fig. 41.

Fig. 42.

Fig. 43.

Fig. 44.

Fig. 45.

Fig. 46.

Fig. 47.

Fig. 48.

Fig. 49.

Sir. I. F. W. Herschel. del.

P. Basire sc.

Fig. 50.

Fig. 51.

Fig. 52.

Fig. 53.

Fig. 54.

Fig. 55.

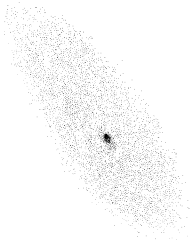


Fig. 56.

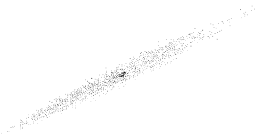


Fig. 57.

Fig. 59.

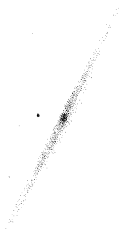


Fig. 58.

Fig. 60.

Fig. 61.

Fig. 64.

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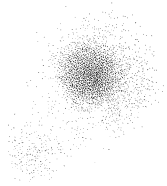

Fig. 71.

Fig. 72.

Fig. 73.

Fig. 74.

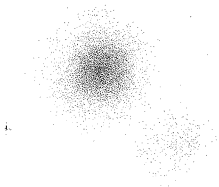

Fig. 75.

Fig. 76.

Fig. 77.

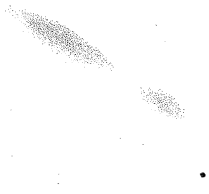

Fig. 78.

Fig. 79.

Fig. 80.

Fig. 81.

Fig. 82.

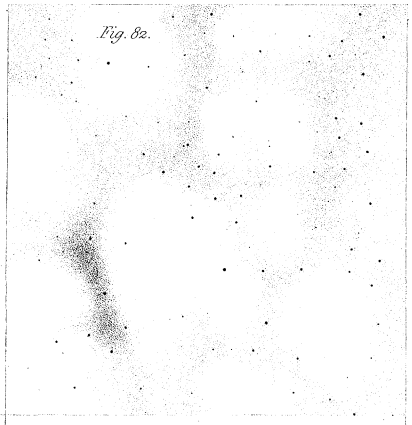

Fig. 83.

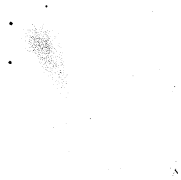

Fig. 84.

Fig. 85.

Fig. 86.

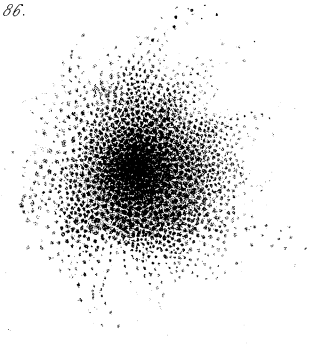

Fig. 87.

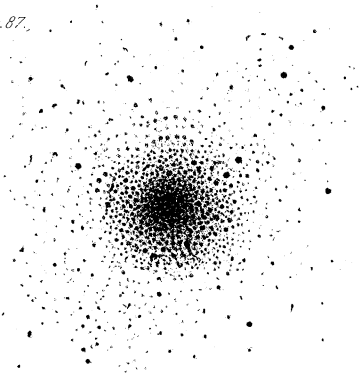

Fig. 88.

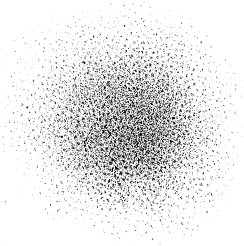

Fig. 89.

Fig. 90.

Fig. 91.

Sir J. F. W. Herschel del.

P. Basire sc.

List of figured Nebulæ.—Continued.

Plate.	Figure.	Number in Observations.	Synonyms.	R. A. h m s	N. P. D. ° ′
XIII.	45	2241	IV. 18	23 17 44	48 24
	46	2047	IV. 51	19 34 21	104 33
	47	2075	IV. 16	20 14 48	70 26
	48	2072	IV. 13	20 9 33	59 57
	49	355	I. 261	5 20 11	55 54
XIV.	50	1376	I. 43.....	12 31 11	100 40
	51	859	V. 8.....	11 11 22	75 28
	52	61	V. 1.....	0 39 12	116 13
	53	854	M. 65	11 10 2	75 59
	54	875	Nova	11 14 12	76 5
	55	1175	V. 43	12 10 33	41 46
	56	242	I. 156	2 29 46	51 41
	57	1225	I. 210	12 15 6	42 4
	58	151	IV. 42.....	1 40 4	84 56
	59	1148	I. 109	12 7 15	75 54
	60	2236	II. 600.....	23 13 58	50 4
	61	536	II. 280.....	8 45 50	92 25
	62	1499	IV. 30.....	12 50 57	54 13
	63	2205	I. 55.....	22 56 26	78 36
	64	399	IV. 2	6 29 53	81 7
	65	537	IV. 66.....	8 46 33	35 35
	66	1362	III. 602	12 28 28	74 48
	67	1509	I. 143	12 52 2	86 35
XV.	68	1252	V. 29	12 17 22	55 31
	69	1202	{M. 61 / I. 139}	12 13 13	84 35
	70	604	I. 56 & 57	9 22 32	67 45
	71	1146	I. 95.....	12 7 5	52 44
	72	444	II. 316 & 317 ..	7 14 50	60 11
	73	2197	II. 450. 451 ..	22 51 12	103 43
	74	1408	M. 60. III. 44..	12 35 4	77 31
	75	1414	I. 176. 177	12 35 39	56 54
	76	1397	V. 42. II. 659..	12 33 54	56 30
	77	1905	II. 751. 752 ..	15 0 0	69 48

List of figured Nebulæ.—Continued.

Plate.	Figure.	Number in Observations.	Synonyms.	R. A.	N. P. D.
				h m s	° ′
XV.	78	1358	Nova	12 27 55	77 49
	79	936	II. 103.....	11 31 24	73 43
XVI.	80	1991	IV. 41.....	17 52 0	113 1
	81	357	M. 1.....	5 24 16	68 7
	82	2093	Nova	20 50 4	60 26
	83	1352	I. 92.....	12 27 31	61 6
	84	1466	II. 75 & 74	12 44 21	77 50
	85	2245	II. 226.....	23 19 58	68 31
	86	1968	M. 13	16 35 37	53 13
	87	1916	M. 5.....	15 9 56	87 16
	88	2125	M. 2.....	21 24 40	91 34
	89	1929	Nova	15 29 9	83 27
	90	2128	M. 30	21 30 42	113 55
	91	415	VI. 2	6 45 18	71 49

Notes on the foregoing List.

Fig. 25. M. 51.—This very singular object is thus described by MESSIER:—"Nébuleuse sans étoiles." "On ne peut la voir que difficilement avec une lunette ordinaire de $3\frac{1}{2}$ pieds." "Elle est double, ayant chacune un centre brillant eloigné l'un de l'autre de 4′ 35″. Les deux atmosphères se touchent." By this description it is evident that the peculiar phenomena of the nebulous ring which encircles the central nucleus had escaped his observation, as might have been expected from the inferior light of his telescopes. My Father describes it in his observations of MESSIER's nebulæ (which are not included in his catalogues,) as a bright round nebula, surrounded by a halo or glory at a distance from it, and accompanied with a companion; but I do not find that the partial subdivision of the ring into two branches throughout its south following limb was noticed by him. This is, however, one of its most remarkable and interesting features. Supposing it to consist of stars, the appearance it would present to a spectator placed on a planet attendant on one of them excentrically situated towards the north preceding quarter of the central mass,

would be exactly similar to that of our Milky Way, traversing in a manner precisely analogous the firmament of large stars, into which the central cluster would be seen projected, and (owing to its greater distance) appearing, like it, to consist of stars much smaller than those in other parts of the heavens. Can it, then, be that we have here a brother-system bearing a real physical resemblance and strong analogy of structure to our own? Were it not for the subdivision of the ring, the most obvious analogy would be that of the system of Saturn, and the ideas of LAPLACE respecting the formation of that system would be powerfully recalled by this object. But it is evident that all idea of symmetry caused by rotation on an axis must be relinquished, when we consider that the elliptic form of the inner subdivided portion indicates with extreme probability an elevation of that portion above the plane of the rest, so that the real form must be that of a ring split through half its circumference, and having the split portions set asunder at an angle of about 45° each to the plane of the other.

Fig. 26. MESS. 27.—Described by MESSIER thus: "Nébuleuse sans étoile." "On la voit bien avec une lunette ordinaire de $3\frac{1}{2}$ pieds: elle parait sous une forme ovale et ne contient aucune étoile." In my Father's observations the true form (like that of a double-headed shot or dumb-bell,) was of course distinctly perceived, and the small stars it contains are noticed, and taken as an indication of its resolvability. I incline, however, to the opinion of their being accidental stars (of which multitudes exist in the surrounding region). But here, as in the former object, the feature which gives a peculiar interest to the whole nebula, and alters entirely the light in which its physical constitution must be considered, has been hitherto overlooked,—I mean the faint nebulosity which fills in the lateral concavities of the body, and converts them in fact into protuberances, so as to render the general outline of the whole nebula, a regular ellipse, having for its *shorter* axis the common axis of the two bright masses of which the body consists, that is to say, the *longer* axis of the oval form, under which it was imperfectly seen by MESSIER. To this axis the complete figure is symmetrical, and if we are disposed to regard it as a mass in rotation, it is about this axis that we must suppose it to revolve. In that case its real form must be that of an oblate spheroid; and as it does not follow that the brightest portions must of necessity be the densest, this supposition would

not be incompatible with dynamical laws, at least, supposing its parts to be capable of exerting pressure on one another. But if it consist of discrete stars, this cannot be admitted, and we must have recourse then to other suppositions to account for the maintenance of its form.

Fig. 27. MESS. 64.—The dark semi-elliptic vacancy (indicated by an unshaded or bright portion in the figure,) which partially surrounds the condensed and bright nucleus of this nebula, is of course unnoticed by MESSIER. It was however seen by my Father, and shown by him to the late Sir CHARLES BLAGDEN, who likened it to the appearance of *a black eye*, an odd, but not inapt comparison. The nucleus is somewhat elongated, and I have a strong suspicion that it may be a close double star, or extremely condensed double nebula.

Fig. 28. V. 19.—An extraordinary object. Perhaps the representation in the figure is too nicely symmetrical, as it certainly is too sharply defined and distinct. It is of the last degree of faintness, and may very well be unperceived, though full in the field of view. There can hardly be a doubt of its being a thin flat ring, of enormous dimensions, seen very obliquely.

Fig. 29. MESS. 57.—The annular nebula in Lyra. It is ill represented. The edges exhibit a curdled and confused appearance, like stars out of focus. The interior is far from absolutely dark. It is filled with a feeble but very evident nebulous light, which I do not remember to have seen noticed by former observers. Comparing figures 25, 27, 28, 29 and 48, it will appear that the annular form, or an approach to it, is one of those which nebulæ affect, and taken in connexion with the ring of Saturn and the Milky Way, may lead us to conceive that some kind of analogy, however obscure, may subsist in all those cases.

Fig. 33.—The engraving represents this very strange nebula much too intense. It is an extremely faint object. The large double star is *k* Cygni.

Fig. 35. MESS. 17.—The figure of this nebula is nearly that of a Greek capital omega Ω, somewhat distorted and very unequally bright. It is remarkable that this is the form usually attributed to the great nebula in Orion, though in that nebula I confess I can discern no resemblance whatever to the Greek letter. MESSIER perceived only the bright preceding branch of the nebula now in question, without any of the attached convolutions which were

first noticed by my Father. The chief peculiarities which I have observed in it are, 1st, the resolvable knot in the following portion of the bright branch, which is in a considerable degree insulated from the surrounding nebula; strongly suggesting the idea of an absorption of the nebulous matter; and 2ndly, the much feebler and smaller knot at the north preceding end of the same branch, where the nebula makes a sudden bend at an acute angle. With a view to a more exact representation of this curious nebula, I have at different times taken micrometrical measures of the relative places of the stars in and near it, by which, when laid down as in a chart, its limits may be traced and identified, as I hope soon to have better opportunity to do than its low situation in this latitude will permit.

Fig. 37. V. 24, and Fig. 50. I. 43.—The strong suspicion of a parallel appendage to the latter of these, is almost converted into certainty by its undoubted existence in V. 24, in which it was seen by two other observers as well as by myself. But what are we to make of such an appendage? Must we consider it as an extreme exaggeration of the case of M. 64 (fig. 27), in which the vacancy is extended up to almost the very extremities of the elliptic outline,—in which case the nebula would come to be regarded as a flat annulus seen at a great obliquity, and having very unequal breadths and densities in its two opposite semicircles? Or must we admit the appendage to be a separate and distinct nebula, dependent, by some unknown physical relation, on its brighter neighbour?

Fig. 43.—This remarkable object, as my Father rightly observes, appears to constitute a connecting link between the planetary nebulæ and nebulous stars. It differs from the latter class of objects in respect of the intensity and comparatively sharp termination of the surrounding light; and no less from the former, in that of its stellar centre. With regard to nebulous stars generally, I ought to mention that it has frequently occurred to me to notice a peculiar state of the atmosphere in which all large stars (above the 7th magnitude) have appeared surrounded with photospheres of 2′ or 3′ or more in diameter, precisely resembling that about some of the finer specimens of nebulous stars. The state of the air alluded to, is not that in which fog, or any degree of haziness, or thin strata of cloud are perceptible to the sight. These produce no such appearance. Stars are seen through fog, cloud, or ordinary haze, pre-

cisely as if there were no such intervening medium; only less bright. The photospheres in question are often seen when the sky seems quite pure and clear. They do not arise from dew on the glasses, as is proved by wiping them; nor in the eye itself, for they do not vanish when the star is made to *blink* behind one of the thick wires of the eye-piece; nor in scabrous polish of the mirror, for they are not permanent. They come on suddenly; seldom last very long, and disappear as unexpectedly as they come. When first this phenomenon presented itself, a considerable star which appeared so surrounded was at once set down as a superb nebulous star, and it was not until another and another entered the field similarly affected, that any doubt arose. As regards the true cause of this phenomenon, that it is atmospheric I have no doubt, and perhaps it must be looked for in some highly rarified material, disseminated in cloud-like, though invisible, masses, in the very highest regions of our atmosphere,—the same possibly which, when ignited by the passage of electric currents, gives rise to many if not all the phenomena of the aurora borealis. Be that as it may, the fact that an appearance, exactly resembling that of a nebulous star, may originate in a non-luminous medium, interposed between the eye and the star, serves to render it not improbable that such matter may exist, disseminated through the ether itself in determinate localities, and may render some stars which shine through it nebulous, which have no real nebulous atmospheres about them. The frequency of nebulous stars in the constellation of Orion seems to afford some support to this idea, though I am far from contending that there are no stars really nebulous. Of such the object immediately under consideration, indeed, must be regarded as an undoubted instance.

Figs. 44 .... 47.—Planetary nebulæ. The point to which I should here draw attention is the frequent and close proximity to these objects, of minute stars, which suggest the idea of accompanying satellites. Such they may possibly be. The enormous magnitude of these bodies, and consequent probable mass (if they be not hollow shells), may give them a gravitating energy, which, however rare we may conceive them to be, may yet be capable of retaining in orbits, three or four times their own diameter, and in periods of great length, small bodies of a stellar character. In this point of view a continued series of the angles of position of their companions, micrometrically measured with

due care, would be interesting; and I regret not having sufficiently attended to this in my observations, the few measures given, being hurried, imperfect and discordant.

Plate XIV. Figs. 50....67.—*Long nebulæ.* The general form of elongated nebulæ is elliptic, and their condensation towards the centre is almost invariably such as would arise from the superposition of luminous elliptic strata, increasing in density towards the centre. In many cases (as in fig. 53,) this increase of density is obviously attended with a diminution of ellipticity, or a nearer approach to the globular form in the central than in the exterior strata. It is probably owing to this, that extended nebulæ seen in dull or hazy states of the sky are often described as *round,* the fainter and more elliptic envelopes being obliterated, and only the more globular nuclei perceived. The great extension of some nebulæ into long lenticular rays, and the existence of every intermediate degree of ellipticity up to the exact circular form, with the various degrees of rapidity of central condensation, from a barely perceptible increase of density to a seemingly solid nucleus, are all accounted for by supposing the general constitution of these nebulæ to be that of oblate spheroidal masses of every degree of flatness from the sphere to the disc, and of every variety in respect of the law of their density and ellipticity towards the centre. It would be incorrect, however, to draw from this any inference as to the identity of the forces which maintain them in this form with those which determine the oblate spheroidal form of a revolving fluid mass under the dominion of the law of gravitation, and subject to compression by the superincumbent matter. If a nebula be nothing more than a cluster of discrete stars, (as we have every reason to believe, at least in the generality of cases,) no pressure can be propagated through it; and its equilibrium, or, to speak more correctly, the permanence of its form, must be maintained in a way totally different. In a system so constituted, no general rotation of the whole, as a mass, can be supposed. It must rather be conceived as a *quiescent form,* comprising within its limits an indefinite multitude of individual constituents, which, for aught we can tell, may be moving one among the other, each animated by its own inherent projectile force, and deflected into an orbit more or less complicated, by the influence of that law of internal gravitation which may result from the compounded attractions of all its parts. I have

shown elsewhere* how a quiescent spherical form may subsist as the bounding outline of an immense number of equal stars uniformly distributed through its extent, each of which individually atracts all the others with a force inversely as the square of the distance, and whose united attractions compose an internal force on each, directly proportional to the distance from the centre of the sphere. In such a state of things, each star might describe an ellipse in any plane, and in any direction in that plane about the common centre, without the possibility of collision; but the sphere, regarded as a whole, would have no rotation about any axis. If the form be not spherical, and the distribution of the stars not homogeneous, the dynamical relations become too complicated to be distinctly apprehended, yet we may still conceive that something of an analogous result may subsist, and that both the external form and the internal density may be maintained (at least under certain conditions,) for the mass as a quiescent whole, while all its elements are in a state of unceasing transfer and interchange.

Plate XV. Figs. 68 .... 79.—*Double nebulæ.* All the varieties of double stars, as to distance, position and relative brightness, have their counterparts in double nebulæ; besides which, the varieties of form and gradation of light in the latter afford room for combinations peculiar to this class of objects. The series of figures expressed in this Plate exhibits a considerable number of these combinations; and it will, I think, be found impossible, on casting our eye over its contents, and referring mentally to the great number of similar objects scattered through the heavens, to refuse our assent to the idea of a more intimate physical relation between the individuals of a double nebula than that of mere casual juxtaposition. The argument drawn from the comparative rarity of the objects in proportion to the whole extent of the heavens, so cogent in the case of the double stars, is infinitely more so in that of the double nebulæ. Nebulæ, for example, so large and faint, and so little condensed towards the centre as those of V. 29, (fig. 68,) are extremely rare, even single, so that the improbability of two such, casually occurring, so near together as to mix their nebulosities, is extreme. It will therefore become a very interesting subject of future inquiry, whether any traces of orbitual motion (indicated by a progressive change in their angles of position with respect to the meri-

* Cabinet Cyclopædia, ASTRONOMY, last page.

dian,) can be detected in these combinations. The micrometrical measures of many of them which occur in the foregoing observations, though neither so numerous nor so accurate as might be wished, will at least serve as terms of rough comparison, sufficient at least for the detection of rapid rotations.

Plate XVI. Figs. 80, 82, 83, 84, 85 represent nebulæ which offer some remarkable peculiarity of situation with respect to stars. Of these the most singular are IV. 41, (fig. 80,) and that of fig. 82. The latter, however, is very imperfectly expressed in the drawing. Indeed it would be excessively difficult to execute a drawing of such an object with any pretensions to correctness. In this, general resemblance and character only has been aimed at, enough to express the peculiar feature of the object, which is a network or tracery of nebulæ following the lines of a similar network of stars. It is an extremely faint and difficult object, and only once observed; but I do not think it possible I could have been deceived as to the reality of the phenomenon, especially since the brighter parts of the nebula are stated in the observation to have been distinctly seen.

Figs. 81, 86, 87, 88, 89, 90, 91 are clusters of stars, beginning with a barely resolvable one, (M. 1. fig. 81,) and ascending by successive degrees,—figs. 89, 88, 87,—to M. 13, fig. 86, which is one of the most magnificent assemblages of stars the heavens contain. They are instructive, exhibiting, as they do, an analysis of the intimate structure of nebulæ, on which depend many of the peculiarities of their appearance when no stars can be actually discerned in them, such as, for example, that peculiar character to which, when it has occurred, the epithet "hairy" or "filamentous" has been attached in the descriptions, and which is well illustrated by the figure (fig. 86) of MESSIER's 13th, and by the description of the 53rd of the Connaissance des Tems (No. 1558 in the above observations,) as set down in sweep 63; the border, instead of melting away insensibly, having a ragged or fibrous appearance. Again, fig. 90, if removed far enough to lose the stars, would be described, doubtless, as irregularly round or unsymmetrical, if not as having a bifid or forked tail: and fig. 91 (VI. 2,) would, under similar circumstances of removal, appear as a fan-shaped nebula with a bright point like a star at the vertex, such as is represented in figs. 65, 66, 67, 68.

Before terminating this Appendix, it should be explained what is meant by

the references, so frequent in the observations, to a "working list." It has been my invariable practice to prepare before each night's sweep a list, in order of R. A. with approximate polar distances, of the principal objects occurring within the zone intended to be embraced in the sweep, and about 5′ or 10′ above and below it. It is needless to mention that the nebulæ of these lists were mostly those of my Father's sweeps,—not, however, as taken merely from his printed catalogue, in which only references of their places to the nearest large stars are stated, but as reduced and digested (with great patience and care) into a regular catalogue in zones, by my aunt, Miss CAROLINE HERSCHEL. This valuable MS., which performs the same office with regard to my Father's sweeps, as far as concerns the places of the nebulæ, as the present digested and reduced series of observations does to my own, has therefore been, in point of fact, the groundwork of my whole proceedings, and I should be not only ungrateful, but in a high degree unjust, were I to omit in this place acknowledging the advantage I have derived from its use.

At the commencement of my sweeps, I contented myself, however, with a bare notice of the chief expected nebulæ, but finding that owing to the interest excited by these objects, the zero stars were too much neglected, and smaller nebulæ missed, these came to be inserted at convenient intervals. Subsequently, too, the double stars of STRUVE's catalogue began to be entered on the lists; and at length, experience having shown me that no trouble bestowed on the construction of an ample and exact "working list" could be considered ill bestowed, I threw aside all the earlier lists of this sort, and dividing the heavens into zones of polar distance, of 3° in breadth from 0° to 120°, proceeded to construct a series of lists or approximate catalogues in order of R. A. for 1830, in which should be comprised the following objects:

1st. All my Father's nebulæ and clusters.

2nd. MESSIER's ditto.

3rd. All other nebulæ and clusters of which any hints could anywhere be found, including new ones from my own sweeps, inserted from time to time.

4th. All the double stars of STRUVE's greater catalogue.

5th. All other remarkable double stars of which any record could be found, either in my own sweeps or elsewhere.

6th. A series of zero stars, chosen so as to interfere as little as possible with

the other objects, and selected from the catalogue of the Astronomical Society; or where none fit for the purpose could be found there, from PIAZZI's; or failing that, from other authorities.

The construction of the "working lists" on this extended scale, has formed a very large part of the regular work of my sweeps; but so far from regretting the trouble they have cost, or regarding it as waste labour, I can only lament having deferred their full execution till impressed by the experience of much more, and far more valuable observing time lost, with a sense of their importance.

One consequence of the construction of the working lists has been the gradual accumulation of a pretty extensive catalogue of missing nebulæ;—perhaps it would be more correct to say, nebulæ not found when looked for. The fainter nebulæ are so easily overlooked, even when in the field of view, and are altogether such very delicate objects, that it is the most difficult thing in the world to prove the negative proposition as to their existence. Many such cases, too, must have originated in mistaken entries on the list, some doubtless in mistakes in the observations from which those lists were constructed, and some from actually looking in the wrong places by mistaken settings of the telescope. Aware of all these possibilities, I have thought it best to suppress this list for the present, having had no time to go into an examination of the subject. Indeed I doubt whether it would be worth while to do so. There seems very little probability that a real nebula should have disappeared from the heavens; and though some few telescopic comets may have been noticed in my Father's sweeps, and set down as nebulæ, the chances are almost infinite against any such observation, if ascertained, proving of use as a datum for improving the elements of any recorded comet.