

P R E F A C E.

THE exile abruptly forced on me by present events has given me time, which perhaps I should not otherwise have found, to conclude this catalogue begun for my own use some years ago. It mainly contains the work done on new double stars since 1905, and I hope it will prove a useful working catalogue.

As this is the first large paper contributed by the Lille Observatory, and as it may of necessity be the last, I wish to acknowledge here my indebtedness to those whose kindness and support have made possible the creation and work of the Observatory.

To my father, LOUIS JONCKHEERE, I owe unending gratitude for his encouraging confidence. To me he has always been the embodiment of kindness, and a model of initiative. I have to thank M. B. BAILLAUD, Directeur de l'Observatoire de Paris, and M. GEORGES LYON, Recteur de l'Université de Lille, for their benevolent interest in the Observatory. I am deeply grateful for the help received from the Conseil Général du Nord, and to M. H. DELECROIX, Maire de Hem (where the Observatory was erected), for the sympathetic interest he has shown.

When, in October 1914, the war obliged me to leave the north of France, I was most cordially received at Greenwich by the Astronomer Royal. I shall never be able to thank Sir FRANK DYSON and Mr. T. LEWIS sufficiently for their kindness and support, which gave me the opportunity to work at the Royal Observatory, and to have the almost exclusive use of the 28-inch refractor.

I am greatly indebted to the members of the Royal Astronomical Society Club for their generous assistance, which enabled me to continue my studies; and I am under further obligation to the Council of the Society for undertaking the printing of the catalogue.

In compiling the catalogue I have again to thank Sir FRANK DYSON and Mr. T. LEWIS for their kind advice and suggestions. I am also under obligation to Professor R. G. AITKEN for a list of unpublished new double stars, and to the Rev. T. E. ESPIN for places of his stars not contained in the B.D. Catalogue, and for a correspondence which enabled me to solve many troublesome discrepancies.

I am grateful to Professor E. DOOLITTLE for extensive and thorough observations of my earlier stars, and am indebted to Mr. P. J. MELOTTE, who obtained, from some indifferent prints I happened to have with me, three photographs sufficiently good for reproduction.

ROBERT JONCKHEERE,

ROYAL OBSERVATORY, GREENWICH.

1916 *December*.

INTRODUCTION.

SINCE the publication of BURNHAM'S General Catalogue of Double Stars, the search for new pairs has been pursued with such unprecedented thoroughness that within ten years double-star astronomy has undergone a complete change. This is mostly due to the extraordinary activity of Professor ROBERT G. AITKEN, who in 1915 concluded the greatest double-star survey ever undertaken.

Long lists of new double stars so rapidly followed the appearance of Professor S. W. BURNHAM'S catalogue that I very soon found it necessary to keep a manuscript of all the new stars published. Already in 1909 so many pairs had been newly discovered that duplications began to occur in this new manuscript catalogue. I gave a short list of these at the time in *A.N.* 4335 and *J.A.*, vol. i. p. 7. When a double star was found at the telescope, which by its closeness and magnitude might be new, it became more and more likely to be found in the new lists than in the published catalogue.

The rapid increase of new double stars has this year come to a sharp conclusion, at least for stars as bright as B.D. 9^o. All these stars have now been examined at the Lick Observatory, and it is not probable that many of the stars whose duplicity could not be observed from Mount Hamilton will be detected elsewhere. A few more pairs brighter than B.D. 9^o will undoubtedly still be found, but these will now be so scarce that the time has come for the publication of a new catalogue.

As more than one-third of this volume contains observations made at Lille, a brief history of the Observatory and a description of the instrument and methods used may not be out of place here.

The Lille Observatory.

Historical.—The observation of double stars has always been of absorbing interest to me. Having procured in 1905 a 3-inch telescope, I took great pleasure in making a list of the most difficult pairs within the power of such a small instrument. My next venture was with a 4-inch, with which I endeavoured to see more difficult pairs. In 1906 I had a 5-inch equatorial, with which began what I hoped would be serious work, but it was at the end of that year that I became possessor of a 9-inch refractor provided with a micrometer. This instrument, for the construction of which I received many valuable suggestions from M. G. BIGOURDAN, was mounted in an observatory erected on the roof of a house in Roubaix. Many micrometrical measures of double stars were made, but these were regarded as practice, and they were not published. I found with that instrument about seventy pairs which could not be identified in

BURNHAM'S General Catalogue, but I did not venture to publish these until more experience had been obtained. In order to do this, I studied for a short time at the Strasbourg Observatory, permission for this being gracefully accorded me by the late Professor E. BECKER.

Whilst at this observatory the 6-inch equatorial was placed at my disposal. This was a very fine glass, and the instrument was so beautifully mounted that great pleasure was experienced in measuring double stars at the extreme limit of its power. Gaining confidence in my measures, I published a short list in the *Bulletin Astronomique*, December 1908. About forty new pairs were found with this instrument.

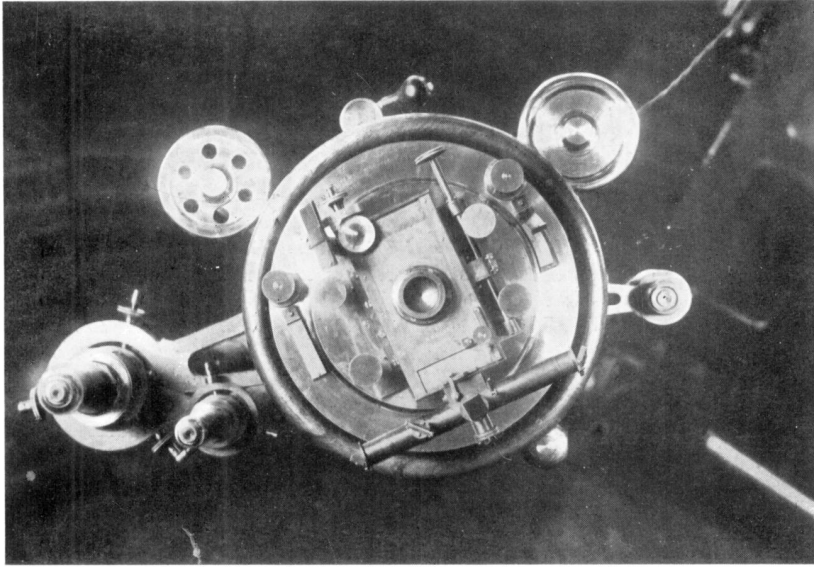
In the meantime plans had been made for the erection of an observatory between Lille and Roubaix on a favourable site I had purchased in 1907 with this end in view. The knowledge gained in making observations with these different objectives and mountings has been most valuable to me, not only in training my eyes to use the extreme power of each instrument, but in enabling me to design an equatorial specially adapted for a double-star survey.

The Observatory.—Plate 1 shows the south-east view of the building erected on a small hill overlooking the village of Hem, six miles north-east of Lille. Although double-star astronomy was the main object, the observatory was equipped for the study of other branches of astronomy and was provided with an extensive library and computing rooms. I was gratified, two years after its completion, by the support of the Conseil Général du Département du Nord, and later the Observatory was attached to the University of Lille, and a course of astronomy was established at the Faculté des Sciences.

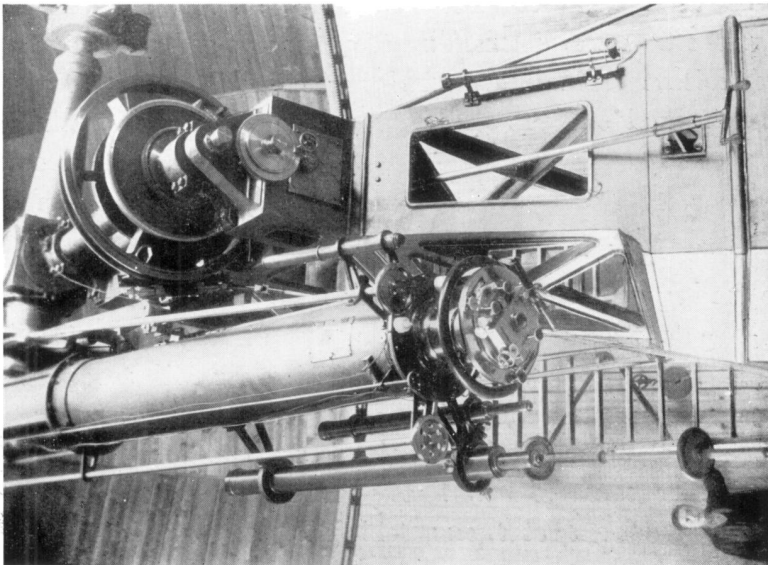
From this period I was unable to devote all my time to the observation of double stars, as, in addition to the course of astronomy mentioned, the Observatory had now established a time service and issued meteorological bulletins twice daily. These bulletins and the meteorological information which I was able to supply were found to be of great use to the manufacturers of the region, and this department became of much greater importance than was first anticipated.

The Equatorial.—It will be seen from Plate 2 that the 35-cm. equatorial is very massively mounted. The focal length is about nineteen times the diameter of the objective. This is a departure from the shorter ratios often adopted in Europe. My opinion was that the greater length was more suitable for double-star detections and measures. Two feet in front of the objective, and movable from the eye end, is an iris diaphragm, which was often valuable for changing the angular separation of the rings of the principal star and for many other purposes. The pairs discovered with this instrument show its efficacy for the work for which it was intended.

The micrometer is unusually large, so that the divisions of the position circle, almost a foot in diameter, are readily seen. This circle is never removed from the instru-



The Micrometer.



The 35 cm. Refractor.

ment, and during the five years I enjoyed the possession of the Observatory, the position circle apparently never changed from the zero in which it was first set. The micrometer box is easily removable from the position circle by four large hand screws. There are only two wires, one of which is movable, but the two wires can be moved on to the star by a big hand screw which displaces the micrometer box across the position circle. The advantage of two wires instead of the greater number generally used in Europe is that there are only two planes on which to focus the eye-piece, and a more even illumination is obtained by the absence of cross wires and by the better position of a single lamp placed on the side of the box usually taken by the second screw. There is a mirror on the opposite side, so that the wires receive light from both sides. The value of one revolution of the screw is $9''\cdot88$. For the success of this micrometer I am greatly indebted to Professor S. W. BURNHAM, who was kind enough to help me with his suggestions and photographs of the micrometer of the Yerkes Observatory, from which it is mostly copied.

I have managed the illumination of the readings of the micrometer with what I believe is a new device. The tube holding the lamp used in the illumination of the wires on the side of the micrometer has been extended at each end. Two small mirrors, one at each end of this tube, reflect light on to the figures of the position circle. A small covered prism on the tube and on top of the lamp transmits light by two mirrors to the head of the micrometer screw. This device, plainly shown in Plate 2, has given complete satisfaction. Both hands are always free; the reading of the big figures is so easy that the light can be very faint and the observer may measure the faintest stars without interruption caused by taking the readings with too bright a light. No time is lost in finding a hand lamp and placing it in front of the figures at every reading.

The observing chair is of the Burnham-Hough type as described in *Monthly Notices*, vol. xli. p. 310, and generally used in America; but it has also the advantage of being carried on rails, allowing the observer, without rising from his seat, to move round the instrument by turning the hand rail on his right, and to vary the distance to the micrometer by turning the hand rail on his left. The head is always perfectly rested on the back of the chair, as the command of these movements is quite easy and adjustable to the smallest variation wanted.

Observations.

Atmospheric Conditions.—As I had anticipated from my earlier observations in the locality, the winter season proved to be very favourable at the new observatory. When it had been freezing all day, and was colder still at night, the definition was often extremely good. It is fortunate that the best definition was secured when the working hours were longest and when the part of the sky under observation was one which, at most observatories, is not usually examined under the best conditions.

An inspection of the stars contained between pages 50 to 90 of this catalogue will show the surprising number of interesting objects which were found in that portion of the sky. Roughly speaking, it is in the region between Bellatrix and Procyon that the survey has been most successful. It is not likely that there remain to be discovered double stars as bright and easy as Nos. 793, 987, 1084, 1129, 1214, 1227, etc., encountered while passing through that zone.

The survey was made by sweeping in R.A. and increasing the declination by 5' at a time. The region mostly observed is between declination -2° and $+20^{\circ}$. On finding a new double star, the instrument was clamped in R.A. and differential times of transits taken between the pair and the surrounding bright stars. The differences in declination were estimated. The eye-piece specially used for these comparisons had a field of exactly 10' and a power of 190. The time of the transits was signalled to the assistant, who was seated by the sidereal clock. These observations were immediately compared with those in the B.D. Catalogue, which was always taken into the dome together with BURNHAM'S General Catalogue and a manuscript of the present work.

Many fine observing hours were no doubt lost by this method, but no star was passed until it had been identified, or until its position was well determined by the surrounding B.D. stars. If the first set of comparisons left the slightest doubt, other sets were immediately retaken at the telescope until complete satisfaction was obtained. An hour or more was often spent in this way on an especially troublesome case before proceeding with the survey. I am pleased to mention here how very grateful I am to the assistants who have patiently recorded all the observations, often passing complete winter nights under most trying temperatures.

The New Double Stars found are published in sixteen different lists as follows:—

First list (J 1 to 82), *Astronomische Nachrichten*, 4406. For this list, which perhaps contains the best stars, my wife was my assistant. She also helped the assistant in the dome with the other lists. The individual measures are given in *Journal Astronomique*, vol. i. pages 7, 11, 24, 27, 35, 49.

Second list (J 83 to 215), *Astronomische Nachrichten*, 4461. Assisted by my wife and later by M. J. VANDERDONCK. As for the preceding list, some of these stars had been observed at Roubaix and Strasbourg. Individual measures in *Journal Astronomique*, vol. i. pages 55, 57, 77, 85, 94.

Third list (J 216 to 315), *Astronomische Nachrichten*, 4484. Helped by M. J. VANDERDONCK, who, in this as in the following lists, measured almost every one of the new stars whilst I was comparing the transits with the B.D. Catalogue and very often before it was measured by myself. Individual measures of both observers in *Journal Astronomique*, vol. i. pages 98, 114.

Fourth list (J 316 to 415), *Astronomische Nachrichten*, 4510. Measures in *Journal Astronomique*, vol. i. pages 114, 127. Assisted by M. J. VANDERDONCK, who also assisted for the seven following lists.

- Fifth list (J 416 to 515), *Monthly Notices*, vol. lxxi. page 750.
 Sixth list (J 516 to 600), *Monthly Notices*, vol. lxxii. page 45.
 Seventh list (J 601 to 667), *Monthly Notices*, vol. lxxii. page 162.
 Eighth list (J 668 to 707), *Monthly Notices*, vol. lxxii. page 188. All stars under 3".
 Ninth list (J 708 to 752), *Journal Astronomique*, vol. i. page 129. All stars under 3".
 Tenth list (J 753 to 801), *Journal Astronomique*, vol. i. pages 145, 149. All stars under 3".
 Eleventh list (J 802 to 821), *Journal Astronomique*, vol. i. page 150. All stars under 4".
 Twelfth list (J 822 to 911), *Journal Astronomique*, vol. ii. page 1. All stars under 4". M. J. VANDERDONCK and M. L. DE JAEGHER assisted on alternate nights.
 Thirteenth list (J 912 to 1002), *Journal Astronomique*, vol. ii. page 9. Assisted by M. L. DE JAEGHER, who also measured these and most of the stars in the two following lists.
 Fourteenth list (J 1003 to 1034), *Journal Astronomique*, vol. ii. page 15.
 Fifteenth list (J 1035 to 1067), *Journal Astronomique*, vol. ii. page 18. All stars under 3".
 Sixteenth list (J 1068 to 1319), in the *present catalogue*. Observed with the 28-inch refractor at the Royal Observatory, Greenwich, very little time being devoted to the actual search for new pairs. Helped by several computers.

The class of double stars discovered has been investigated in the *Comptes rendus de l'Académie des Sciences*, tome clii. page 575, and tome clvi. page 937.

Of the 1319 pairs found, 36 are over 4''·99 separation and are not included in the present catalogue. These are principally extremely faint companions to naked-eye stars, and the most important of these have been measured by Professor S. W. BURNHAM and will be found in the first part of his *Measures of Proper Motion Stars*.

The Measures.—This volume contains the *complete revised list of all the J stars* falling within the limits of the catalogue, and all the measures we have secured of the double stars discovered since 1905.

A great many observations of the older pairs have also been made at Lille and Greenwich, and these are reserved for a later publication.

Five settings were always made for the determination of the position angle, and for this a single wire was used, usually the fixed one. I obtained the setting by jerks and only used the movement pinions for wide pairs, as I found that with a slow movement the eye has a tendency to make the image turn round with the wire. Whenever the angle made it easy, the line joining the eyes has been placed either perpendicular to or parallel with that connecting the two stars; but when this would

have necessitated a large inclination of the head the eyes were simply kept horizontal.

For the distance, each observation is a mean of three measures of double distance, care being taken that the last motion be given whilst screwing.

Pairs between $1''\cdot5$ and $5''$ were usually measured at Lille with a power of 610. For stars of $0''\cdot5$ to $1''\cdot5$ the eye-piece was of 800. Under $0''\cdot5$ separation, powers of 1190 and 1450 were often used. It was only with the last power that I made sure of the duplicity of stars such as No. 1590 and 3194, although with a larger instrument this could have been done with a smaller power.

For the mean error of my measures of the older pairs I find, from 50 double stars having shown no change since Struve, $\pm 1^{\circ}\cdot2$ in position angle and $\pm 0''\cdot05$ in distance, for a mean separation of $2''$. This, however, only applies to bright easy Struve pairs: a very different result is obtained for the new double stars. Much more skill and experience is needed to measure accurately the stars contained in this catalogue, and very large discrepancies are often found in the observations.

Comparing my first discovery measures with those obtained later by Professor E. DOOLITTLE, the mean differences for fifty stars with a mean separation of $2''$ is $\pm 2^{\circ}\cdot3$ in position angle and $\pm 0''\cdot22$ in distance. For the distance, there is a systematic difference giving a correction of $+0''\cdot14$ to be applied to my measured distances at $2''$ as compared with those obtained at the Flower Observatory. Although I believe that my first discovery measures of distances are probably on the small side, it may be noticed that Professor E. DOOLITTLE also finds a correction of $+0''\cdot26$ to be applied to the measured distances of Hough, at $2''$, as compared with his observations (*Flower Observatory Publications*, vol. iii. part iii.).

The most interesting comparison of the measures is perhaps given by the few stars found independently at Mount Hamilton and Lille in the respective surveys. Very few identities occurred, but, as in every case neither knew of the other's discovery, the comparison is extremely instructive. These few stars apparently do not show any trace of a systematic difference in the measures. They stand under the numbers 59, 93, 925, 999, 1258, 1351, 1526, 1839, 2012, 2507, 2770.

Observations made with the 28-inch Refractor.—The greater part of the J stars have been measured with the 28-inch refractor of the Royal Observatory, Greenwich. All my measures dated later than 1914·50 have been made with this instrument.

It was a great privilege to be able to observe these stars with an objective of more than twice the diameter of that used for my survey. One of the unexpected results was that of the resolving of two objects, taken in Lille for faint close double stars, into very small and comparatively bright elongated nebulae.

I have, however, been surprised at the difficulty experienced in measuring many pairs. The focal length is twelve times the diameter of the objective. There are

nights when the large aperture can be used with advantage, but these occasions are rare at Greenwich. To my eye, the image sometimes showed fictitious elongations and "ghosts," against which I had to keep very much on my guard.

From two years' experience I find that the best definition is generally secured when the atmosphere is misty. The brighter stars then show a perfect miniature spurious disc, and under this condition I have seen $0''.22$ beautifully separated.

With this instrument I have followed the plan adopted in Lille of taking five measures in position angle using no slow motion screw, and three measures of double distance using only one of the two screws of this micrometer. The value of one revolution is $12''.06$. For the stars in this catalogue of more than $1''$ separation the usual power was 450. From $0''.4$ to $1''$ the eye-piece employed was generally of 670. In a few rare cases 1120 was used on pairs closer than $0''.4$.

Measures showing Real or Fictitious Movements.—The change to the larger instrument has had an appreciable effect on my observations. I find that my estimates of magnitudes are usually fainter with this instrument and that I measure the distances rather larger with the 28-inch.

A word of caution may be given here in regard to the large apparent change sometimes shown by the measures. Unless at least four or five spaced observations show progressive change, no movement should be deduced for these stars except in the case of very substantial differences indicated by three sets of measures. The observations made with the 28-inch were obtained rather in view of checking the place of many stars than of making proper measures for which several nights are necessary on each pair.

Although this volume contains all the measures published of the double stars discovered since 1905, it will be seen that only the J stars have up to this date been extensively remeasured, and at the present time it is only amongst these stars that changes can be indicated in this catalogue. Out of many pairs showing a possible movement, the most probable cases are perhaps found in the numbers 909, 1357, 1688, 1693, 1839, 1865, 2133, 2315, 2496, 3068, 3635, 3737, but for all these stars motion is yet far from a certainty.

THE CATALOGUE.

THE present catalogue contains all the double stars, to the year 1905, which were not included in BURNHAM'S General Catalogue, published in 1906, and all the pairs discovered from that date to the present day, including all the measures published thereof. By double stars is meant here pairs under 5'' separation observed visually with an equatorial telescope. I entered all material received in the Library of the Royal Observatory, Greenwich, up to 1916 December 31.

Limit of North Polar Distance.—The first and most natural limit which suggested itself was that of BURNHAM'S General Catalogue, viz. N.P.D. 121° ; but no real systematic survey has been made down to this limit, and consequently a supplementary catalogue embracing so large a southern region would not be complete.

W. STRUVE, in 1825, for the general survey made 105° his N.P.D. limit.

OTTO STRUVE, in 1841, for his "révision" observed down to N.P.D. 105° .

The survey of the Lick Observatory, started in 1895, has been carried to N.P.D. 112° in the summer and 104° in the winter.

At Lille the search began in 1906, and it was found that no useful survey could be made below 105° N.P.D. This limit seems a fair average for the northern observatories generally.

The discussion of the distribution of visual double stars has also to be taken into account. The portion of the sky down to 105° N.P.D. may be regarded as practically complete for stars as bright as B.D. 9.0 and separation not exceeding 5'', whereas beyond 105° this condition no longer holds.

After some consideration, therefore, 105° N.P.D. was adopted as probably the most satisfactory limit.

Separation Limit.—To keep the present catalogue within manageable proportions it was found necessary to adopt some limit of separation for inclusion.

A limit of 10'' would have had the advantage of including most double stars published within the last ten years, but it would also have contained many pairs which are not habitually regarded as double stars, and which were originally only measured in connection with work on the proper motion or parallaxes of stars. Again, not one-tenth of the sky has been systematically searched to that limit, and a catalogue including these objects would not be justified at present. It is also to be borne in mind that when the photographic double stars are published the number of stars of more than 5'' separation will be enormously increased, and will scarcely be interesting for visual observations.

The limit of 5'' separation was therefore adopted. It is true that a number of

interesting pairs may thus be excluded, but it has the advantage of coinciding with the value adopted by AITKEN, HUSSEY, and JONCKHEERE.

Numbers: Column 1.—The numbers run from 1 to 3950. An asterisk following the number refers to a footnote.

Star's Name: Column 2.—The star name is that assigned by the discoverer. When the star had not been published with a number, no number is given here. The catalogue reference number has in such cases been deemed sufficient, and no classification has in this way been enforced that the discoverer himself might not have wished. For some later pairs Professor AITKEN kindly sent me, before publication, the designation A 29.. has been used. The newer pairs found in the *Astronomische Gesellschaft Catalogue* have received the usual abbreviation A.G. but without a number, as only those reobserved at an equatorial are included in the present catalogue.

For the star name the priority of publication is rigorously observed throughout the volume, and when a pair had been announced as new and numbered by two observers, the name published later is given as a footnote.

Identifications: Column 3.—To eliminate any possible duplication and to conform to the classification generally used in other branches of astronomy, each star has received the B.D. Catalogue number, and this is the only identification used. By this means reference is facilitated to the Harvard Photometric and Spectroscopic Catalogues, and other catalogues which may need to be consulted for proper motion, magnitude, colour or type of spectrum.

When the star is noted "Anon." for anonymous, it is certain that it is not in the B.D. Catalogue. The space is left blank when the observer has not published the necessary information.

Co-ordinates: Columns 4 and 5.—The co-ordinates are for the epoch 1920. All J stars were already given for that date. It is forty years after that of BURNHAM'S catalogue and twenty years from that used in the lists of AITKEN, HUSSEY, and most of ESPIN'S, a convenient figure for precession. The precession table, published in *Journal Astronomique*, vol. i. page 105, giving calculated results to carry the B.D. to 1920, saved much time for the zone it contains. In the case of rough places the doubtful figure is followed by a colon.

The places of some of the new doubles measured at Greenwich are doubtful because they were not identified at the time. The Greenwich observers never attempted to find new double stars, and those recorded were mostly due to wrong setting. I have searched for a number in the places given, but have found only a few.

Measures: Columns 6 and 7.—All the measures published of the new stars are included in the catalogue. These are given immediately under the first line to save turning to another part of the volume. These measures contain many

observations made by myself with the 28-inch refractor since 1914 October, and published here for the first time.

Generally no means were taken of separately published results. It has been thought advisable to give all results as they originally stand, so that if later a pair is proved to be really in motion no further reference to the original publication is needed. In most cases the gathering of my measures would have looked better and shown less discrepancies, but I rather wish to render these apparent.

When the position angle was reversed by an observer the original quadrant has been kept and the magnitudes reversed. When, however, the previous magnitudes were equal, the quadrant given by the astronomer having observed one component fainter was adopted for all the measures.

Magnitudes: Column 8.—Double-star observers have usually tried to conform as closely as possible to a uniform scale of magnitude, so that there is a substantial agreement between the magnitudes given at the discovery by STRUVE, O. STRUVE, BURNHAM, HOUGH, ESPIN, and JONCKHEERE. Professor R. G. AITKEN, on the contrary, follows almost strictly the magnitudes given by the B.D. Catalogue, and from that combined magnitude and the observed relative brightness of the components obtains by the usual formula the magnitude of each star. Personally I prefer to give, like the other observers, the magnitudes as observed at the telescope, and when a pair is observed separated, the magnitude estimated for each component is often seen brighter than would be derived from the combined magnitude. It must be remembered that throughout this catalogue AITKEN'S magnitudes are usually a little fainter than the other estimates.

From 188 components of 94 double stars I find the following correction to be applied to my first discovery magnitudes as compared with those observed later by Professor E. DOOLITTLE:—

Magnitudes.	Systematic Correction.	Mean Differences.
8-9	+0.06	±0.20
9-10	+0.10	±0.22
10-11	+0.20	±0.41
11-12	+0.19	±0.50

The least magnitude estimated by Professor S. W. BURNHAM with the Dearborn 18½-inch refractor was 13-14. However, I estimated the least which could be seen at Lille as 14-14½, and I was pleased to find that these magnitudes were later given by Professor S. W. BURNHAM with the 40-inch Yerkes refractor to some of the faint companions detected at Lille.

With the 28-inch I have called the faintest star visible 15-15½, but in several cases I was then forced to give this magnitude to some of the components found in France.

There seems to be a tendency among double-star observers to measure too small and estimate too bright when a pair is first discovered.

Dates: Column 9.—The date of the measure contained in columns 6 and 7 is given in the first part of column 9. Usually these refer to the twentieth century, but occasionally they belong to the nineteenth. This is readily noticed by the decade being larger than 2 and by the fact that those observations were made by the HERSCHELS, STRUVES, etc. These early observations are included in the case of a new component to an old pair so as to give an idea of the character of the known pair.

The second and third part of column 9 contains the name of the observer and the number of nights which served to obtain the measure given. When the values were only estimated, this last figure is replaced by the letter *e*.

Abbreviations.—For the observers the following abbreviations have been used:—

Abt	Abetti (Rome).	<i>h</i>	Herschel, J. (Slough).
A	Aitken (Lick).	Ho	Hough (Dearborn).
Bar	Barnard (Yerkes).	How	Howard (Kirkwood).
Bies	Biesbroeck (Uccle).	Hu	Hussey (Lick).
WB	Bowyer (Greenwich).	J	Jonckheere (Lille).
B	Bryant (Greenwich).	Lv	Leavenworth (Minneapolis).
β	Burnham (Yerkes).	L	Lewis (Greenwich).
Cog	Cogshall (Kirkwood).	Mil	Miller (Kirkwood).
Dj	De Jaegher (Lille).	O	Olivier (M ^c Cormick).
De	Dembowski (Naples).	Roe	Roe (Syracuse).
Dob	Doberek (Sutton).	S	South (Passy).
Doo	Doolittle (Flower).	O Σ	Struve, O. (Poulkova).
E	Espin (Tow Law).	Σ	Struve, W. (Poulkova).
Fox	Fox (Dearborn).	V	Vanderdonck (Lille).
HF	Furner (Greenwich).	Wil	Wilson (M ^c Cormick).

For the publications:—

*M.N. Monthly Notices of the Royal
Astronomical Society,*
A.N. Astronomische Nachrichten,
A.J. Astronomical Journal,

J.A. Journal Astronomique,
 β .*G.C. BURNHAM'S General Catalogue
of Double Stars,*
J.C. The present Catalogue,

and the usual abbreviations for the different volumes of the *Astronomische Gesellschaft Catalogue*.

Footnotes.—All notes referring to the stars in this catalogue will be found at the foot of the pages. This saves the labour of referring to another part of the work.

The authorship for each note is indicated, as these usually express a personal observation or opinion.

It will be seen that many errata were found in the lists of new stars while compiling this catalogue. Many of these were very troublesome and caused much loss of time; some could only be cleared at the telescope, and some I had to refer to the discoverer himself.

When a B.D. number and the place given disagree, it is not always wise to assume that one is wrong rather than the other. By so doing the right co-ordinates may be changed to make them agree with a wrong identification number or *vice versa*.

After the first proofs of this catalogue had been printed, I saw Professor E. DOOLITTLE'S paper on recent lists of new double stars, published in the *Monthly Notices*, 1916 January. This gives 180 errata, most of which were already in the catalogue; others had already been published by the observers themselves; and some, being opposed to information received from the observers, have not been used. I was happy, however, to benefit by 22 of these corrections, which are quoted in the footnotes in the usual way.

Whenever the proximity of a pair to an older double star is mentioned, I have given a description of the old pair, as this will be found useful at the telescope.

Index.—For the stars of AITKEN and JONCKHEERE, the numbers are continuous in the index, as so few of these stars are outside the limits adopted in the catalogue. When one of the signs $>5''$ or $>105^\circ$ is entered in the place of a catalogue number, the pair was either wider than $4''\cdot99$ or at an N.P.D. greater than $104^\circ 59'$. For the other observers many stars were outside the limits, and consequently it was necessary to pass in the index the numbers not included in the catalogue.

DISTRIBUTION OF DOUBLE STARS.

Number.—On 1916 February 1 there were 9724 known double stars, under 5'' separation, discovered visually within 105° of the North Pole. Nine-tenths of these pairs were contributed by the following astronomers:—

Aitken 2915	Hussey 1138
Burnham 855	Jonckheere 1282
Espin 663	O. Struve 345
Hough 399	W. Struve 1110

Distribution.—The following table contains the hours of R.A., the 9724 double stars as distributed in each hour, the corresponding number of stars in the B.D. Catalogue, the resulting ratios, and the divergence of each from the mean of the ratios:—

R.A.	Doubles.	B.D.	$\frac{\text{B.D.}}{\text{Doubles}}$	Residuals.
0	440	16,488	38	+ 6
1	414	16,376	40	+ 4
2	386	15,305	40	+ 4
3	385	14,603	38	+ 6
4	410	15,935	39	+ 5
5	661	22,082	33	+ 11
6	665	25,850	39	+ 5
7	476	22,370	47	- 3
8	349	16,534	47	- 3
9	240	12,881	54	- 10
10	242	11,168	46	- 2
11	213	10,209	48	- 4
12	191	10,154	53	- 9
13	191	10,412	55	- 11
14	237	10,965	46	- 2
15	219	11,881	54	- 10
16	233	13,363	57	- 13
17	352	16,608	47	- 3
18	519	23,289	45	- 1
19	746	27,659	37	+ 7
20	716	25,089	35	+ 9
21	550	20,758	38	+ 6
22	474	18,917	40	+ 4
23	415	16,858	41	+ 3

These residuals fall into two groups in a manner which can hardly be accidental, and calls for examination. There are possibly three reasons for the observations being systematically affected in this way: change in the observing conditions

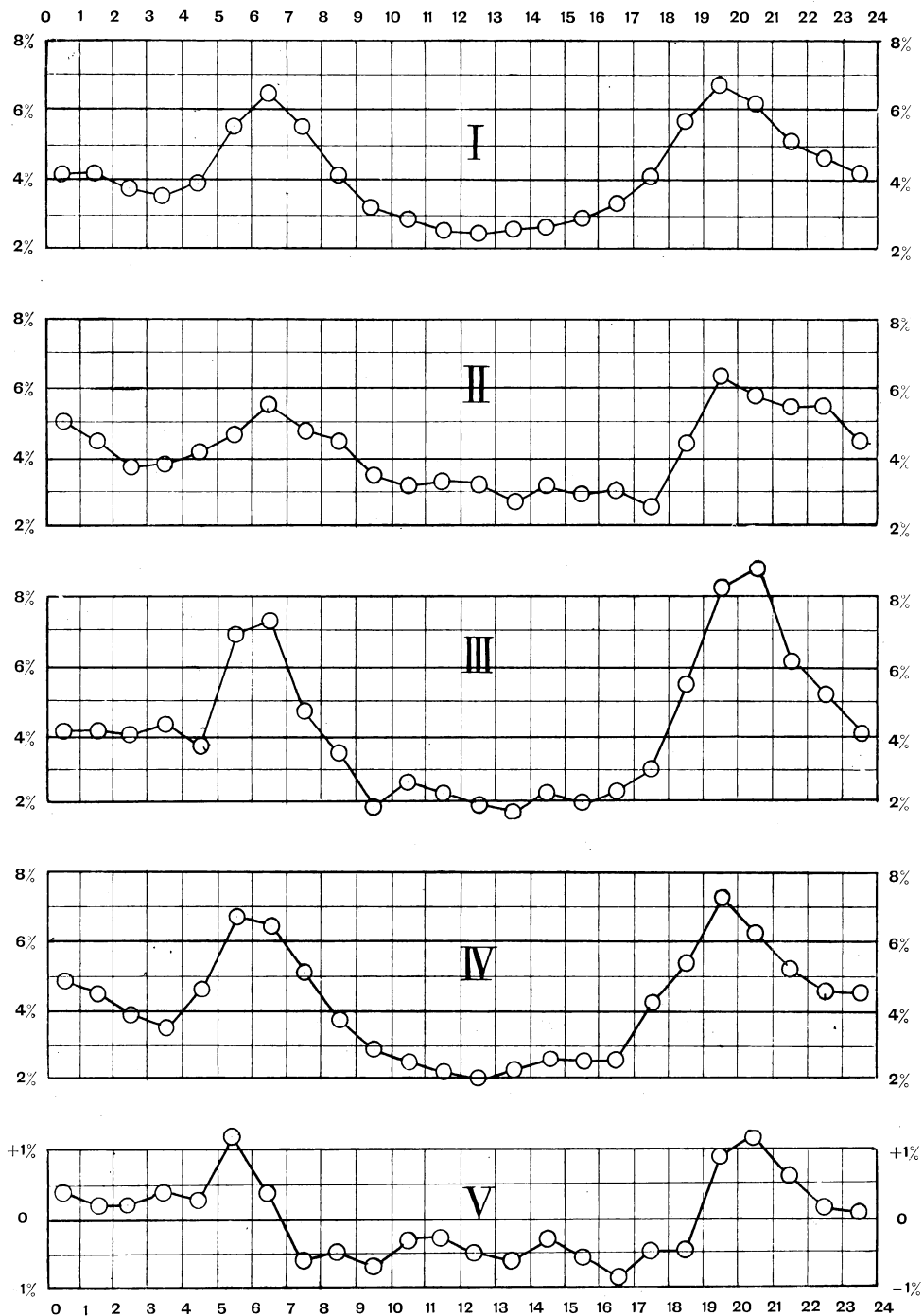
produced by summer and winter, inclusion of pairs too faint to be in the B.D. Catalogue, systematic error in the distribution of the density given by the B.D. Catalogue.

Three tests were made for the first possible observational cause. A curve was made with the hours of darkness and the sidereal time at the mean observing time; the residuals of the last column were marked on a mobile celestial planisphere, and the dates and time of the visible portion of the sky showing the negative and positive signs were noted; the ratio of double stars under 2" to those under 5" was compared for the summer and winter sky. These three attempts failed, evidently because the mean observing time also varies with the seasons, the telescope is not always used close to the meridian, and the number of the practical observing hours in each season varies greatly with the meteorological conditions of the different localities.

With regard to the second cause, which might explain the residuals by the fact that the double-star count contains many pairs which are not B.D. stars. Out of the 9724 pairs there are 750 such stars, but they are agglomerated in the 6th and 19th hour regions. These pairs being subtracted in each hour, the extreme range in the ratios changes from 24 to 20, but the distribution of the residuals is not otherwise altered. It should also be remembered that if one-thirteenth of the pairs are not in the B.D. Catalogue, all the stars that catalogue contains between 9.0 and 9.5 magnitudes have not, on the other hand, been observed during the double-star surveys, so that perhaps all we should do, with the present available material, is to compare the distribution of all the known double stars with an accepted distribution of stars in general.

We are thus led to the third cause: the systematic error in the distribution of the B.D. Catalogue. This is a more difficult problem, and again I am not certain that this should be considered here. The double-star observer is perhaps just as likely to be affected in the same way by only observing relatively brighter stars or companions in the denser regions, and, on the other hand, a pair is usually taken because it is bright enough to be a B.D. 9.0 or merely because it is a B.D. star. However, for the sake of considering all possibilities, the B.D. percentage at each hour was corrected according to the errors of densities as given by SEELIGER, and then compared with the respective percentage of double stars where, to obtain a resulting additional maximum effect, the anonymous stars had been subtracted as above. From an extreme range of 2 per cent. in the differences, as given in Plate 3, fig. V., this was reduced to $1\frac{1}{2}$ per cent., but beyond that the signs of the residuals were distributed as before. It is evident from these researches that, unless some other cause is found systematically altering the observations, this distribution of all the known double stars can only be explained by the actual grouping of the stars themselves.

The first reason which naturally comes to the mind is that of a perspective effect,



I. Percentage in each hour of R.A. of the 405,754 B.D. stars within 105° N.P.D.

II. Same, for the 6011 double stars above $5''$ separation in Burnham's General Catalogue.

III. Same, for the 4554 double stars between $2''$ and $5''$ known to the present day.

IV. Same, for the 5170 double stars under $2''$ known to the present day.

V. The whole, 9724, in III. and IV. being similarly treated, then Curve V. is the difference between the result and the percentage in Curve I.

a greater number of optical pairs being found where stars are denser. This possibility is increased by the fact that for the faintest star visible, within $5''$ of a B.D. star, the object is taken as a double star. As the chances of including such pairs increase with the angular separation of the components, a comparison of the distribution of pairs of a given separation with those of a larger separation would perhaps give some rough idea of the average angular distance separating physical pairs from optical double stars.

With this end in view, the percentage of double stars under $2''$ to those under $5''$ separation was obtained with the following result for each hour of right ascension:—

† R.A.	Per cent.	R.A.	Per cent.	R.A.	Per cent.	R.A.	Per cent.
0	57	6	50	12	56	18	52
1	55	7	55	13	60	19	50
2	52	8	54	14	57	20	44
3	49	9	64	15	59	21	48
4	59	10	52	16	56	22	51
5	53	11	53	17	62	23	56

These figures are obtained from the 9724 pairs known under $5''$ separation. Considering the numbers dealt with, the percentage is remarkably steady. The general mean is 54 pairs under $2''$ to every hundred double stars under $5''$.

One might perhaps find that there is a slight supremacy of close pairs in the second and third quadrant, where the stars in general are fewer, and where optical pairs might have been expected to be less probable. It is therefore interesting to see whether this would be further supported by the relation of the pairs under $5''$ to the double stars in general.

R.A.	Per cent.	R.A.	Per cent.	R.A.	Per cent.	R.A.	Per cent.
0	49	6	46	12	41	18	56
1	48	7	45	13	44	19	54
2	50	8	43	14	48	20	55
3	52	9	38	15	48	21	53
4	51	10	43	16	48	22	48
5	56	11	42	17	63	23	52

These values were obtained from the 11,955 pairs within 105° of the North Pole, contained in BURNHAM'S General Catalogue. The mean is 49 pairs under $5''$ to every hundred double stars. This relative distribution is in direct contradiction to that of the other table. It appears on closer examination that, to our present knowledge, it is only the pairs under $5''$ which are relatively to the stars in general more numerous in the first and fourth quadrant.

The main results of these statistics are best shown graphically by giving the percentages in every hour of right ascension. This was obtained by dividing the number contained in the hour by the total number in the twenty-four hours, and if the stars had been equally distributed they would have been represented by a straight line at 4.17, that is, one twenty-fourth of a hundred. All the curves represented in Plate 3 relate to the part of the sky within 105° of the North Pole. The first gives the distribution of the 405,754 stars contained in the B.D. Catalogue, the second that of the 6011 stars above $5''$ separation contained in BURNHAM'S catalogue, the third is for the 4554 known pairs between $2''$ and $5''$, and the fourth curve the 5170 known double stars under $2''$ separation.

The fifth and last curve represents the residuals between the distribution of all the 9724 pairs under $5''$ and that of the stars in general as given by the B.D. It is plain from this last distribution of residuals that *relatively to the stars in general the double stars under $5''$ have a more pronounced minimum between the 7th and 18th hours of right ascension and sharper maxima in the regions of the 5th and 19th hours*, the extreme range amounting to 2 per cent.

It should be remembered that 1 per cent. means here a difference of the order of one pair to every 30 stars compared with one pair to every 45. This is far too important to be overlooked, as we are dealing here with the largest numbers ever used in double-star statistics.

It was preferable to work by right ascension rather than galactic latitude, as the hours are all of equal areas and in the same observing conditions with regard to the polar distances.

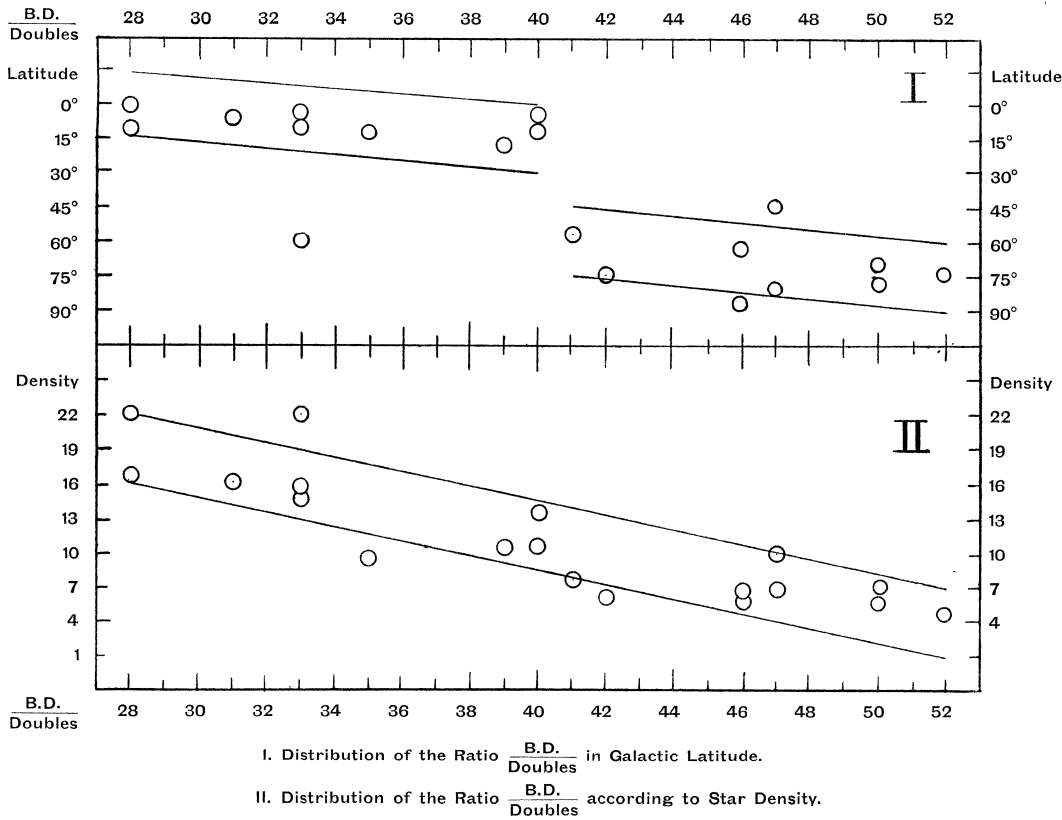
Having ascertained under the best uniform conditions a relative predominance of close pairs in the hours containing the greater number of B.D. stars, the next step was to investigate whether these variations are produced by the galaxy and the galactic latitudes or by the variable density of the sky.

Nineteen different zones of an average of 15° in declination and 1 hour in R.A. were taken first, cutting the galaxy vertically, passing through the galactic north pole; secondly, within the Milky Way and parallel to the galaxy. In each zone the number of B.D. stars and double stars under $5''$ were counted and the ratio plotted down in the following ways:—

The first diagram gives the relation in each zone of the ratio $\frac{\text{B.D.}}{\text{Doubles}}$ to the galactic latitude; and the second diagram, for the same zones, the ratio $\frac{\text{B.D.}}{\text{Doubles}}$ to the star density in each zone as given by Professor W. STRATONOFF in the Tachkent Atlas.

It appears that within the Milky Way the ratio varies from 28 to 40 and that a better relation is observed in fig. II.

From these investigations and others not given here, we may conclude from the study of the general distribution of all the double stars known up to the present day



that the number of close double stars relatively to single stars depends on the star density in a given region. The greater the number of stars the greater the percentage of double to single stars.

Roughly speaking, it appears that if a region A contain twice the number of stars of a region B, then A will contain almost three times the number of double stars contained in B.

Future Double Star Work.

The great problem now open to double-star astronomy is to find what information is to be derived from the faint pairs recently discovered. There is a strangely conceived idea amongst some double-star astronomers that because a pair is faint it is "unimportant" and no motion is to be expected. It is every day proved more and more that the range in intrinsic luminosity is so great amongst the stars that the apparent magnitude of itself alone is very little clue to the distance.

Some of the naked-eye stars are situated in the remotest regions of the stellar system, and some of our nearest neighbours are found amongst faint stars. A pair of 4'' or rather 3'' separation is worth cataloguing whatever the magnitudes may be. The largest proper motion known is that of a star of the tenth magnitude, and several fainter stars are among the fastest, although we have as yet little information available for the faint magnitudes.*

We know by now the usual character of the bright double stars, and thousands of measures will not alter our general knowledge of these stars. To correct the elements of an orbit or to find that a bright pair is really a binary is not likely to increase our knowledge of the structure of the universe. Although it may be more difficult to observe faint stars, it seems that additions to our knowledge are more likely to be obtained in this field.

It is among the fainter stars where the observations are greatly lacking that the double-star observer can help, and it is hoped that possessors of large refractors will begin to measure systematically the thousands of recently discovered pairs. Four sets of measures spaced by intervals of five years would, on the average, be enough to judge whether there is a fair percentage of pairs in sensible motion amongst these stars. A positive or negative result would be equally important for our future conception of the universe.

If the present volume giving the places for the epoch 1920 will help double-star observers to remeasure these stars systematically, I shall feel that, in spite of the drastic events which abruptly ended my work in Lille, all will not have been in vain.

R. J.

* Since this was written, it seems that the 10th magnitude star, discovered by Barnard, will prove to be closer to the sun than any other star known in the Northern Hemisphere.

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The following stars have been overlooked or received too late: Five pairs given in *A.N.*, 4830; two in *A.J.*, No. 703; one in *M.N.*, vol. lxxvi. p. 604; one in *Pop. Astr.*, vol. xxiv. p. 613.

Catalogue and Measures of Double Stars discovered visually from 1905 to 1916 within 105° of the North Pole and under 5" separation.
 BY ROBERT JONCKHEERE.

[Communicated by the Astronomer Royal.]

[Received 1915 April 9.]

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	"				
1	J 629	Anon.	o	o	56	20	58	295.2	0.80	9.5	9.7	11.80	J	1	
									294.1	0.91	9.5	9.8	11.80	V	1
									291.0	0.60	9.5	10.0	15.01	J	1
2	E 1192	+44°4551	1	17		44	54	298.9	1.70	9.2	9.4	13.99	E	3	
3*	Hu 1201 AB	+33°4832	1	23		33	40	310.4	0.16	7.6	9.0	04.61	Hu	1	
								314.6	0.17	..	..	05.81	A	1
								166.7	21.69	8.0	13.0	05.99	β	2	
4	J 865	+26°4745	1	26		27	9	74.4	1.10	9.1	9.5	12.76	J	1	
								78.0	0.90	9.0	9.5	15.01	J	1	
5	A 1251	+54°3108	1	28		54	50	333.8	4.40	8.9	14.0	06.59	A	2	
6	J 143	+12°5065	1	55		12	49	86.1	1.45	9.3	9.5	10.74	J	1	
								87.0	1.38	9.3	9.4	10.74	V	1	
								79.1	1.81	9.2	9.5	15.02	J	1	
7	A 1252	+51°3782	2	20		51	47	189.4	0.58	9.6	12.0	06.79	A	2	
8	E 610	+54°3111	2	21		54	34	203.4	4.20	9.4	11.2	08.87	E	2	
9*	β —	Anon.	2	25		28	34	209.8	3.25	10.8	10.9	07.78	β	2	
								214.8	3.21	11.1	11.8	09.64	Wirtz	2	
								210.8	2.95	10.0	10.5	12.78	J	1	
10	E 1193	+46°4261	3	0		46	57	70.7	2.60	9.5	9.6	13.80	E	2	
11	A 1253	+51° 2	3	28		52	20	85.7	2.34	7.7	12.8	06.78	A	3	
12	A 1501	+36° 1	3	40		36	45	227.1	1.05	7.3	12.3	07.51	A	3	
13*	E 443	+48° 5	3	47		49	16	32.9	4.27	8.7	9.9	07.74	E	2	
14	J 301	+ 2° 1	3	50		2	51	181.8	3.42	9.0	12.0	10.96	J	1	
15*	Bowyer	Anon.	4	12		19	41	47.2	2.89	9.0	10.0	08.02	WB	2	
								48.5	2.75	8.5	9.5	11.93	WB	2	
								45.1	3.28	9.4	10.5	15.02	J	1	
16	E 744	+49° 5	4	34		49	39	33.1	4.52	8.5	11.8	09.81	E	2	

3—Hu 1201 is a closer companion to Hough 490.—Doo.

9—Observed by Jonckheere as J 866, but first measured by Burnham and Wirtz in connection with the proper motion of Bradley 3212, which is of magnitude 6.5; 2½' north and 1" following.—J.

13—It is assumed that B.D. +48°5 is right, in which case in *M.N.*, vol. lxxiii. page 206, for 0^h 0^m.8 read 0^h 2^m.8.

β .G.C. 44—Hu 503, a similar pair, is 3^m f. and 15' n.—J.

15—Same declination and 52" following B.D. +19°2, which is β .G.C. 6—Ku 3, 75°0, 0°80, 9.1-9.1, 1915.02.—J.

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No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
17	E 745	+49° 10	0	5	20	49	50	177.2	3.00	9.1	9.3	09.84	E	2
18	E 929	+53° 11		5	42	53	42	116.7	3.42	9.4	10.1	10.83	E	3
19*	A 1801	+7° 10		5	51	8	8	190.3	0.45	9.1	9.1	08.65	A	2
20	E 930	+54° 6		6	21	55	13	340.8	3.77	9.5	9.5	10.73	E	3
21	E 747	+49° 21		6	37	50	8	174.4	2.90	9.4	10.2	09.84	E	2
								179.7	3.08	9.1	10.0	11.64	J	1
								181.1	2.85	9.3	10.3	11.64	V	1
22	J 867	+27° 9		6	48	28	17	196.2	0.96	8.9	9.9	12.78	J	1
								187.0	1.00	8.9	11.0	14.99	J	1
23*	E 1406 BC AB	+43° 12		7	0	43	51	349.4	4.87	9.2	14.0	15.98	E	3
								332.8	9.63	8.5	9.2	15.98	E	3
24	E 1127 BC AB	+47° 18		7	1	47	54	298.6	1.98	10.0	10.7	12.95	E	3
								0.9	89.32	9.2	10.0	12.95	E	3
25	A 2001	+2° 16		8	54	2	31	149.7	0.26	9.0	9.2	09.79	A	3
26*	A 1254	+43° 24		9	25	43	45	271.7	1.41	9.2	9.8	06.75	A	3
								274.8	1.56	9.2	9.9	08.99	Bar	2
27	A 2201	+17° 17		9	36	18	12	195.8	1.07	8.4	12.0	10.61	A	3
28	J 216	Anon.		9	41	19	11	164.2	2.85	9.5	9.5	10.91	J	1
								164.5	2.60	9.5	9.5	10.91	V	1
29	J 182	+16° 12		9	56	16	43	34.4	3.71	8.8	11.5	10.83	J	1
								36.6	3.85	9.0	11.5	10.83	V	1
30	A 1802	+11° 19		10	0	11	41	147.8	1.84	9.5	12.2	08.66	A	2
								156.7	1.44	8.7	11.0	11.95	J	1
31*	A 1255	+43° 31		10	12	43	24	347.7	4.02	8.0	10.8	06.89	A	2
32	A 2202	+18° 18		11	0	18	41	348.3	4.03	8.3	10.5	08.99	Bar	2
								329.8	0.54	9.8	9.8	10.61	A	3
33*	J 868	Anon.		11	3	26	55	187.0	2.50	9.2	9.7	12.78	J	1
								187.0	2.35	9.4	9.8	12.78	V	1
								187.5	2.11	9.2	9.7	15.01	J	1
34	A 1256 AB AB—C AB—D	+43° 33		11	5	43	46	4.0	0.13	7.2	7.4	06.78	A	3
								344.8	18.70	..	13.0	06.77	A	1
								133.6	27.60	..	14.5	06.77	A	1
35	J 217	Anon.		11	55	18	36	173.4	0.75	9.2	9.2	10.86	J	1
								169.8	0.88	9.3	9.3	10.86	V	1
								171.4	0.64	9.3	9.5	14.90	J	1
36	E 153	+40° 42		12	15	40	51	243.1	2.5±	9.5	10.5	04.73	E	2
37	E 1407	+44° 52		12	38	44	28	221.4	2.31	9.5	11.5	15.89	E	2
38	E 312	Anon.		12	43	34	42	237.3	2.15	9.6	10.0	06.95	E	2
39	J 869	+32° 34		13	2	32	50	253.4	1.12	9.1	9.1	12.70	J	1
								249.8	1.22	9.2	9.2	12.70	V	1
								251.1	1.44	9.0	9.0	15.01	J	1
40	Fox 1	+12° 15		13	3	12	42	109.7	4.18	9.2	12.0	12.48	Fox	3
41	E 1294	+44° 53		13	13	44	48	229.2	0.99	9.5	9.6	14.98	E	2

19—The declination given in *Lick Obs. Bul.* 144 and A. G. Leipzig II. 21 is 30' too small.—Doo.

23—The B.D. magnitude of A is 9.2.—J.

26—Found later by Barnard, *A.N.* 4306.—J.

31—Found later by Barnard, *A.N.* 4306.—J.

33.—A bright star, B.D. 6.5, at +1° and -5'.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h m s	° ' "	°	"				
42*	A 1803 AB	+ 8° 24	0 13 17	8 26	300.1	0.14	7.6 7.7	08.75	A	4
	AB—C=Σ 22				237.2	4.63	7.0 8.0	33.94	Σ	7
					237.2	4.13	7.5 7.7	08.70	A	1
43	A 1804	+ 9° 24	13 20	9 36	46.8	1.24	8.6 9.5	08.66	A	2
44	E 612	+ 54° 32	14 19	54 26	266.0	2.90	9.3 9.5	08.99	E	2
45	J 218	Anon.	14 43	19 19	355.0	2.97	9.4 11.0	10.91	J	1
					357.6	2.65	9.5 11.3	10.91	V	1
46	J 920	Anon.	15 3	— 0 19	200.0	1.42	9.5 9.5	12.94	J	1
47	J 630	+ 20° 26	16 1	21 3	108.4	1.89	9.1 9.8	11.86	J	1
					106.6	2.26	9.1 9.8	11.86	V	1
					118.1	2.13	9.3 10.0	15.02	J	1
48	Hu 1202	+ 34° 39	16 55	35 13	204.0	1.10	9.2 9.7	05.93	A	2
49	A 1502	+ 39° 65	17 44	40 7	238.5	0.80	9.5 9.6	07.52	A	2
50	E 1199	+ 45° 74	18 30	45 48	16.1	2.97	9.2 9.6	14.00	E	3
51	Fox 2	Anon.	18 51	60 4	154.9	4.16	10.3 10.5	15.66	Fox	3
52	E 1200 BC AB	+ 45° 76	19 7	46 7	55.2	1.75	13.0 13.3	13.99	E	3
					325.1	47.75	8.2 13.0	13.99	E	2
53	E 750	Anon.	19 16 :	51 35 :	265.8	2.70	9.1 11.2	09.86	E	2
54	E 313	+ 32° 58	19 17	32 34	16.3	3.95	8.7 12.7	06.95	E	2
55	J 583	+ 11° 52	19 29	12 1	244.1	3.55	8.9 10.0	11.87	J	2
					245.9	3.54	9.0 9.9	11.87	V	2
					244.4	3.26	9.2 11.0	15.02	J	1
56	A 1805	+ 9° 39	19 51	9 29	313.9	4.48	9.1 12.2	08.72	A	2
57	E 931	Anon.	20 2	52 16	321.4	2.50	9.6 9.7	10.87	E	3
58	E 932 BC AB	+ 54° 53	20 36	55 16	91.0	3.37	12.0 12.3	10.74	E	2
					320.0	42.85	9.1 12.0	10.74	E	2
59*	J 219	+ 19° 61	21 13	20 9	225.7	2.57	8.6 11.0	10.72	A	2
					211.8	2.58	7.8 10.8	10.91	J	1
					215.8	2.48	8.3 10.8	11.58	V	3
					217.0	2.55	8.3 11.0	11.98	J	2
					221.6	2.02	7.9 11.0	14.90	J	1
60	J 631	Anon.	21 36	3 47	111.9	3.74	9.6 9.7	11.79	J	1
					110.5	3.37	9.5 9.8	11.79	V	1
					109.4	3.86	9.7 9.7	13.97	J	1
61	J 632	+ 3° 42	21 51	3 40	78.3	1.50	9.3 9.4	11.79	J	1
					74.1	1.41	9.2 9.5	11.79	V	1
					77.0	1.71	9.3 9.5	13.97	J	1
					76.8	1.83	9.5 9.6	13.97	Dj	1
62	A 1503	+ 37° 64	21 54	37 48	302.7	1.66	9.0 13.0	07.52	A	2
63	E 1202	+ 45° 108	23 57	46 19	33.4	2.52	9.6 10.0	13.99	E	2
64	J 870	Anon.	24 20	34 22	202.2	3.33	9.2 9.4	12.72	J	1
					199.7	3.05	.. ..	12.72	Dj	1
					210.4	3.99	9.3 9.3	15.01	J	1
65	E 1128	+ 49° 98	24 22	50 14	172.7	4.17	9.5 11.7	12.83	E	2
66	A 1504 AB AB—C	+ 36° 62	24 25	36 52	358.4	0.33	8.5 8.5	07.54	A	3
					107.8	8.34	.. 13.5	07.52	A	2

42—This is 38 *Piscium*. The proper motion of this star is given as 0".109 in 24°, in Burnham's General Catalogue. This is common to all three components.—A. In *Lick Obs. Bul.* No. 144 for Σ 222 read Σ 22. The P.M. is by Bossert.—J.

59—Published later as A 2301.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
67	E 1295	Anon.	0	24	29	43	57	320.6	4.03	9.6	9.8	15.00	E	3
68	J 871	Anon.		25	15	31	10	360.2	2.05	9.7	9.7	12.70	J	1
69	J 168 AB	+19° 75	25	30	19	51	356.0	2.15	9.7	9.7	12.70	V	1	
							172.2	0.82	9.0	9.0	10.78	J	3	
							166.6	0.92	9.0	9.0	10.81	V	4	
							166.3	0.92	9.0	9.0	13.45	J	2	
							165.6	1.08	8.9	8.9	14.90	J	1	
							263.5	12 ±	10.0	11.5	30.00	h	1	
							262.8	12.55	..	10.7	10.78	J	2	
							262.3	12.73	..	10.5	10.78	V	2	
	263.8	12.75	..	11.0	14.90	J	1							
	AC = h 1976													
70	J 633	+ 3° 52	25	48	4	19	317.2	1.91	9.5	11.5	11.79	J	1	
71	E 1129	+48° 152	26	30	48	50	84.7	1.45	9.3	9.4	12.99	E	3	
72	J 584	+17° 62	26	32	17	26	172.6	3.22	8.8	11.8	11.77	J	1	
73	J 634	Anon.	26	43	21	8	274.5	2.07	9.4	10.6	11.87	J	2	
							273.0	2.17	..	..	11.95	V	1
74	J 872	Anon.	27	57	56	53	85.2	2.98	10.0	10.5	12.73	J	1	
							78.6	2.98	10.0	11.0	12.73	V	1	
75	A 1257	+41° 86	30	14	41	43	290.4	1.89	8.9	13.8	06.74	A	3	
76*	β — CD	+18° 76	30	41	18	27	160 ±	2.5 ±	..	..	..	β	..
	AC						68 ±	90 ±	8.5	..	..	β	..
	AB = S 387						232.7	42.03	8.5	8.5	04.69	β	6	
77	J 921	+ 7° 76	31	42	7	22	234.2	2.46	9.1	9.3	13.00	J	1	
							235.0	2.50	9.1	9.3	13.00	Dj	1	
78*	J 922 AB	+16° 54	32	7	16	35	333.2	2.15	8.9	11.0	13.00	J	1	
							337.0	2.60	9.0	10.8	13.00	Dj	1	
	AC — A.G. —						0 ±	50 ±	9.3	9.3	70.00	Berl	..	
79	A 1505	+36° 93	32	14	36	58	50.4	0.22	9.0	9.7	07.60	A	2	
80	E 1296	Anon.	32	22	45	2	343.4	2.40	10.0	13.9	14.39	E	3	
81	A 1506	+37° 102	32	22	37	48	26.4	1.14	9.0	12.0	07.56	A	2	
82	E 444	+44° 126	32	30	45	3	192.5	2.93	9.1	9.6	07.97	E	3	
83	J 220	+59° 89	32	56	60	18	241.3	2.08	9.5	9.5	10.93	J	1	
							241.8	1.83	9.4	9.4	10.93	V	1	
84	E 315	+28° 101	33	29	28	47	77.7	2.04	9.1	9.4	06.78	E	3	
85	J 923	+23° 86	33	34	24	16	216.0	3.75	9.3	9.3	12.87	J	1	
							216.6	3.73	9.3	9.5	12.87	Dj	1	
86	E 445	+44° 130	33	40	45	1	349.7	3.32	9.0	11.0	07.97	E	3	
87	A 2302	+ 1° 107	33	54	2	8	119.6	0.59	9.2	10.1	10.67	A	2	
88	J 1042	Anon.	35	0	2	57	296.2	2.53	9.5	9.6	13.97	J	1	
							293.8	2.50	9.4	9.6	13.97	Dj	1	
89	A 2203	+ 2° 85	35	21	2	52	118.0	2.40	9.4	10.1	10.69	A	2	
90	J 635	+20° 86	35	35	20	53	133.5	3.35	9.1	11.0	11.80	J	1	
							131.8	2.92	9.1	11.2	11.80	V	1	
91	A 1806	+ 4° 90	36	11	4	51	13.7	2.90	9.0	12.0	08.67	A	3	
92	A 2204	+16° 64	37	15	17	7	328.7	0.85	9.4	10.3	10.70	A	3	

76—In β.G.C., part ii. page 273. About 90" distant in direction of 68°, there is a pair of small stars : 160°, 2½".—β.

78—South component of the wide pair formed by A.G. Berlin A, 169—170.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
93*	J 585	+17° 89	h m s	° '	°	"	9.6 9.7	10.70	A	3
			0 37 39	17 25	216.1	1.18	8.7 9.1	11.77	J	2
					210.1	1.16	8.8 9.2	11.77	V	2
94*	A 1507	+39° 159	37 56	39 49	219.5	0.31	9.0 11.2	07.56	A	2
95	E 404	+56° 114	38 15	57 12	68.1	2.90	9.3 12.5	07.06	E	1
96	A 2205	+19° 111	38 40	20 20	333.6	0.40	9.5 9.5	10.68	A	2
97	A 2304	+ 0° 112	38 47	0 24	73.0	2.06	8.9 11.2	10.69	A	3
98	A 1807	+ 4° 104	39 40	5 3	156.6	2.07	9.0 12.5	08.68	A	2
99	A 2305	+ 1° 127	40 4	2 3	357.9	1.34	9.4 9.8	10.74	A	2
					361.8	0.99	9.0 9.0	11.93	J	1
					362.3	1.12	9.1 9.1	11.93	V	1
100	E 1359 BC AB	+44° 154	40 13	44 51	330.6	2.49	11.0 11.2	15.03	E	2
					269.7	38.21	9.5 11.0	15.03	E	2
101	A 2002	+ 6° 99	41 36	6 28	165.0	0.29	9.3 9.4	09.72	A	3
102	A 2206	+19° 121	42 24	19 46	293.0	4.40	8.5 11.7	10.68	A	2
103	A 2601	- 2° 105	42 33	- 2 34	330.2	0.22	9.4 9.6	13.80	A	2
104	E 223	Anon.	42 35	38 22	262.5	3.82	9.5 9.5	05.83	E	3
105	J 221	+19° 122	42 52	19 59	4.2	4.58	8.8 11.0	10.86	J	1
					7.0	5.20	9.0 10.8	10.86	V	1
					205.9	2.41	8.8 10.8	07.01	A	2
106	A 1508	+43° 152	43 0	44 14	260.5	1.31	9.3 9.8	11.79	J	1
					260.6	1.35	9.2 9.8	11.79	V	1
107	J 636	+22° 125	43 40	22 38	177.5	1.53	9.2 9.5	10.93	J	1
					176.5	1.47	9.3 9.5	10.93	V	1
108	J 222	Anon.	44 33	60 34	91.8	0.90	9.2 9.2	10.86	V	1
					87.0	0.80	9.2 9.2	10.86	V	1
					98.0	0.85	9.2 9.3	14.96	J	1
109	J 223	+ 9° 92	44 38	10 19	306.6	4.53	9.0 9.3	13.07	J	1
					306.2	4.95	9.0 9.3	13.07	Dj	1
110*	J 924	+15° 121	45 17	16 13	67.2	3.30	9.0 10.0	10.99	J	1
					68.6	3.52	9.2 10.0	10.99	V	1
111	J 302	- 1° 105	46 17	- 1 32	44.1	0.60	8.9 11.7	07.57	A	2
					354.8	3.68	.. 14.5	07.60	A	2
112*	A 1509 AB AC	+38° 124	47 13	39 0	29.1	0.20	7.5 7.5	08.80	A	3
					86.8	2.23	9.5 9.8	08.75	E	3
113	A 1808	+21° 111	47 22	22 17	317.4	0.41	8.8 10.2	08.86	A	3
114	E 614	+52° 182	47 40	53 18	298.5	1.14	9.4 10.3	10.69	A	3
115	A 1901	- 1° 110	48 11	- 0 47	292.3	1.92	9.3 9.7	06.95	E	2
116	A 2306	+16° 83	48 14	17 13	162.2	3.84	8.7 12.5	10.67	A	2
117	E 316	+32° 154	48 23	32 50	..	3±	.. ..	..	β	..
118	A 2207	+17° 113	48 44	17 41	245.6	8.13	7.0 10.0	04.28	β	2
					30.5	0.24	7.5 8.5	10.74	A	3
119*	β - Σ 70	..	49 9	52 15	33.6	0.25	.. ..	11.68	A	2
					214.1	3.81	9.4 10.0	10.71	E	2
120	A 2307	+ 3° 120	49 12	3 36						
121	E 938	+53° 171	49 13	54 8						

93—Published later by Aitken as A 2303.—J.

94—A 13th mag. star 19" at 50°2.—A.

110—In *J.A.* vol. ii. page 9, for 206.6 read 306.6.—J.

112—Also a 12th mag. star 18".5 from A at 22°.—A.

119—In *β.G.C.*, part ii. page 284, "there is a 2" or 3" pair of small stars in the field *sf.* Σ 70."—β. The co-ordinates of Σ 70 are given here.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
122	E 1297	+46° 192	0	49	14	47	4	240.9	4.97	9.7	9.8	14.03	E	3
123	A 1258	+53° 173		49	43	54	6	206.8	0.56	8.9	9.7	06.56	A	3
124	J 637	+7° 129		49	50	8	10	169.2	2.62	8.9	9.4	11.87	J	1
								172.9	2.32	9.0	9.6	11.87	V	1
								170.6	2.07	9.2	9.8	13.00	J	1
125	A 1510	+37° 166	50	27		38	2	283.7	0.56	9.6	9.6	07.59	A	3
126	A 2208	+18° 125	50	41		19	2	84.6	1.66	9.2	10.5	10.67	A	2
								85.1	1.54	9.0	10.5	14.74	Lv	2
127	J 638	Anon.	50	52		8	7	199.4	2.87	9.5	9.5	11.87	J	1
								205.2	2.46	9.5	9.5	11.87	V	1
								202.6	2.67	9.5	9.5	13.97	J	1
								202.6	2.70	9.7	9.7	13.97	Dj	1
128	E 1298	+45° 231	50	58		45	45	25.1	1.99	9.5	9.7	14.91	E	3
129	A 1511	+39° 210	51	0		39	57	35.2	1.26	7.2	11.7	07.59	A	3
130	A 2209	+18° 127	51	2		18	30	150.4	1.37	9.7	9.7	10.67	A	2
								155.2	1.54	9.6	9.9	14.74	Lv	2
131*	E 405	+57° 170	51	2		57	22	116.6	4.86	..	..	92.81	E	2
								114.8	4.17	9.0	9.0	07.04	E	2
132	A 1259	+53° 179	51	26		53	41	57.5	0.21	9.0	9.1	06.56	A	3
133	Hu 1207	+33° 135	51	46		33	27	173.8	0.30	8.8	8.8	04.66	Hu	1
								174.0	0.31	..	..	05.85	A	1
134	E 406	+56° 153	51	59		56	58	149.1	3.67	9.2	9.5	07.07	E	2
135	A 1512	+36° 160	53	8		36	38	328.2	4.75	8.0	13.5	07.69	A	3
136	J 586	+17° 128	53	11		18	3	222.7	1.31	9.2	9.2	11.77	J	1
								224.1	1.38	9.3	9.3	11.77	V	1
137	E 941	+52° 233	53	30		53	15	62.6	3.70	9.5	11.7	10.84	E	2
138	A 1809	+40° 194	53	58		41	17	94.4	4.70	9.1	13.2	08.25	A	2
139	E 615	+53° 190	54	11		53	29	267.4	3.27	9.1	11.7	08.80	E	2
140	E 1204	+48° 304	54	27		48	48	348.2	4.09	9.6	9.8	13.84	E	3
141	A 1902	-1° 124	55	14		-1	6	198.6	0.31	8.0	8.4	08.87	A	3
142	A 1903 AB AB-C	+1° 125	55	29		-1	37	86.9	0.37	9.1	9.5	08.87	A	3
								30.0	5.72	8.8	13.7	08.87	A	2
143	J 925	Anon.	55	30		16	10	288.0	3.42	9.7	11.0	13.04	J	1
144	E 1205	+48° 316	56	34		48	28	113.6	2.87	9.3	9.8	13.83	E	2
145	A 1513	+38° 167	56	58		39	11	294.4	3.49	9.0	11.3	07.69	A	3
146	Przybyllok	+9° 116	57	44		9	40	70.4	2.43	8.0	9.0	08.77	Prz	1
								75.4	2.44	..	..	10.77	Voûte	1
147	A 2003	+5° 138	58	8		5	27	302.8	0.20	9.1	9.1	09.75	A	4
148	A 2308	+1° 194	58	38		1	47	338.4	0.25	9.4	9.5	10.76	A	3
								335.8	0.20	..	..	11.67	A	2
149	J 873	Anon.	58	51		21	21	207.4	3.33	9.5	11.8	12.78	J	1
150	J 874	Anon.	58	57		22	6	347.4	2.93	9.5	12.0	12.78	J	1
151	A 2309	+2° 150	59	28		2	47	67.2	1.55	9.5	12.2	10.74	A	2
152	A 2004	+5° 141	59	38		6	14	245.8	1.41	7.1	10.0	09.72	A	3
153	A 1514 CD AB AC	+38° 183	1	0	11	38	29	122.0	1.52	13.0	14.0	07.69	A	2
								292.7	7.70	8.1	13.0	07.69	A	2
								263.4	22.92	8.1	13.0	07.69	A	2

131—In *M.N.*, vol. lxxvii. page 495, for +57°171 read +57°170.—E.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
154	Fox 3	+79° 27	1	0	12	79	41	147.8	4.15	9.4	12.0	15.65	Fox	2
155	E 448	Anon.	0	17		50	10	81.3	2.50	9.5	9.7	07.77	E	2
156	A 1515	+36° 190	0	29		36	23	117.3	0.23	9.1	9.4	07.71	A	3
157	A 1810	+43° 217	0	38		43	29	194.6	1.59	8.8	9.3	08.25	A	2
158	A 2310	+ 0° 179	0	42		1	9	95.7	0.19	9.5	9.5	11.22	A	2
159	E 616	+53° 223	1	41		54	0	278.1	3.35	9.4	10.3	08.85	E	3
160	E 942 BC AB	+54° 221	1	52		54	47	96.7	4.75	10.5	12.2	10.77	E	3
								174.3	18.97	8.9	10.5	10.74	E	2
161	A 1516 AB AB-C=O Σ^2 II	+37° 210	2	39		38	13	334.7	0.16	7.8	7.8	07.71	A	3
								159.9	60.75	7.2	8.2	13.85	Franks	2
162*	β - Ce AC	+54° 223	2	42		54	33	113.8	4.19	10.8	12.5	07.46	β	1
								145.3	205.80	5.2	10.8	07.46	β	1
163	J 926	+16° 115	3	28		16	25	126.6	1.93	9.3	9.6	13.08	J	1
164	E 1360	+44° 242	3	34		44	55	261.1	2.77	9.5	9.8	15.05	E	2
165	A 2101	+11° 146	3	49		11	38	253.7	0.59	9.3	9.3	09.86	A	2
166	J 875	Anon.	3	52		40	9	337.2	3.53	9.6	9.6	12.70	J	1
								334.2	3.27	9.6	9.6	12.70	V	1
167	E 1300	+45° 284	4	57		46	10	38.2	1.73	9.6	10.2	14.85	E	3
168	A 1517	+39° 270	5	6		39	44	258.9	1.36	9.1	14.7	07.73	A	2
169	A 2311	+ 1° 217	5	6		2	7	41.2	4.34	8.5	11.2	11.66	A	2
170	J 515	+36° 196	5	19		36	38	177.5	3.78	9.0	9.0	11.40	J	1
								179.1	3.64	9.1	9.1	11.40	V	1
171	A 1518	+39° 273	5	28		40	13	239.4	3.40	8.3	13.5	07.69	A	2
172	A 2312	+ 2° 163	5	53		2	39	314.4	0.96	9.0	12.2	11.66	A	2
173	Hu 1209 AB AC= Σ 94	+15° 170	6	3		16	10	218.8	0.81	9.0	12.5	04.78	Hu	1
								217.6	0.81	..	..	05.58	A	1
								94.3	19.20	8.7	8.7	66.10	De	3
								96.2	19.82	..	..	02.58	Hu	2
174	E 755 AB CD AC AE	+51° 244	6	23		51	53	334.8	4.03	9.1	12.0	09.86	E	4
								124.5	3.13	12.2	12.3	09.86	E	3
								182.1	10.20	9.1	12.2	09.86	E	3
								295.3	47.74	9.1	9.3	09.86	E	3
175*	J 1119 AB AC	+64° 128	6	44		64	53	10.0	3.38	9.2	9.2	15.23	J	1
								85.0	30.03	9.2	12.0	15.23	J	1
176	E 756	+53° 252	7	25		54	14	209.3	3.50	8.5	10.6	09.88	E	4
177	A 1260	+28° 202	8	45		29	16	255.4	0.22	9.3	9.5	05.95	A	2
178	E 943 CD AC AB CB	+54° 248	9	38		54	24	40.3	3.22	11.0	11.3	10.84	E	2
								263.4	58.47	9.1	11.0	10.84	E	2
								261.2	33.35	9.1	11.2	10.84	E	2
								86.4	24.42	11.0	11.2	10.84	E	2
179	A 1904	+27° 199	10	13		27	39	90.6	0.72	8.8	10.3	08.87	A	3
180	A 1261	+30° 189	10	40		30	46	313.1	0.49	9.2	9.5	05.94	A	3
181	J 224	+19° 210	10	56		19	24	262.0	4.30	8.7	10.5	10.90	J	1
182	A 1519	+36° 213	11	11		36	45	69.6	1.40	9.0	10.5	07.70	A	2
183	A 2102	+ 9° 142	11	39		9	21	329.4	0.48	7.0	10.0	09.86	A	2

162—The faint pair Ce was observed by Burnham in connection with the proper motion of the principal star;
 μ Cassiopeiæ.—J.

175—Both stars appear yellowish.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
184	E 1207	+48° 386	1	11	46	48	40	95.8	4.00	9.1	12.0	13.96	E	2
185	A 2103	+ 9° 144	12	5		9	49	181.8	4.92	8.7	12.0	09.86	A	2
186	A 1520	+39° 293	12	7		40	3	237.2	2.56	9.0	10.5	07.69	A	2
187*	E 1130	+49° 342	12	33		49	33	1.7	3.20	9.3	11.6	12.80	E	3
188	A 1521	+39° 294	13	1		39	52	296.1	0.23	9.5	9.5	07.71	A	3
189	E 1409	+43° 266	14	2		44	5	216.0	4.69	9.6	12.0	15.89	E	2
190	J 225 AB AC	Anon.	14	8		15	5	30.3	1.95	9.5	9.5	10.91	J	1
								205.9	25.53	9.5	10.5	10.91	J	1
191	E 757	Anon.	14	10		51	24	58.6	1.76	9.4	11.2	09.82	E	3
192*	E 408 AB AC	+57° 251	14	28		57	51	160.1	2.70	9.3	11.2	07.07	E	2
								345.2	89.98	9.3	9.4	07.09	E	3
193*	E 407 CD	..	..	..	..	..	..	90.1	3.55	9.4	11.0	07.07	E	2
194	J 226	+14° 201	14	55		15	13	65.2	4.22	8.8	9.6	10.90	J	1
195	A 1905	+20° 200	16	0		20	57	330.1	0.88	8.7	11.3	08.91	A	3
196	A 2005	+ 6° 201	16	3		6	41	141.4	3.26	8.8	14.0	09.74	A	2
197	A 2313	+ 2° 192	16	4		2	38	322.3	0.39	9.3	10.2	11.68	A	3
198	A 2211	+ 8° 209	16	12		9	6	339.8	2.44	8.5	12.5	10.61	A	2
199*	A 2212	+17° 192	16	31		17	47	223.1	1.34	8.6	9.2	10.61	A	3
200*	J 227	+14° 205	16	50		15	16	175.7	2.55	9.4	11.7	10.90	J	1
201*	Cerulli	..	17	17 :		46	52 :	294.0	3.64	8.6	11.9	12.90	Abt	4
202	A 1906	+20° 205	17	19		20	58	38.2	4.54	8.9	11.7	08.91	A	3
203*	A 2314	+ 0° 227	19	3		1	4	310.4	2.86	9.3	13.0	11.69	A	2
204	J 639	Anon.	20	12		24	24	119.4	3.73	9.6	9.6	11.80	J	1
								123.8	3.98	9.5	9.5	11.80	V	1
205	A 1262	+42° 299	20	31		42	53	345.6	0.28	9.4	9.4	06.83	A	3
206	A 1263	+43° 287	20	40		43	41	210.0	3.78	8.9	11.5	06.77	A	2
207	A 1907	+35° 270	21	9		35	56	220.7	1.58	7.7	13.5	08.85	A	3
208	A 2315	+ 1° 260	21	23		2	0	346.6	0.33	9.6	9.6	11.68	A	3
209	A 2213	+ 9° 167	21	45		9	59	124.2	4.72	6.8	13.8	10.61	A	2
210	E 318	+30° 223	22	8		31	1	71.0	2.72	9.5	11.0	06.71	E	2
211	E 1410 BC AB	+43° 298	22	13		43	49	124.3	4.11	11.3	13.9	15.94	E	3
								89.1	20.34	9.5	11.3	15.92	E	2
212	A 1908	+35° 274	22	16		36	8	342.7	1.72	8.7	11.3	08.85	A	3
213	E 451	+49° 386	22	57		50	4	65.1	1.97	9.1	9.2	07.89	E	3
214	A 2006	+ 6° 224	23	10		6	33	286.6	1.65	8.3	13.8	09.74	A	2
215	A 1264	+54° 295	23	34		54	46	301.9	0.31	9.3	9.9	06.62	A	3
216	E 319	+32° 256	24	1		33	9	290.7	1.75	9.3	9.8	06.95	E	1
217	A 2316	+ 2° 216	24	24		3	13	64.2	4.52	8.8	12.5	11.67	A	2
218	A 2214	+19° 243	24	52		19	39	187.8	0.78	9.5	9.8	10.63	A	2
219	A 2317	+ 3° 205	24	59		3	22	38.5	0.99	8.9	9.6	11.68	A	3
220	E 1210	+46° 367	25	4		47	5	180.7	2.35	9.2	11.2	13.98	E	2
221	A 1909	+21° 199	25	14		21	31	127.2	1.67	9.3	9.5	08.91	A	3
								123.3	1.87	..	..	15.13	Fox	2

187—There is a *comes* mag. 13.5 P. 97°6 D. 11°6.—E.192—193—Two pairs a little *n.* of ϕ *Cassiopeæ*.—E.

199—Bossert gives a proper motion of +0.0175, 0.000.—J.

200—In *J.A.*, vol. i. page 98, for 15° 6' read 15° 16'.—Doo.

201—Measured by Abetti from a list by Cerulli. The co-ordinates agree fairly well with B.D. +46°334, but the magnitude of that star is 7.7 in the B.D. and 7.6 in A.G.—J.

203—B.D. 8.3.—The magnitude in A.G. Catalogue is 9.2. The star is certainly not brighter than this, and there is no 8.3 magnitude star near.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'	°	"					
222	A 1910	+22° 236	1	25	18	22	25	126.7	0.14	6.9	7.1	08.91	A	3
223	A 2318	+ 2° 221		26	23	2	33	153.8	3.52	8.8	13.0	11.67	A	2
224*	J 876	+48° 458		27	37	49	7	320.2	2.87	9.2	9.8	12.68	J	1
								317.8	3.57	9.5	10.2	12.92	E	3
225	A 2215	+10° 199		27	58	11	17	356.4	1.56	8.8	11.5	10.62	A	2
226	A 1911	+35° 293		28	12	35	28	355.0	0.45	9.7	10.1	08.85	A	2
227	J 640	+ 4° 268		28	50	5	18	47.4	1.54	9.2	9.2	11.79	J	1
								47.1	1.54	9.1	9.1	11.79	V	1
								48.6	0.92	9.7	9.7	16.96	J	1
228	A 1912 AB	+35° 296		29	36	35	47	335.3	0.17	8.6	8.8	08.85	A	3
	AB—C=Σ 135							259.1	8.05	8.0	10.7	31.62	Σ	2
								259.7	8.16	8.0	11.0	08.85	A	1
229	A 1913	+34° 272		29	55	34	15	267.9	0.22	9.5	9.5	08.87	A	3
230	E 617	+54° 324		30	58	54	34	304.9	3.27	9.1	9.2	08.85	E	2
231	A 2401	+ 1° 286		31	0	1	21	332.1	0.74	9.0	11.3	11.86	A	3
232	A 1914	+34° 276		31	1	34	22	286.9	3.50	9.0	13.6	08.87	A	3
233*	J 877	Anon.		31	39	47	3	186.0	2.92	9.7	12.5	12.78	J	1
234	A 2402	+ 3° 219		32	18	3	23	319.3	3.48	8.3	14.0	11.82	A	2
235	A 1265 BC	+54° 332		32	23	54	47	348.2	0.51	9.7	10.0	06.59	A	3
	A—BC							278.6	59.05	8.6	..	06.59	A	1
236	J 228	+23° 215		32	43	23	30	100.0	2.92	8.5	10.0	10.90	J	1
								101.4	3.31	8.6	11.0	11.98	J	1
								99.0	3.34	8.8	10.8	11.98	V	1
237	E 452	+49° 420		32	54	50	14	176.2	2.62	9.4	11.3	07.89	E	2
238	A 2319	+19° 270		32	58	19	28	26.2	1.22	9.8	9.8	11.60	A	3
239	A 2007	+25° 269		33	28	25	30	219.5	4.22	8.0	10.8	09.83	A	2
								217.0	3.86	8.0	10.0	16.02	J	1
240	J 587	Anon.		33	54	22	8	30.6	1.45	9.2	9.4	11.77	J	1
								30.9	1.47	9.2	9.3	11.77	V	1
241	A 1266	+53° 354		34	10	54	11	236.8	0.20	7.5	8.5	06.71	A	3
242	A 2403	+ 3° 223		34	48	3	43	270.0	0.71	8.8	11.8	12.13	A	3
243	A 1915	- 1° 224		34	59	-1	13	239.7	0.75	9.0	10.3	08.91	A	3
244	A 1267	+54° 350		35	26	54	32	341.2	0.33	7.9	8.5	06.69	A	4
245	E 227	+34° 293		35	48	34	23	78.1	3.76	9.3	9.8	05.90	E	2
246*	J 927	Anon.		36	12	14	44	246.2	3.70	9.7	10.0	13.10	J	1
247	A 1268	+52° 406		36	39	52	58	275.5	0.19	9.4	9.4	06.71	A	3
248	A 2320	+10° 221		36	40	10	53	317.1	0.17	9.5	9.5	11.20	A	2
249	A 2321	+17° 244		36	44	17	52	81.2	2.17	8.9	11.6	11.60	A	3
250	A 2404	+ 0° 270		36	45	1	13	0.9	0.26	9.1	9.1	11.86	A	3
251	A 1916	+33° 276		36	49	33	44	237.0	0.83	9.3	9.6	08.87	A	3
252	Hu 1210	+49° 441		37	35	49	36	68.3	0.14	9.5	9.5	02.71	Hu	1
								63.8	0.20	..	..	06.55	A	1
253	J 878	Anon.		37	54	62	47	202.4	1.07	9.3	9.9	12.73	J	1
								198.0	1.00	..	..	12.73	Dj	1
254	E 945	+51° 381		38	14	51	58	110.5	4.77	9.0	11.0	10.86	E	2

224—Measured by Espin as E 1131.—J.

233—A B.D. star mag. 7.1 at 8' south and 6' preceding.—J.

246—South of a wide pair: 10°, 120°, 9.2-9.2.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
255	A 2008	+ 4° 299	1	39	1	4	55	105.4	0.42	9.0	10.0	09.81	A	3
256	E 1301	+ 45° 433	40	1	45	55		283.8	2.12	9.5	9.8	14.90	E	2
257	A 2322	+ 19° 281	40	30	19	27		178.4	0.50	8.7	9.4	11.60	A	2
258	E 1056	+ 50° 347	40	46	50	46		20.3	4.80	9.5	9.7	11.07	E	2
259	E 1361 BC AB	+ 44° 362	41	1	45	11		268.5	2.95	12.2	12.4	15.04	E	3
								7.2	18.43	9.3	12.2	15.04	E	3
260	A 1522	+ 42° 371	41	42	43	11		93.9	1.30	9.0	11.0	07.64	A	3
261	A 2405	+ 3° 237	41	47	3	47		211.8	0.98	9.0	11.3	12.67	A	3
262*	E 947 AB AC	+ 54° 376	41	58	55	4		205.1	4.35	9.0	10.3	10.88	E	3
								25.9	26.72	9.0	10.7	10.88	E	2
263	E 1304	Anon.	42	8	45	52		278.1	2.40	9.8	12.1	14.99	E	2
264	A 1523	+ 41° 342	42	23	41	48		64.8	0.40	9.2	9.2	07.66	A	3
265	A 1917	— 0° 271	42	31	—	0	17	26.8	1.81	9.0	9.2	08.93	A	3
								27.1	2.06	..	..	13.96	Dob	3
266*	A 1269	+ 52° 440	42	48	52	49		213.5	0.41	9.5	10.0	06.71	A	3
267	E 1212	+ 48° 529	42	52	48	25		13.1	4.06	9.5	9.6	13.06	E	3
268	J 641	Anon.	43	45	9	20		244.6	4.97	9.0	10.0	11.87	J	1
								245.5	5.27	8.9	10.5	11.87	V	1
269	J 642	+ 26° 298	43	53	26	49		112.8	1.20	9.0	10.0	11.79	J	1
								115.0	0.99	9.0	11.0	11.79	V	1
								249.6	4.92	8.5	11.7	09.90	E	2
270	E 761	+ 53° 395	44	27	53	31		249.6	4.92	8.5	11.7	09.90	E	2
271	J 229	Anon.	44	33	12	6		90.7	3.58	9.5	12.0	10.86	J	1
272	A 2009	+ 27° 286	44	37	27	51		325.1	0.69	9.4	9.4	09.72	A	3
273	A 2602	— 4° 281	45	59	—	4	31	337.8	0.25	9.5	9.5	13.80	A	2
274	E 1411	Anon.	46	19	44	40		236.6	1.65	9.5	9.7	15.90	E	3
275	E 762 BC AB	+ 51° 418	46	29	51	24		264.1	2.83	10.3	10.8	09.94	E	3
								278.9	60.13	8.5	10.3	09.93	E	2
276	E 320 AB AC	+ 33° 310	47	36	33	22		161.2	1.87	8.5	9.5	06.95	E	2
								259.8	9.95	8.5	10.0	06.95	E	2
277	A 2406	+ 0° 300	47	37	0	48		59.0	0.74	9.2	12.0	12.74	A	2
278	Hu 1213	+ 12° 246	47	40	13	2		143.6	0.15 ±	9.0	9.0	04.71	Hu	1
								152.4	0.18	..	..	05.67	A	1
279	J 879	Anon.	47	51	58	20		289.4	2.75	9.7	9.9	12.73	J	1
								286.0	2.85	10.0	10.0	12.73	V	1
280	E 1213	+ 46° 470	48	5	46	57		131.2	2.41	9.4	12.0	12.96	E	3
281	Hu 1214	+ 14° 294	48	15	14	49		228.9	3.54	9.0	13.0	04.78	Hu	1
								227.5	3.22	..	..	05.67	A	1
282	A 2010	+ 4° 324	48	26	4	52		177.6	4.21	9.1	13.0	09.80	A	2
283	J 671	Anon.	48	30	21	28		155.6	2.80	9.5	9.7	11.98	J	1
								152.7	2.72	9.5	9.7	11.98	V	1
284	A 1918	— 0° 290	49	57	—	0	13	322.1	1.15	9.5	9.6	08.93	A	3
285	A 1811	+ 37° 405	49	57	37	38		87.8	1.22	8.4	11.5	08.76	A	2
286	E 948	+ 54° 414	49	58	54	26		85.2	3.05	9.5	11.5	10.84	E	3
287	E 453	+ 44° 387	50	6	44	54		259.0	4.45	8.5	11.5	07.99	E	2
288	A 2323	+ 16° 215	50	24	17	5		145.4	1.70	9.1	11.0	11.60	A	2
289	A 1270	+ 53° 420	50	31	53	56		216.5	0.63	8.9	9.1	06.71	A	3

262—In *M.N.*, vol. lxxi. page 220, for $1^h 42^m 0$ read $1^h 40^m 8$, as Espin confirms B.D. +54°376.—J.
 266—Aitken's R.A. is 41^s too large in *Lick Obs. Bul.* 109.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h	m	s							
290*	A 1919	- 0° 292	1	50	54	- 0	11	290.4	2.02	9.1 9.5	08.93	A 3
291	A 2407	+ 2° 296	51	14		2	34	103.7	0.53	9.2 11.2	12.74	A 3
292*	β -	+ 1° 346	51	27		1	23	30.4	0.92	9.2 9.5	04.77	β 2
								37.6	0.97	9.3 10.5	12.74	A 3
293	A 1524 AB	+ 42° 401	51	27		42	28	235.9	0.30	8.8 9.2	07.64	A 3
	AB-C							12.4	24.4±	.. 13.5	..	A ..
294	A 1525	+ 41° 373	51	32		42	20	204.4	1.06	9.1 10.5	07.62	A 2
295	E 161	+ 37° 420	51	56		37	26	243.4	3.9±	9.5 10.7	04.77	E 3
296	E 1214	+ 46° 481	52	1		46	30	215.1	3.35	9.4 9.6	13.97	E 3
297	E 228	Anon.	52	10		37	36	9.5	3.51	9.7 9.7	05.79	E 3
298	J 316	+ 11° 257	52	18		12	5	250.4	2.22	9.2 10.0	10.05	J 1
								249.8	2.40	9.4 10.8	10.05	V 1
299	E 321	+ 29° 333	52	31		30	11	181.2	3.63	9.2 10.0	06.82	E 2
300	A 1526	+ 43° 401	52	44		44	11	291.4	0.35	8.4 8.5	07.66	A 3
301	A 2409	+ 0° 317	53	1		1	17	28.7	2.39	9.0 12.0	12.74	A 2
302	J 643	+ 13° 304	53	3		14	8	164.0	3.74	8.9 10.0	11.87	J 1
								167.1	4.32	8.9 10.0	11.87	V 1
303	A 1920	+ 32° 354	53	14		32	47	210.8	1.01	8.5 8.8	08.88	A 3
								212.2	1.21	.. ..	12.35	Dob 3
								224.1	1.35	.. ..	13.95	Dob 4
304	A 2011	+ 25° 333	53	53		25	24	290.6	3.34	8.6 13.5	09.75	A 2
305	J 644	Anon.	54	56		7	11	209.2	1.53	9.8 11.5	11.37	J 1
306	J 230	+ 24° 289	55	11		24	41	153.6	1.93	9.0 9.2	10.90	J 1
								155.8	1.98	8.9 9.0	11.02	J 2
								153.6	1.98	9.0 9.1	11.04	V 1
								152.8	2.12	9.0 9.1	11.54	V 3
								153.6	2.19	9.0 9.0	11.92	J 2
								153.8	2.35	9.0 9.2	16.02	J 1
307	A 2410	+ 2° 307	55	13		2	35	223.0	2.42	9.3 11.7	12.80	A 2
308	J 645	Anon.	55	18		52	1	195.5	2.71	9.6 9.8	11.87	J 1
								195.8	2.97	9.4 9.6	11.87	V 1
309*	A 1921	+ 52° 488	55	22		52	35	73.8	2.62	9.3 9.3	06.62	A 2
310	A 1812	+ 36° 384	55	30		37	15	232.0	2.90	8.0 13.6	08.82	A 2
311	A 1922	- 1° 268	55	44		- 1	7	191.6	2.56	8.8 13.4	08.93	A 3
312	J 646	Anon.	55	55		27	19	79.8	4.63	9.1 10.5	11.80	J 1
313	A 1527	+ 42° 424	56	26		43	17	237.8	4.96	8.5 11.8	07.67	A 2
								238.1	4.33	8.2 11.1	08.06	E 3
314*	A 2324	Anon.	56	34		4	33	53.0	0.72	9.4 11.7	11.77	A 2
315	A 1923	+ 39° 454	56	57		40	17	157.2	0.45	8.4 10.3	08.83	A 3
316	A 1924	+ 33° 343	57	23		33	24	335.8	0.48	9.4 9.6	08.86	A 2
317	A 1813 AB	+ 36° 391	57	26		36	20	188.5	0.20	8.4 8.6	08.81	A 3
	AB-C							338.9	0.70	7.9 11.5	08.81	A 3

290—In *Lick Obs. Bul.* 158, for A. G. Nicolajew 385 read 383.—Doo.

292—In *β .G.C.*, part ii, page 316. It was measured by Aitken as A 2408.—J.

309—Noted double in A.G. Harvard 930. Aitken measured it as an A.G. pair in *Lick Obs. Bul.* 125, but the same measure appears in *Lick Obs. Bul.* 158 under the number A 1921. As in other such cases, this number A 1921 is kept for the sake of a better classification.—J.

314—A.G. Albany 562 not in B.D. It is the *sp.* star of a small triangle; the stars are B.D. +4°337 (9.5) and +4°338 (9.0). In the Albany Catalogue the three stars are assigned the magnitudes 9.2, 9.4, and 9.2 respectively.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
318	A 2216	+11° 264	1	57	49	11	48	143.4	1.66	8.5	9.7	10.62	A	2
319	J 1080	+10° 271		57	55	10	57	190.0	2.59	9.2	13.0	15.03	J	1
320	E 1060	Anon.	58	48		50	28	300±	10±	..	13.0	..	J	e
321	A 1925	+33° 351	58	49		33	59	252.5	2.90	9.6	11.5	11.07	E	2
322	A 2603	-4° 325	59	47		4	22	229.7	3.44	9.0	13.4	08.90	A	2
323	E 322	+32° 374	2	0	46	32	45	205.9	4.46	9.0	13.0	13.80	A	2
324	J 880	Anon.	1	5		56	41	92.2	2.32	9.5	9.6	06.96	E	2
325	E 409	+55° 506	1	28		55	46	101.6	3.43	9.2	9.4	12.76	J	1
326	A 1926	+38° 408	1	35		38	31	108.7	1.95	9.5	11.0	07.11	E	2
327	A 2604	-4° 332	1	46		4	13	140.2	0.93	8.2	10.8	08.83	A	3
328	A 2012	+33° 365	3	0		33	55	126.4	4.69	9.4	10.2	13.80	A	2
329	J 231	Anon.	3	57		15	58	320.1	0.44	9.3	11.2	09.35	A	2
330	A 2325	+0° 358	5	37		0	25	249.6	4.03	8.8	10.6	10.93	J	1
331*	E 1215	+47° 576	6	1		47	43	251.0	3.82	9.0	10.8	10.93	V	1
332	E 229	+37° 497	6	23		37	44	247.2	4.04	9.2	12.0	16.14	J	2
333	Hu 1215	+15° 315	8	14		15	26	114.4	0.33	9.2	9.8	11.73	A	2
334	E 1061	+49° 589	8	27		50	3	172.8	3.45	9.3	12.4	13.85	E	3
335	E 871	Anon.	9	5		55	14	38.2	1.67	9.0	10.5	05.87	E	4
336	E 230	Anon.	9	23		37	47	329.4	1.62	9.2	12.5	04.78	Hu	1
337	A 1271	+52° 553	11	30		53	6	326.2	1.30	..	11.0	05.67	A	1
338*	E 270 BC AB	+35° 436	11	35		36	6	113.0	3.25	9.5	9.6	12.00	E	2
339	A 2013	+5° 307	11	42		6	16	299.8	3.74	9.4	10.1	10.03	E	3
340	E 618	+53° 491	11	54		53	46	301.6	2.86	9.3	9.9	05.87	E	4
341	A 1272	+55° 564	12	10		56	17	349.7	4.51	8.8	12.0	06.87	A	2
342	A 1273	+55° 567	12	25		55	52	358.8	2.95	9.2	12.0	06.98	E	2
343	Wirtz	..	13	39		56	53	343.7	42.35	..	..	06.98	E	2
344	A 1274	+52° 564	14	0		53	17	145.7	0.23	9.2	9.2	09.84	A	2
345	E 455	+49° 637	15	18		49	47	173.1	3.65	9.3	11.6	08.90	E	3
346	J 1120	Anon.	15	41		23	53	24.8	1.24	8.5	10.7	06.87	A	2
347	A 1701	+41° 446	15	55		42	16	336.2	3.64	8.9	12.5	06.87	A	2
348	J 5	Anon.	16	7		61	47	249.8	3.71	9.5	11.5	07.92	Wirtz	4
349	A 2014	+25° 385	17	4		26	9	254.0	0.35	9.0	10.5	06.90	A	3
350	A 2217	+8° 365	17	11		9	19	135.6	4.54	9.2	13.0	07.85	E	2
351*	A 2501	-11° 445	17	20		11	19	280.6	2.45	10.0	12.0	16.03	J	1
352	A 2326	+0° 391	17	41		0	37	241.8	1.50	9.4	12.5	07.79	A	2
353	E 764 BC AB	+51° 566	19	28		51	31	9.8	1.29	10.0	11.0	09.88	J	1
								35.4	0.93	8.8	12.8	09.75	A	2
								33.0	0.94	8.9	13.0	16.03	J	1
								78.1	2.91	9.1	12.8	10.62	A	2
								144.6	0.74	9.4	12.0	13.01	A	2
								10.2	3.94	8.2	14.2	11.22	A	2
								94.0	2.32	9.2	12.0	09.81	E	2
								62.1	35.67	8.5	9.2	09.81	E	2

331—In *M.N.*, vol. lxxiv. page 248, for 47° 31' read 47° 37', as Espin confirms B.D. +47° 576.—J.

338—The magnitude of A is not given in *M.N.*, vol. lxvi. page 430. The B.D. magnitude of +35° 436 is 9.4.—J.

351—The principal star is 31.7 at 300.8 from a star 9.3 magnitude.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
354*	A 2327	+ 3° 330	2	20	4	3	34	332.0	4.91	9.5	11.2	11.22	A	2
355	A 2605	+13° 386	20	4		13	52	129.4	0.30	9.0	11.0	13.49	A	2
356	A 1814	+38° 479	20	57		38	51	52.6	0.50	9.7	9.7	08.79	A	2
357	A 2502	-11° 457	21	17		-10	51	282.6	2.37	8.8	11.7	12.97	A	2
358	A 2503	-10° 488	21	18		-9	58	286.3	0.86	8.3	12.0	13.01	A	2
359	E 456	+49° 665	22	20		50	9	269.8	3.28	9.1	11.4	07.82	E	3
360	A 2328	+19° 357	22	28		19	30	85.6	0.32	9.2	9.7	10.70	A	3
361	A 2504	-10° 492	22	38		-9	59	353.8	2.14	8.8	12.0	13.01	A	2
362	E 872 AB AC	+54° 551	22	57		55	0	156.6	4.56	9.4	10.3	10.06	E	3
								18.0	7.00	9.4	14.0	10.09	E	1
363	A 1815	+38° 484	23	13		38	29	135.3	1.84	7.1	11.0	08.79	A	2
364	A 1275	+55° 629	23	26		56	15	24.3	0.76	9.5	9.5	06.90	A	3
365*	A 2329	+ 3° 339	23	34		4	4	300.1	0.38	9.1	9.2	11.38	A	3
366	A 2330	+16° 294	23	56		17	1	345.3	0.84	9.4	9.4	10.69	A	2
367	J 647	+26° 414	23	58		26	27	133.9	3.63	9.0	12.5	11.86	J	1
368	A 1816	+36° 499	24	13		36	58	249.6	1.61	6.5	11.2	08.80	A	3
369	A 2331	+ 3° 341	24	22		4	14	137.6	1.26	8.8	12.7	11.20	A	2
370	A 1817	+39° 552	24	23		39	39	227.8	2.16	9.0	11.5	08.79	A	2
371	A 2016	+ 8° 380	24	24		8	18	104.0	0.26	9.3	9.3	09.82	A	2
372	J 6	+58° 478	24	32		59	4	135.7	1.98	9.1	10.7	09.88	J	3
								134.9	1.99	8.9	10.2	10.80	J	2
								135.0	1.96	8.9	10.5	10.80	V	2
373	J 648	+ 0° 406	24	48		0	23	154.7	2.59	9.1	9.4	11.85	J	1
								159.1	2.56	9.3	9.6	11.85	V	1
								156.6	2.08	9.5	9.7	16.14	J	2
374	A 2017	+ 4° 405	25	31		4	31	64.8	3.18	9.0	13.0	09.82	A	2
375	A 2018	+ 6° 374	25	31		6	47	170.1	0.47	9.0	11.0	09.82	A	3
376	E 1063	+50° 568	25	39		50	42	25.1	2.05	9.5	11.0	11.05	E	2
377	A 2019	+ 5° 346	25	45		6	10	250.1	1.17	9.2	9.5	09.81	A	2
378	J 588	Anon.	26	13		19	51	152.1	4.67	9.3	9.4	11.40	J	2
								149.8	4.81	9.3	9.4	11.75	V	1
								150.0	4.19	9.4	9.6	16.14	J	2
379	A 2332	+ 0° 414	27	10		1	9	148.0	3.13	8.4	13.2	11.20	A	2
380	E 1216	+46° 583	27	11		46	38	92.8	1.62	9.3	9.4	13.96	E	3
381	A 1927	+35° 498	27	23		35	21	171.7	0.76	8.0	10.5	08.85	A	3
382	A 2333	+ 2° 394	27	34		2	20	189.7	0.35	9.0	9.0	11.70	A	3
383	A 1276	+55° 643	27	34		55	58	200.3	0.88	8.9	9.8	06.90	A	3
384	A 2020	+27° 394	27	36		28	12	38.0	2.86	7.9	13.8	09.75	A	2
385	E 271	+34° 459	27	55		34	53	66.4	1.26	9.5	10.0	06.74	E	1
386	A 2334	+ 3° 351	28	29		3	23	5.5	0.18	8.5	8.6	11.75	A	3
387	A 2218	+19° 375	30	1		20	15	106.8	1.80	8.9	13.0	10.65	A	3
388	A 1818	+39° 570	30	14		39	56	331.9	0.18	8.8	9.0	08.78	A	3
389	A 1528	+43° 529	30	32		43	50	17.0	1.50	8.8	8.8	07.61	A	2
								17.1	1.82	..	..	13.88	Dob	2

354—The colour contrast in this pair is unusual, the fainter star being decidedly reddish, while the brighter is blue white. The combined magnitude is certainly not equal to 9.0 given in B.D.—A.

365—Both components of this pair are orange-yellow in colour. The double is the preceding star of a very wide pair, the following star (9.0) of which is white blue. A proper motion of 0.27 in 51" is assigned to the close pair by Boss.—A.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h m s	° ' "	°	"				
390	A 2021	+ 6° 393	2 30 56	6 28	16.4	4.20	8.5 13.2	09.79	A	2
391	A 2606	- 10° 512	31 8	- 10 15	77.2	3.49	8.0 14.0	13.68	A	2
392	E 459	+ 48° 708	31 16	49 0	142.7	3.35	8.9 10.2	07.89	E	4
393	A 2607 AB	- 13° 487	31 34	- 13 8	248.7	1.08	9.4 9.4	13.67	A	2
	AB—C=h 2148				337.3	22.57	.. 10.5	13.66	A	1
394	A 2022	+ 27° 405	31 35	28 14	315.8	0.82	8.3 12.5	09.66	A	2
395	E 1307	+ 45° 635	31 49	45 26	3.4	2.11	9.5 9.7	14.09	E	4
396	E 460 AB	+ 48° 711	32 13	48 19	316.8	2.68	9.1 9.3	07.84	E	3
	AC				336.8	18.85	9.1 13.5	07.91	E	1
397	A 1277	+ 45° 638	32 29	45 44	2.3	3.95	9.0 12.0	06.74	A	3
398	E 1133	+ 49° 725	32 53	49 52	293.3	3.26	9.3 10.3	12.22	E	4
399	A 1278	+ 45° 641	32 56	45 43	283.2	0.23	8.6 8.7	06.74	A	3
400	Hu 1216	- 11° 493	33 16	- 11 33	249.3	0.31	8.0 9.5	00.90	Hu	1
					361.6	0.48	.. ..	06.87	A	2
401	A 2219	+ 19° 391	33 25	19 42	300.9	0.25	9.3 9.3	10.15	A	3
402	Wirtz	..	33 45	44 18	129.4	2.67	10.4 10.8	05.14	Wirtz	2
403*	J 881	+ 36° 529	33 58	37 8	22.8	2.39	8.9 9.4	12.72	J	1
					28.8	2.30	8.8 9.5	12.72	Dj	1
					22.2	2.55	8.9 9.8	16.02	J	1
404*	A 2335	+ 11° 366	34 0	11 25	321.3	2.06	9.0 12.5	08.75	Fox	2
					322.2	1.65	8.9 12.5	11.20	A	2
405	E 324 BC	+ 28° 448	34 22	28 22	20.2	1.80	9.1 11.0	06.97	E	1
	AB				185.8	32.75	9.0 9.1	06.97	E	1
406*	A 1279	+ 54° 592	34 42	54 58	304.0	2.01	9.1 9.4	06.90	A	3
407	A 2023	+ 25° 432	34 42	25 31	223.2	0.80	9.2 9.2	09.66	A	2
408	A 1819	+ 38° 532	35 1	38 49	303.0	0.38	9.0 10.2	08.76	A	2
409	A 2336	+ 3° 370	35 3	3 22	311.0	2.54	8.8 12.5	11.70	A	2
410*	A 1928	- 0° 407	35 45	- 0 12	222.5	0.18	8.6 8.6	08.97	A	2
411	A 1820	+ 38° 536	35 57	38 44	251.2	4.54	8.8 14.0	08.73	A	2
412	J 672	+ 11° 370	35 57	11 54	86.2	2.97	9.3 9.3	11.93	J	1
					85.1	3.28	9.3 9.3	11.93	V	1
					86.5	3.67	9.4 9.4	16.06	J	2
413	A 1280	+ 54° 596	35 58	55 9	338.9	0.30	7.6 8.8	06.87	A	2
414	A 2337 AB	+ 3° 373	37 10	4 5	244.2	2.22	7.2 13.0	11.70	A	2
	AC				130.3	26.72	.. 13.0	..	A	..
	AD				203.6	26.82	.. 12.0	..	A	..
415	E 1134	+ 49° 751	37 34	49 43	2.3	4.83	9.0 11.7	12.29	E	3
416	E 231	+ 37° 606	37 48	38 6	81.1	3.95	8.7 9.5	05.83	E	2
					82.7	4.28	9.0 10.5	08.76	A	1
					82.0	4.84	.. ..	12.88	Fox	2
417	A 2220	+ 19° 405	38 29	19 53	223.8	1.58	8.0 12.0	10.65	A	3
418	Olivier 9	..	39 55	- 1 50	328.4	2.85	9.5 10.5	08.38	O	2
419	J 649	Anon.	40 11	49 32	125.2	4.35	9.4 9.8	11.87	J	1
					126.5	4.25	9.4 10.2	11.87	V	1

403—The B.D. position was increased by +5^s.—J.

404—The measure by Fox was published in 1916.—J.

406—Noted "suspected close double" in A.G. Harvard.—J.

410—Bossert gives a proper motion for this star: -0^s001-0^s227.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
420	E 272	+35° 55I	2	41	24	35	59	77°0	3.55	9.1	10.5	06.83	E	2
421	J 1081	Anon.	41	27		17	25	24.2	4.50	9.5	10.5	15.03	J	1
422	A 2024	+ 6° 420	41	41		6	54	238.5	1.36	8.5	11.2	09.78	A	2
423	A 2221	+19° 416	41	44		19	37	13.5	0.58	9.6	9.8	10.66	A	2
424	A 1821 AB AC	+37° 632	42	8		37	24	163.6	4.99	8.3	14.5	08.70	A	3
425*	J 882	Anon.	42	29		46	40	41.1	10.53	..	13.0	08.71	A	2
426	A 2222 AB CD A—CD	+16° 345	42	53		16	57	26.4	2.96	9.8	9.8	12.77	J	1
427*	A 2608 AB CD AB—CD=Σ 308	-10° 549	43	5		10	12	329.3	4.06	8.6	13.8	10.66	A	2
								106.9	0.42	9.5	11.5	10.68	A	2
								134.2	55.15	8.6	9.5	10.71	A	1
								347.6	0.35	9.4	9.4	13.70	A	2
								90.8	0.70	10.1	10.1	13.70	A	2
								334.2	21.12	8.7	9.2	30.43	Σ	2
								334.4	20.99	..	..	13.70	A	2
428	J 883	Anon.	43	14		41	50	87.6	2.99	9.1	12.5	12.72	J	1
429	A 2223	+17° 440	43	27		17	17	61.1	1.91	9.5	9.5	10.66	A	2
								60.5	1.87	9.3	9.3	16.06	J	2
430	J 1245	- 6° 543	43	32		6	21	10.8	2.48	9.5	9.5	15.91	J	1
431	A 2411	+ 1° 487	43	32		1	22	262.0	0.36	8.5	9.5	12.00	A	4
432	E 873	+51° 632	43	48		51	39	98.8	4.53	9.0	11.3	10.14	E	4
433	A 1822	+36° 567	44	35		36	29	307.8	1.62	8.0	12.0	08.67	A	2
434	A 2412	+ 0° 466	45	7		0	20	84.0	0.39	9.0	9.9	12.00	A	4
435*	E 1135	+48° 768	45	9		48	44	40.2	4.22	9.5	9.7	12.81	E	2
436	E 766	+52° 635	45	53		52	56	295.8	4.18	8.6	10.8	09.88	E	3
437	A 1281	+45° 669	46	14		45	40	189.0	0.45	9.0	10.5	06.76	A	3
438	E 1309	+44° 592	46	16		44	26	214.6	3.23	9.3	13.9	14.95	E	3
439	J 884	Anon.	46	24		47	50	216.0	2.83	9.2	10.0	12.77	J	1
								216.8	2.93	9.4	10.1	12.77	Dj	1
440	A 2338	+ 1° 501	47	4		1	21	107.3	0.54	9.7	10.7	11.73	A	2
441	J 1082	Anon.	47	22		14	18	296.6	4.22	9.7	11.6	15.01	J	1
442	A 2339	+ 1° 504	47	28		2	5	334.2	3.40	8.8	11.7	11.76	A	2
								337.6	3.17	8.8	12.7	16.06	J	2
443	E 232	+39° 654	47	56		39	34	188.8	2.30	8.7	9.6	05.94	E	2
								191.7	2.20	9.0	10.0	08.62	A	2
444	A 2340	+ 3° 398	48	3		3	32	56.6	0.49	9.4	9.6	11.76	A	2
445*	J 885	+37° 656	48	48		37	54	276.0	3.65	9.0	9.4	12.72	J	1
								276.0	3.22	9.0	9.7	12.72	Dj	1
								274.6	3.47	9.2	10.0	16.02	J	1
446	A 2025	+ 7° 442	48	52		7	23	156.8	0.39	9.0	9.9	09.80	A	3
447	A 1929	+26° 481	49	29		26	38	306.8	2.61	8.6	13.4	09.06	A	2
448	A 1823	+36° 596	50	1		36	24	159.8	2.41	8.3	13.2	08.68	A	2
449	A 2341 BC A—BC=A.G—	+ 9° 370	50	6		9	27	348.4	0.83	10.1	10.7	11.19	A	2
								21.6	18.91	8.5	9.5	95.19	Lpz	1
								24.6	18.10	8.6	9.5	10.62	A	1

425—An 11th mag. at 280°. 4' north and 49^s preceding is A.G. 50 : 3°, 11'7, 9.2-9.7.—J.

427—The B.D. magnitude for the group is 8.9, but Harvard observers assign the magnitudes 9.0 and 9.2 to the two pairs respectively.—A.

435—In *M.N.*, vol. lxxiii. page 162, for +49°768 read +48°768. This is confirmed by Espin.—J.

445—8' north and 4^s preceding is β 524 mag. 5.5-6.5, a binary with a major axis of 0.25.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
450	E 1217	Anon.	2	50	17	47	27	282.5	2.33	9.4	9.5	13.97	E	3
451	A 2342	+18° 376	51	18		18	50	23.8	0.78	9.1	10.2	10.69	A	3
452	A 1282	+55° 727	51	30		55	19	188.5	0.74	9.0	11.0	06.68	A	3
453	J 232	Anon.	51	43		21	5	126.6	4.58	9.5	10.5	10.93	J	1
								125.2	4.22	9.5	10.4	10.93	V	1
								127.0	4.93	9.9	11.5	16.06	J	2
454	A 2026	+ 4° 470	52	48		5	13	333.6	0.56	8.9	13.0	09.71	A	3
455	J 886	Anon.	52	49		47	21	180.4	2.38	9.3	9.8	12.77	J	1
								182.4	2.78	9.3	9.8	12.77	Dj	1
456*	A 2413	+ 1° 515	53	6		1	34	181.6	0.51	8.3	8.4	12.74	A	3
457	J 233	+20° 479	53	26		21	5	230.8	4.65	9.0	9.1	10.93	J	1
								229.0	4.42	9.1	9.2	10.93	V	1
								231.8	4.76	9.4	9.6	16.14	J	2
458	J 234	+19° 442	55	8		19	52	14.0	4.92	8.9	9.2	10.93	J	1
								13.0	5.01	8.9	9.2	10.93	V	1
								17.4	5.25	9.0	9.3	16.06	J	2
459	A 1529	+47° 752	55	9		47	34	166.0	0.25	7.5	8.5	07.26	A	2
460	A 1530	+38° 609	55	23		39	15	262.8	0.38	8.9	9.3	07.67	A	3
461	A 2609	-13° 565	55	26		-12	53	343.6	0.64	9.3	10.0	13.70	A	2
462*	A 2610	-10° 586	55	34		-10	35	354.6	0.30	8.7	8.7	13.70	A	2
463	A 1283	+46° 672	55	37		46	56	109.0	2.35	8.6	13.5	06.77	A	2
464	A 2611	-11° 571	56	30		-11	36	359.6	0.24	9.0	9.0	13.95	A	2
465	J 887	Anon.	56	34		42	58	211.6	2.98	9.1	9.8	12.72	J	1
								211.8	3.22	9.2	10.0	12.72	V	1
466	A 2612	-10° 592	57	24		-10	39	141.6	2.54	9.0	12.0	13.70	A	2
467*	A 2027	+ 7° 463	57	34		7	35	314.2	2.34	9.3	13.2	09.78	A	2
468	J 1083 AB	Anon.	57	41		26	14	164.2	4.28	9.3	13.0	15.01	J	1
	AC							186.6	13.75	..	13.0	15.01	J	1
469*	A 2414	+17° 477	57	43		18	0	311.2	0.16	9.5	10.2	10.72	A	1
								319.8	0.20	..	..	12.82	A	2
470	J 1252	Anon.	57	51		6	53	271.8	4.43	9.8	9.9	16.03	J	1
471	A 2415	+ 2° 468	58	17		2	19	64.0	2.38	9.6	9.6	12.80	A	2
472	A 2028	+ 6° 467	58	28		6	45	217.2	0.57	9.0	12.7	09.76	A	3
473	J 888	Anon.	58	29		37	57	206.0	2.17	9.8	9.8	12.72	J	1
474	A 1930	- 0° 486	58	32		0	7	136.9	3.95	9.0	14.9	08.94	A	2
475	J 673	+28° 486	59	10		28	22	10.9	2.25	9.1	9.1	11.95	J	1
								10.0	1.88	..	..	11.95	V	1
								14.0	2.47	9.2	9.2	14.96	J	1
476	A 1824 AB	+27° 471	59	12		28	12	278.9	0.15	9.0	9.0	08.75	A	4
	AB-C=Σ339							327.2	13.42	8.2	11.5	31.77	Σ	3
								328.8	13.30	8.4	11.5	08.70	A	1
477	J 303	+ 7° 469	3	0	32	7	46	36.8	2.40	8.7	9.6	10.97	J	1
								35.2	2.42	8.7	9.4	11.61	V	3
								35.6	2.30	8.8	9.3	11.98	J	2
								36.4	2.21	8.9	9.7	15.09	J	1

456—According to Boss, the proper motion of this pair is 0".11 in 136°85.—A.

462—In *Lick Obs. Bul.* 251, for A 1610 read A 2610.—J.

467—In *Lick Obs. Bul.* 171, for A 2057 read A 2027.—J.

469—This is a very difficult pair to measure, and it is by no means certain that the difference between the measures for 1910 and 1912 is due to motion in the system.—A.

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No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			"	"			
478	E 326 BC	+31° 536	3	0	52	31	43	36.1	4.79	9.8	10.8	06.91	E	3
	AB							35.8	102.33	8.0	9.8	06.88	E	2
479	A 2029 BC	+ 6° 474		0	57	6	54	221.6	0.66	10.1	10.1	09.73	A	2
	A—BC							309.0	21.00	8.8	9.5	09.68	A	1
480	A 1531	+42° 699	1	26		43	13	242.1	3.42	8.3	11.2	07.77	A	2
481*	A 1532	+39° 710	1	42		40	4	203.8	2.37	9.1	12.5	07.21	A	2
482*	A 1702	+42° 702	1	55		42	48	232.0	3.96	9.0	9.2	07.99	A	2
483	Lewis	..	2	:		24	57	136.9	2.06	10.0	10.0	10.03	L	1
484*	Lewis	..	2	:		24	56	40.9	1.48	7.5	8.0	10.19	L	1
485	A 1284	— 1° 441	2	27		— 0	54	33.4	4.00	8.9	11.2	06.91	A	2
486	A 2416	+ 0° 517	2	32		0	28	357.2	0.24	9.2	9.2	12.79	A	3
487	A 1533	+36° 634	2	41		36	34	190.5	1.06	9.4	9.5	07.69	A	3
488	E 951	+50° 709	4	33		50	37	121.5	2.39	9.5	10.4	10.93	E	4
489	A 2030	+ 4° 501	5	23		4	53	337.2	0.31	9.0	9.0	09.76	A	3
490	A 2031	+ 6° 493	6	55		6	52	251.6	1.55	8.3	13.2	09.72	A	2
491*	E 1310 BC	+44° 639	7	44		44	19	117.9	2.19	10.0	13.0	15.00	E	1
	AB							158.4	20.21	9.5	10.0	15.00	E	1
492*	E 559	Anon.	8	9		43	59	250.6	3.17	9.3	11.2	08.12	E	2
493	E 462	Anon.	9	18		49	28	172.9	2.55	9.7	10.4	07.90	E	2
494	A 1703	+43° 663	9	42		44	12	148.0	2.52	9.5	13.2	07.85	A	2
495*	E 768 BC	+52° 672	9	46		52	28	47.3	2.58	10.2	11.5	09.89	E	4
	AB							314.6	73.47	8.1	10.2	09.86	E	2
496	E 463	+49° 891	10	52		49	26	257.3	4.95	9.3	11.7	07.90	E	2
497	A 2224	+18° 444	11	45		19	2	328.2	0.80	8.1	9.4	10.66	A	2
498	A 1704 BC	+42° 736	12	15		42	22	248.4	0.64	12.2	13.5	07.86	A	2
	A—BC							231.7	73.83	7.7	..	07.86	A	1
499	A 1285	— 0° 519	12	19		— 0	44	293.2	1.70	9.2	10.0	06.01	A	2
500	A 2032	+ 4° 519	12	33		4	44	269.8	1.96	8.7	11.2	09.71	A	2
501	E 1364	+44° 653	12	34		44	15	78.5	2.33	9.2	12.7	15.09	E	2
502*	A 1705	+42° 748	15	42		43	4	7.6	3.15	9.5	9.5	07.85	A	2
503	A 1706	+42° 749	15	58		42	44	71.0	4.61	9.0	14.5	07.83	A	2
504	J 1112	+32° 610	16	9		33	2	167.8	4.46	9.1	11.0	15.18	J	1
505	E 706 BC	+51° 723	16	36		51	23	126.9	2.60	12.5	13.2	09.11	E	3
	AB							304.8	26.37	8.6	12.5	09.11	E	3
506	J 930	+17° 538	16	56		18	14	123.3	3.40	9.2	9.3	13.03	J	1
								115.0	4.25	9.4	9.6	13.03	Dj	1
								119.3	3.76	9.3	9.3	16.06	J	2
507	Fox 4	Anon.	17	4		58	51	3.4	2.93	9.4	10.4	12.74	Fox	3
508	J 304	Anon.	17	15		7	47	79.2	2.90	9.2	10.0	10.97	J	1
								75.5	2.85	9.3	10.2	10.97	V	1
								85.9	3.83	9.4	11.2	16.06	J	2

481—In *Lick Obs. Bul.* 125, for 3^h 0^m 35^s read 3^h 0^m 25^s.—Doo.

482—Also a 13^m star 21" from A at 115°.—A.

484—In *M.N.*, vol. lxxi. There is no star brighter than 9.1 in this place in the B.D. except Σ 346: 90°, 0'5, 6'0-6'0.—J.

491—This star has the same R.A. as B.D. +44°638, but is 1' further *n.*—E. In *M.N.*, vol. lxxv. page 203, for +44°639 ? read +44°638 ?; same to the note, page 205. This is confirmed by Espin.—J.

492—38^s f., 50^s s., O Σ 51.—E. O Σ 51: 306°9, 1'24, 7'9-9'1, 1898'15 Hu 5.—J.

495—There is a 9.8 mag. star near B and north of a line joining A and B.—E.

502—22^s preceding, and 2' *n.* of a star 5.3 mag.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.					
			h	m	s	°	'			°	'								
509	A 1286 BC A-BC	+54° 675	3	17	51	54	17	227.7	0.61	10.0	10.0	06.68	A	3					
									141.9	95.75	8.5	..	06.68	A	1				
510	E 273	+34° 633	17	55		35	4	356.4	2.81	9.1	9.1	06.09	E	2					
511	A 2343	+16° 433	18	48		16	17	16.5	4.90	8.5	13.2	11.75	A	2					
512	A 1287	+40° 733	19	29		40	28	93.8	2.78	7.5	13.5	06.93	A	2					
513	A 1288	+41° 675	19	31		41	41	8.5	0.80	8.8	9.1	06.93	A	2					
514	E 1218	+45° 759	19	51		45	28	263.0	1.72	9.6	9.9	13.99	E	3					
515	J 931	Anon.	20	3		20	17	263.4	3.83	9.6	9.8	13.04	J	1					
								268.2	4.74	9.7	9.7	15.09	J	2					
								268.0	4.61	9.8	9.8	16.14	J	2					
516	A 2344	+19° 530	21	27		19	58	188.2	1.04	8.5	9.2	11.70	A	2					
517	J 889	Anon.	21	27		40	54	144.4	2.17	9.7	9.7	12.72	J	1					
518	A 2345	+18° 485	22	57		18	54	133.1	0.96	9.4	9.8	11.70	A	2					
519	J 305	+ 9° 440	23	18		9	38	110.6	1.30	9.2	9.2	10.97	J	1					
520	E 274	Anon.	23	20		35	42	142.4	3.18	9.3	9.4	06.11	E	3					
521*	A 2417	+ 3° 480	24	3		3	53	89.1	0.98	9.5	10.7	12.84	A	2					
522	E 1220	+59° 664	24	26		59	38	346.1	3.77	9.3	13.2	13.11	E	2					
523	A 1825	+24° 503	26	30		24	59	312.5	2.19	7.8	13.9	08.74	A	2					
524	A 1931	+ 7° 516	27	26		7	33	62.7	0.69	8.4	9.2	08.97	A	2					
525	J 890	Anon.	27	40		41	24	195.6	2.87	9.7	10.0	12.72	J	1					
526*	Biesbroeck	Anon.	28	28		72	16	26.1	4.86	12.3	12.9	09.93	Bies	3					
527	Roe 76	Anon.	28	39		40	32	30.4	4.18	9.5	9.8	14.11	Roe	3					
528	A 1932	+ 6° 550	29	17		6	48	289.1	0.26	9.4	9.6	08.97	A	2					
529	E 622	+53° 680	29	31		53	39	34.1	4.62	9.1	9.9	08.92	E	3					
530	A 1534	+43° 766	29	53		43	35	31.0	5.02	..	..	12.95	Fox	2			
531	J 932	+20° 595	30	8		21	10	273.5	4.22	8.0	14.5	07.68	A	2					
532	J 1084	+17° 579	30	24		17	27	294.0	3.63	9.3	11.0	12.99	J	1					
533	A 1535	+41° 714	30	43		42	5	288.3	4.16	9.3	11.0	16.06	J	2					
534	A 2505	-11° 691	30	48		-11	4	134.1	3.75	9.1	10.3	15.09	J	2					
535	A 1933	+ 5° 514	31	16		6	9	133.2	3.86	9.2	11.4	16.10	J	2					
536	E 165	+63° 435	31	36		64	2	34.1	0.48	8.6	9.0	07.69	A	3					
537	J 26	+14° 581	31	46		15	0	102.0	1.74	8.8	12.5	13.01	A	2					
538	A 1933	+ 5° 514	31	16		6	9	137.8	0.98	8.6	9.8	08.97	A	2					
539	E 165	+63° 435	31	36		64	2	171.9	3.7±	9.9	10.4	04.05	E	3					
540	J 26	+14° 581	31	46		15	0	147.4	2.68	9.3	9.3	10.06	J	2					
541	J 26	+14° 581	31	46		15	0	144.9	2.57	9.0	9.0	10.80	J	2					
542	J 26	+14° 581	31	46		15	0	144.9	2.51	9.0	9.0	10.80	V	2					
543	J 26	+14° 581	31	46		15	0	148.3	2.32	9.1	9.1	12.07	J	1					
544	J 26	+14° 581	31	46		15	0	145.8	2.65	9.1	9.1	12.07	V	1					
545	J 26	+14° 581	31	46		15	0	146.6	2.57	9.2	9.4	12.08	Doo	3					
546	J 26	+14° 581	31	46		15	0	148.3	2.72	9.1	9.2	16.06	J	2					

521—This pair is 72"4 at 55°6 from B.D. +3°479, which is rated as 8.7 magnitude in B.D. In the Albany A.G. Catalogue it is called 9.1 mag., while the double is called 9.0.—A.

526—This is Greenwich Photographic Cat. 72°1732. It is near B.G.C. 1745—h 2190 measured 319°5, 12"39, 12.9-14.3, 1910.42, 4.—Bies.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			•	"			
538	A 1536	+42° 794	3	32	2	43	5	227.1	1.21	8.9	10.3	07.69	A	3
539	A 2418	+ 1° 624		32	18	1	37	89.4	1.03	9.5	9.5	12.90	A	2
540	E 953	+50° 794		32	56	50	39	235.0	4.03	9.1	12.2	10.92	E	3
541	A 2419	+ 0° 620		33	7	1	5	97.8	0.72	8.8	8.9	12.90	A	2
542	A 1537	+42° 802		33	27	42	53	115.7	3.47	8.5	13.2	07.69	A	2
543	A 1538	+42° 801		33	27	42	29	257.0	0.68	9.5	9.5	07.69	A	3
544	E 1312	+44° 762		33	29	44	29	99.7	2.08	9.6	9.7	14.99	E	2
545	A 2420	+17° 595		33	53	17	20	268.4	1.80	8.5	9.5	12.69	A	2
546	J 891	Anon.		34	46	48	26	232.8	2.72	9.7	12.0	12.78	J	1
547	A 1539	+40° 810		34	53	40	43	191.8	2.82	9.0	13.5	07.69	A	2
548	E 562	+44° 769		35	24	44	21	358.4	2.91	9.3	11.7	08.07	E	5
549	J 1111	+32° 655		35	25	32	37	205.4	3.08	9.6	9.6	15.18	J	1
550	J 892	+59° 701		36	13	59	30	51.2	1.25	9.2	9.3	12.73	J	1
								49.6	1.23	9.3	9.4	12.73	V	1
551	E 166	+39° 844		36	19	39	27	357±	4±	8.5	13.0	05.02	E	1
552	A 1707 AB	+43° 791		36	27	43	16	341.8	8.32	7.5	14.0	07.68	A	1
	AC							144.9	68.40	7.5	9.5	07.68	A	1
	CD							106.6	4.06	9.5	13.7	07.69	A	2
553	A 1934	+ 6° 568		36	28	6	28	275.8	0.40	8.8	10.2	08.97	A	2
554	A 2421	+19° 576		36	31	19	21	150.0	1.18	9.7	10.0	12.69	A	2
555	A 1540	+41° 736		36	49	41	34	217.0	4.44	9.0	15.0	07.73	A	2
556	A 2422	+16° 492		37	34	16	42	288.8	1.71	8.7	12.0	12.69	A	2
557	E 275	+36° 737		37	35	36	53	297.9	3.41	9.3	10.2	06.13	E	3
								297.9	3.85	9.4	9.8	10.77	J	2
558	A 1289	+52° 709		38	0	52	13	10.1	0.37	9.4	9.5	06.68	A	3
559	E 233	+34° 722		38	38	35	4	80±	4±	8.6	12.0	15.87	E	..
560	A 1541	+42° 814		38	49	42	14	251.3	3.70	9.2	10.2	07.71	A	2
561	E 1365	+44° 785		39	7	44	20	230.4	4.69	9.3	10.7	15.10	E	3
562	A 2346	+ 0° 646		39	21	0	54	65.3	1.60	9.0	12.0	11.77	A	2
563	A 1826	+27° 555		39	31	27	58	286.7	0.90	8.5	10.8	08.72	A	3
564	A 1827	+ 7° 540		40	40	8	4	18.0	3.65	8.6	10.0	08.76	A	2
565	A 1828	+ 4° 582		40	47	4	49	26.3	0.37	9.2	9.3	08.76	A	3
566*	E 1221	+49° 1019		41	3	49	27	1.9	2.57	9.4	9.7	13.06	E	3
567	J 235	Anon.		41	24	0	14	260.6	1.07	9.5	9.5	10.91	J	1
								259.1	1.23	9.5	9.5	10.91	V	1
								262.4	1.74	9.5	9.6	16.06	J	2
568	A 1290	+54° 711		41	49	54	49	223.2	0.58	8.5	12.6	06.70	A	4, 3
569	J 27	+28° 583		42	6	28	40	50.8	2.91	9.5	11.5	10.01	J	2
								52.6	3.00	9.4	11.6	10.82	J	3
								52.0	3.17	9.4	12.0	10.83	V	2
								55.3	3.24	9.8	12.2	12.10	Doo	4
								58.1	3.44	9.5	11.9	16.06	J	2
570	E 167	+34° 730		42	17	35	6	322.6	4.4±	9.0	9.1	04.86	E	3
571	E 235 BC	+34° 732		42	37	34	48	271.3	2.5±	12.0	12.0	05.89	E	1
	A-BC							227.1	35.01	8.7	..	05.88	E	2
572	E 770 BC	+51° 780		43	21	51	59	65.4	2.42	9.0	12.0	09.95	E	2
	AB							49.5	70.20	9.0	9.0	09.95	E	2

566—In *M.N.*, vol. lxxiv. page 248, for +49° 1009 read +49° 1019. This is confirmed by Espin.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.		
			h	m	s	°	'			°	"					
573	A 1291	- 1° 534	3	44	0	-	0	48	43.0	0.76	9.4	10.0	06.10	A	2	
574	A 1829	+ 6° 588		44	48		6	34	303.2	1.46	9.0	10.5	08.75	A	2	
575	E 236	+ 34° 744		45	7		34	25	352.8	4.96	9.3	9.6	05.90	E	3	
576	E 1137	+ 49° 1038		45	13		49	25	75.9	1.18	9.5	9.8	12.11	E	4	
577	J 28	Anon.	46	15	28	32			78.7	1.24	10.2	10.3	12.10	Fox	4	
									191.5	2.13	9.6	11.2	10.01	J	2	
									188.8	2.31	9.6	10.2	10.81	J	2	
									188.6	2.23	9.5	10.7	10.81	V	2	
									192.5	2.27	9.8	11.7	12.10	Doo	3	
				190.2	3.12	9.9	11.7	16.06	J	2						
578	A 1830	+ 25° 627		46	29		26	7	8.4	0.27	9.0	9.0	08.72	A	3	
579	E 1313	+ 44° 803		46	37		44	43	21.9	2.97	9.5	14.0	14.99	E	2	
580	A 1292 AB	- 0° 608		46	46		-	0	24	121.9	0.56	8.2	10.7	06.10	A	2
	AC=h 668								298.5	21.50	8.5	10.5	01.73	β	2	
581	A 1293	+ 52° 722		47	37		53	3	216.3	0.32	8.0	8.4	06.68	A	3	
582	A 1542	+ 40° 851		47	38		40	58	288.3	4.40	8.8	12.2	07.71	A	2	
583	Olivier 1	..		48	31		-	13	58	274.9	..	..	06.90	Wil	1
									273.8	2.82	9.5	10.0	06.91	O	2	
584	A 2347	+ 1° 671		48	39		1	31	259.9	4.04	8.0	12.2	11.77	A	2	
585	J 933	Anon.		49	6		26	35	332.6	3.31	9.8	11.5	13.00	J	1	
									332.4	3.10	9.7	10.8	13.00	Dj	1	
									330.1	3.58	9.8	11.3	16.06	J	2	
586	A 1543	+ 42° 845		49	41		42	40	183.8	3.78	9.0	9.4	07.74	A	2	
									186.7	3.84	..	..	13.66	Dob	3
587	A 2348	+ 18° 556		50	9		18	57	324.1	2.58	9.1	13.2	11.75	A	2	
588	A 1831 BC	+ 4° 600		50	13		4	57	35.0	0.20	9.5	9.5	08.78	A	3	
	AB=O Σ^2 41								356.3	59.13	7.5	8.5	13.91	Franks	1	
589	J 1085	+ 11° 537		50	14		12	7	208.6	3.18	9.2	10.3	15.76	J	3	
590	J 29	Anon.		51	0		49	4	22.3	1.49	10.5	12.5	09.98	J	2	
591	A 2349	+ 3° 538		51	3		4	4	89.8	1.61	9.0	11.0	11.77	A	2	
592	E 410	+ 34° 769		51	30		34	13	102.6	2.88	9.4	9.8	07.07	E	3	
593	A 2423	+ 0° 678		52	2		0	28	343.2	2.40	8.7	11.0	12.75	A	2	
594	A 1935	+ 7° 571		52	10		7	21	13.7	0.56	8.5	9.9	08.84	A	3	
595	J 306	+ 21° 564		53	9		21	44	82.4	1.68	8.8	9.0	10.99	J	1	
									82.4	1.82	8.9	9.2	11.41	V	2	
									82.9	1.75	8.8	9.2	11.85	J	1	
									85.0	2.00	8.7	9.3	14.96	J	1	
									91.4	1.80	8.9	9.5	16.06	J	2	
596	J 893	+ 49° 1075		53	48		49	59	40.2	0.59	9.0	9.2	12.73	J	1	
597	A 1708	+ 42° 860		53	52		43	7	332.9	0.86	8.9	9.2	07.85	A	2	
598	E 954	+ 50° 871		53	52		50	40	354.4	4.22	9.2	10.4	10.99	E	3	
599*	Hu 1217	+ 33° 752		54	22		33	41	46.2	3.44	9.0	10.5	04.96	Hu	1	
									44.9	3.64	..	..	05.67	A	1
									46.2	4.47	9.2	9.3	07.07	E	2	
600*	A 1936 BC	+ 7° 582		55	51		8	5	136.3	0.37	9.6	9.7	08.84	A	3	
	A-BC=A.G-								27.5	4.16	9.2	9.2	08.85	A	2	

599—Measured by Espin as E 411.—J.

600—A—BC=Leipzig II. 1472 "Dupl. Med."—A.

1917MNRAS...61....4J

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
601	E 879	+50° 881	3	55	53	50	50	180.1	2.58	9.3	10.7	10.04	E	3
602	A 1937	+ 4° 619		56	33	4	51	39.2	0.19	9.2	9.2	08.85	A	2
603	E 880	+51° 836		56	51	51	19	280.7	2.80	9.0	11.5	10.14	E	4
604	E 1366	+43° 878		57	33	44	3	341.7	2.48	9.2	12.5	15.12	E	3
605	A 2506	-13° 795		57	46	-13	37	245.5	2.01	9.1	12.2	13.01	A	2
606	A 2613	- 4° 719		57	55	- 4	21	223.8	2.61	9.0	13.4	13.84	A	2
607	A 1709	+41° 802		58	2	41	57	221.4	0.89	7.8	9.7	07.85	A	2
	AC							348.4	53.26	7.8	10.0	07.85	A	1
	CD							205.6	3.48	10.0	13.7	07.85	A	2
608	E 564	+42° 876		58	5	42	32	115.3	2.29	8.9	9.3	08.12	E	4
609	E 466	+49° 1092		58	8	49	36	57.1	3.95	8.5	11.0	07.90	E	2
	AC							123.4	14.22	8.5	12.0	07.90	E	2
610*	J 30	+ 6° 622		58	47	6	29	230.6	0.97	9.3	10.7	10.03	J	2
								226.7	1.36	9.2	10.7	12.17	Doo	3
								232.5	1.41	9.3	11.7	16.09	J	2
611	A 2614	- 2° 783		59	21	- 2	43	303.0	2.40	9.0	11.5	13.84	A	2
612	A 1294	+52° 759		59	30	52	51	195.8	1.68	8.0	11.7	06.68	A	3
613	E 238	+34° 809	4	0	43	34	25	sf.	2±	9.3	9.5	05.94	E	..
614	A 1710	+43° 892		0	52	43	12	307.3	0.53	8.0	8.0	07.86	A	3
615	Fox 5	+68° 304		0	56	68	53	332.3	2.64	10.3	10.7	09.99	Fox	3
616	E 565	+42° 890		1	24	42	38	62.2	4.75	9.3	10.6	08.09	E	2
617	A 1295	- 1° 584		2	4	- 1	36	153.4	0.95	9.2	11.4	06.10	A	2
618	A 2615	- 4° 735		2	41	- 4	35	236.4	0.98	9.3	10.2	13.84	A	2
619	E 1223	+47° 941		3	15	47	48	111.5	4.05	9.4	11.3	13.98	E	3
620	E 1067	+52° 773		3	16	52	44	41.8	4.72	9.4	12.0	11.03	E	2
621	A 1296	+52° 775		3	28	52	28	277.9	0.44	9.4	10.2	06.72	A	4
622*	Σ 3114	+39° 937		3	51	39	57	172.0	2.59	8.0	10.5	74.69	De	1
								168.8	1.98	7.7	9.2	06.14	E	3
								172.4	2.34	..	..	07.19	HF	2
								171.5	2.23	..	..	08.01	HF	1
								171.7	2.35	7.6	9.7	09.93	J	3
								168.3	2.39	..	..	10.81	Voûte	3
623	A 2616	-10° 844		3	52	-10	19	2.7	4.37	9.0	13.2	13.77	A	2
624	A 1297	+52° 778		4	5	52	57	349.3	0.33	9.0	11.2	06.74	A	3
625	A 1832	+36° 835		4	49	36	26	236.2	0.56	8.8	9.8	08.67	A	2
626	J 236	+ 1° 709		4	54	1	13	218.0	3.02	9.2	9.2	10.94	J	1
								220.7	3.41	9.4	9.7	15.73	J	3
								222.2	3.38	9.5	9.7	16.96	J	1
627*	E 1368	+43° 915		5	40	44	2	1.3	2.75	9.8	13.5	15.14	E	2
628	E 1224	+47° 951		6	9	48	4	188.7	1.45	9.5	9.6	13.98	E	2
629	A 2801	- 5° 841		6	46	- 5	5	356.0	0.19	8.0	8.0	14.78	A	2
630	A 1298	+25° 681		6	57	25	46	140.5	1.33	8.4	10.2	06.37	A	2
631	A 1711	+42° 921		8	26	42	23	134.8	0.51	8.0	9.8	08.13	A	3

610—In *J.A.*, vol. i. page 35, for 6° 46' read 6° 29', as given in *A.N.* 4406.—J.

622—Bossert gives a proper motion of $-0^{\circ}0031, +0^{\circ}161$. Espin and the other modern observers measured this as E 278.—J.

627—In *M.N.*, vol. lxxv. page 555, for 4^h 3^m.2 read 4^h 4^m.2, as Espin confirms B.D. +43°915.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h m s	° ′	°	"				
632*	A 1938	+ 7° 617	4 9 15	7 31	315.0	0.14	5.8 6.1	08.91	A	3
633*	Fox 6	- 9° 848	9 26	- 9 44	2.2	2.32	9.5 10.0	11.07	Fox	3
634	A 2617	- 12° 828	10 17	- 12 21	325.6	1.69	9.1 11.5	13.92	A	2
635	E 1068 BC	+ 50° 962	10 43	51 6	72.4	3.60	13.0 13.5	11.05	E	2
	AB				102.8	47.67	8.7 13.0	11.05	E	2
636*	β 1333 BC	+ 61° 694	12 13	61 25	93.1	0.23	10.0 11.2	04.90	A	2
	AB = Σ 513				57.5	5.43	7.8 9.7	30.59	Σ	3
					57.4	5.30	.. ..	04.83	β	2
637	J 237	Anon.	12 14	12 19	237.5	3.37	9.3 11.0	10.90	J	1
					236.0	3.68	9.6 10.5	10.90	V	1
					234.7	3.72	9.7 11.4	16.09	J	2
638	A 2618	+ 2° 670	12 25	2 36	27.0	1.68	8.2 11.5	13.71	A	3
					30.1	1.48	8.3 11.5	16.15	J	2
639	J 894	Anon.	12 33	24 42	0.8	2.49	9.4 9.4	12.76	J	1
					1.0	2.85	9.3 9.3	12.76	Dj	1
					4.3	2.79	9.6 9.6	16.06	J	2
640	A 2350	+ 18° 615	12 54	19 0	166.4	0.45	9.1 11.3	10.68	A	3
641	E 1316	+ 44° 912	14 6	44 40	78.5	4.80	9.5 10.7	14.99	E	2
642	A 1833	+ 39° 972	14 17	39 43	93.2	3.75	8.0 13.8	08.68	A	2
643	A 1939	+ 4° 673	14 28	4 33	247.1	0.84	8.7 10.8	08.91	A	3
644	E 955	+ 53° 758	14 40	53 41	41.3	2.62	9.5 10.7	10.88	E	2
645	J 934	Anon.	14 44	31 39	61.2	2.71	9.3 10.0	12.96	J	1
					59.8	2.50	9.5 10.1	12.96	Dj	1
					59.7	3.84	9.5 11.6	16.14	J	2
646	J 1086	+ 22° 674	14 51	22 48	92.0	4.97	8.7 9.3	15.03	J	1
647	E 279	+ 34° 866	16 38	35 4	242.6	3.24	9.2 11.2	06.82	E	2
648*	E 1069	+ 49° 1171	16 52	49 29	109.1	4.13	9.2 13.2	12.01	E	3
649	A 1834	+ 5° 634	16 56	6 3	111.3	0.42	8.7 10.2	08.76	A	2
650	E 956 AB	+ 53° 762	17 8	53 47	288.5	2.32	9.3 9.5	10.88	E	2
	AC				182.7	26.35	9.3 10.5	10.89	E	1
651	A 1835	+ 6° 667	17 17	6 48	45.6	0.27	8.5 9.5	08.76	A	2
652	A 1836	+ 5° 636	17 24	5 12	8.6	1.06	9.5 9.5	08.75	A	2
653	E 239	+ 35° 856	17 47	36 3	..	4 \pm	9.0 12.0	05.87	E	..
654	A 1299	+ 45° 928	18 7	45 37	175.3	2.31	9.0 13.1	06.75	A	3
655	J 708	- 6° 890	19 28	- 6 45	274.6	2.58	9.1 9.4	12.11	J	1
					277.2	2.53	9.3 9.6	12.11	V	1
					280.4	2.32	9.4 9.8	16.10	J	2
656	β - CD	+ 53° 769	20 11	53 19	43.8	1.47	11.8 12.0	01.75	β	2
	AB = Σ 530				199.7	14.16	8.0 10.7	31.73	Σ	2
					200.1	14.12	.. ..	01.75	β	2
	AC				279.9	36.82	8.0 11.8	01.75	β	2

632—46 *Tauri*. The annual proper motion is $0^{\circ}038$ in $307^{\circ}7$. The two components are moving together: otherwise this pair would have been discovered long ago.—A.

633—In *Annals of the Dearborn Observatory*, vol. i, page 223, the declination appears to be that of B.D.— $9^{\circ}847$ although the R.A. is that of B.D. $-9^{\circ}848$ as identified. The declination of the latter is given here.—J.

636—In *B.G.C.* part ii, page 380. The close pair was suspected by Burnham with the 40-in. on an unusually favourable night, and verified by Aitken with the 36-in.—J.

648—In *M.N.*, vol. lxxii, page 193, for $4^{\text{h}} 13^{\text{m}}.7$ read $4^{\text{h}} 15^{\text{m}}.4$, as Espin confirms B.D. $+49^{\circ}1171$.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
657	E 1370 AB AC	+43° 974	4	21	44	43	53	244.8	3.16	9.1	11.7	15.17	E	2
								153.5	7.01	9.1	14.0	15.14	E	1
658	A 1837	+38° 896	22	59		38	16	133.3	1.58	8.3	9.7	08.75	A	3
659	A 2619	+ 3° 604	23	6		3	19	304.7	0.27	9.2	9.7	13.72	A	2
660	A 1712	+40° 966	23	25		40	53	37.6	0.44	9.0	10.3	08.04	A	3
661	A 2033	+ 9° 584	23	38		9	54	251.4	0.70	7.7	10.5	09.76	A	3
662	A 1713	+43° 981	23	42		43	56	224.2	0.35	9.0	9.4	08.13	A	3
663	A 1300	+53° 774	23	53		53	33	143.2	0.76	9.0	11.5	06.74	A	3
664	J 709	- 3° 794	25	41		- 3	45	84.5	1.03	8.9	8.9	12.12	J	1
								85.2	1.41	9.1	9.1	12.12	V	1
								91.8	1.14	9.1	9.1	15.73	J	3
665	J 1087	- 3° 797	26	12		- 3	48	15.1	2.29	9.0	13.0	15.01	J	1
666	A 1838	+ 4° 702	26	37		4	17	169.7	0.60	9.4	9.5	08.76	A	3
667	A 1839	+38° 907	27	0		38	40	258.4	0.18	8.8	8.8	08.75	A	2
668	A 1301	+44° 974	27	29		44	57	219.8	2.70	8.5	13.3	06.75	A	3
669	E 570	+41° 898	28	10		41	18	178.7	3.90	9.1	13.0	08.15	E	1
670	A 2351	+19° 736	28	42		19	38	152.2	0.77	9.0	13.2	11.36	A	4
671	A 1714	+42° 995	28	46		42	31	251.6	0.31	8.5	8.8	08.04	A	3
672	E 1317	+44° 989	29	19		44	50	115.9	4.85	9.5	14.0	14.89	E	1
673	A 1715	+42° 1000	29	39		42	56	238.0	4.16	9.1	13.2	08.13	A	2
674	A 1716	+41° 905	29	45		41	32	91.0	0.33	9.0	9.0	08.14	A	3
675	A 2034	+11° 627	30	17		11	19	242.9	0.35	8.7	9.0	09.76	A	3
676	E 883	+54° 784	30	45		54	19	172.9	4.20	9.4	9.6	10.16	E	2
677	A 1840 AB AB-C=OΣ 87	+ 7° 671	31	49		8	3	41.0	0.28	8.4	8.4	08.76	A	2
								234.8	5.89	7.5	9.2	66.66	De	3
								234.9	6.05	8.2	10.0	08.76	A	1
678	E 884	+54° 787	31	54		54	46	250.5	3.00	8.8	11.8	10.13	E	3
679	A 1841	+ 5° 688	32	34		5	12	147.6	2.59	8.3	13.4	08.76	A	2
680	J 401	Anon.	33	3		1	27	40.7	4.75	9.0	11.0	11.15	J	1
								43.6	4.52	9.4	12.0	15.70	J	3
681	A 1842	+ 5° 689	33	7		5	18	123.5	1.46	9.3	9.7	08.76	A	2
682	J 238	+17° 758	34	1		17	29	70.3	1.80	9.3	9.3	10.93	J	1
								70.0	1.47	9.3	9.3	10.93	V	1
								68.1	2.30	9.6	9.6	16.09	J	2
683	A 2035	+ 9° 619	34	16		10	1	63.1	0.22	9.4	9.4	09.76	A	3
684	J 710	- 3° 846	34	19		- 2	52	319.2	2.98	8.8	10.0	12.12	J	1
								321.1	3.03	9.0	10.0	12.12	V	1
								317.5	2.18	9.0	11.0	15.01	J	1
								308.3	2.34	9.2	11.5	16.15	J	2
685	Hu 1218	+15° 664	34	25		15	24	72.1	1.64	9.0	10.0	04.95	Hu	1
								71.8	1.52	..	..	05.75	A	1
686	A 2036	+10° 601	34	38		10	13	287.6	2.65	9.2	11.2	09.75	A	2
687*	A 2352	Anon.	36	42		20	8	320.4	1.80	9.3	13.8	11.75	A	2
688	A 2353	+16° 641	36	56		16	34	326.7	0.18	8.9	8.9	11.27	A	2
689	J 239	Anon.	37	26		38	42	342.2	1.72	9.5	10.0	10.91	J	1
								338.5	2.13	9.8	12.0	15.24	J	1

687—This star is not in B.D. It is 9^s6 preceding and 52" south of A.G. Berlin A 1264 (8.9). Ho 333 follows 1^m 40^s.—A.
Ho 333: 163°, 1'8, 9.4-10.2.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
690*	A 2424	+ 2° 751	4	38	3	2	50	63.2	0.18	8.6	8.6	11.75	A	1
									42.6	0.16	12.85	A	2
691	A 1940	+ 5° 710		38	8	5	49	204.7	1.26	8.8	13.2	08.93	A	2
692	Hu 1219	+ 12° 636	39	3	12	11		279.2	0.77	9.0	9.5	04.94	Hu	1
								277.8	0.79	..	..	05.75	A	1
693*	A 2620	+ 1° 804	39	38		1	47	259.8	0.58	9.2	12.0	13.72	A	2
694	J 402	Anon.	40	2	2	45		200.4	4.95	9.5	9.6	11.15	J	1
								201.6	5.01	9.6	9.8	11.15	V	1
								203.2	4.14	9.7	9.9	15.55	J	2
695	A 2802	- 2° 1000	40	10		2	12	42.7	2.96	9.0	14.0	14.79	A	2
696*	A 1717	+ 42° 1041	40	23		42	59	187.1	0.34	9.7	9.9	08.05	A	3
697	J 317	Anon.	41	19	10	26		144.1	4.83	8.8	13.5	11.09	J	1
								149.0	4.46	9.2	15.0	16.10	J	1
698	J 895	Anon.	41	25	37	53		307.6	2.87	9.5	12.0	12.77	J	1
								307.0	2.90	9.6	11.0	12.77	Dj	1
699	E 571	+ 48° 1146	41	26		49	5	59.9	3.35	9.1	9.2	08.14	E	2
700	A 1941 BC AB=h 682	+ 6° 750	41	31	6	58		11.0	4.30	9.2	13.2	09.06	A	2
								148.8	23.68	9.0	9.2	08.99	A	1
701	E 1318	+ 47° 1042	41	38		47	35	147.1	3.05	9.2	10.3	14.06	E	2
702	A 1544 AB AB-C	+ 43° 1057	41	47	43	15		255.8	0.16	9.0	9.0	07.82	A	2
														42.4	1.33	..	10.2	07.79	A	2
703	J 896	Anon.	41	52	41	50		300.6	2.92	10.0	10.0	12.76	J	1
								302.0	2.90	10.1	10.1	12.76	Dj	1
704	A 1545	+ 39° 1065	42	11		40	5	87.3	0.28	8.8	9.7	07.82	A	2
705	A 2425	+ 3° 666	42	18		3	49	101.3	1.24	9.3	10.3	12.85	A	2
706	A 2507	+ 2° 767	42	20		2	33	332.6	0.72	9.7	11.7	13.03	A	2
707	A 2037	+ 9° 651	42	41		9	54	78.2	3.02	7.5	12.5	09.78	A	2
708	E 1320	+ 44° 1027	43	6		44	59	206.0	2.63	9.1	10.0	14.99	E	1
709	E 572	+ 41° 966	43	17		41	30	93.1	3.05	8.8	12.0	08.15	E	1
710	A 2038	+ 8° 766	43	51		8	49	35.6	0.39	8.6	10.5	09.80	A	2
711	A 1546 AB AC	+ 43° 1085	44	35	43	42		43.2	2.89	8.6	13.6	07.79	A	2
								244.8	13.90	8.6	13.5	07.80	A	1
712	J 650	Anon.	45	15	48	53		33.7	4.11	9.0	9.9	11.87	J	1
														33.7	4.40	9.1	10.2	11.87	V	1
713	A 2621	+ 1° 823	45	23		2	4	339.2	0.19	8.4	8.4	13.72	A	3
714	A 2039	+ 9° 663	45	58		9	26	100.3	0.22	9.5	9.5	09.80	A	2
715	A 1547	+ 41° 984	46	4		41	52	349.6	0.28	9.1	9.6	07.82	A	2
716	E 957	+ 53° 822	46	14		54	4	350.8	1.60	9.3	9.4	10.93	E	3
717	A 2622	+ 0° 867	46	20		0	55	84.0	0.26	9.0	9.8	13.71	A	2
718*	A 1942	+ 4° 762	46	26	4	9		20.8	1.01	8.5	9.8	08.93	A	3
														20.7	0.89	8.3	10.0	16.12	J	2
719*	E 1070	+ 49° 1263	47	3		49	59	112.2	2.23	9.4	10.6	11.70	E	3
720	E 1227	+ 47° 1063	47	48		47	28	237.4	4.10	9.3	10.7	13.99	E	3

690—Error of measure can hardly account for the entire difference in the two results for angle. Unless the micrometer was misread in 1911, it is a case of rapid motion.—A.

693—Several other stars in the field: one, 13^m5, being 20"4 distant from A at 214°.—A.

696—Following star of three in line.—A.

718—The principal component has an annual proper motion of 0"096 in 114°.—A.

719—In *M.N.*, vol. lxxii, page 193, for 4^h 43^m9 read 4^h 45^m5, as Espin confirms B.D. +49° 1263.—J.

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No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
721	E 958	+53° 823	4	47	56	53	12	4.6	2.87	9.4	9.5	10.94	E	2
722	A 2426	+19° 801		47	59	19	52	197.0	4.45	9.0	11.0	12.41	A	2
723	A 1943	+ 5° 753		48	3	5	29	229.4	2.11	8.3	11.2	08.93	A	3
724	A 1548	+43°1110		48	4	43	57	322.8	1.50	9.0	13.7	07.79	A	2
725	A 1843	+25° 746		48	42	25	14	334.0	0.24	7.3	10.0	08.76	A	3
726	J 11	Anon.		48	52	43	37	9.6	0.77	10.2	10.2	09.98	J	2
								22.0	1.77	9.9	9.9	15.24	J	1
727*	A 2040	+ 8° 793		48	53	8	25	259.0	2.69	8.3	13.0	09.10	β	3
								258.6	2.40	8.0	12.8	09.78	A	2
728	J 318	-10°1034		49	23	-10	47	285.1	4.68	9.0	9.2	11.08	J	1
								284.4	4.58	9.0	9.3	11.08	V	1
								282.0	4.38	9.2	9.4	16.10	J	1
729	J 711	Anon.		49	37	- 3	10	175.2	1.93	9.5	9.9	12.11	J	1
								173.8	2.15	9.5	10.0	12.11	V	1
								178.8	2.05	9.8	9.8	16.10	J	1
730	A 1302	+44°1053		50	7	44	24	11.0	0.63	9.5	10.3	06.74	A	3
731	A 1549	+41°1007		50	46	41	22	215.8	0.63	8.9	11.0	07.82	A	2
732	A 1550	+42°1098		50	52	43	3	147.6	0.45	8.8	10.5	07.79	A	2
733	J 712	- 3° 933		50	54	- 3	11	175.0	1.33	8.9	9.9	12.11	J	1
								174.3	1.55	9.0	10.0	12.11	V	1
								172.4	1.90	8.8	10.0	15.01	J	1
734	A 2623	-13°1015		51	39	-13	16	194.5	0.91	9.0	11.0	13.92	A	2
735	E 1372	+44°1063		52	15	44	59	93.5	4.57	9.5	11.1	15.03	E	2
736	J 31	+37° 998		52	28	37	46	350.6	3.34	9.5	12.2	10.02	J	2
								351.0	3.52	9.4	12.3	13.14	Doo	3
737	Hu 1220	+33° 932		52	29	33	12	11.9	4.30	9.0	12.0	04.96	Hu	1
								14.2	4.09	..	..	05.67	A	1
738	J 1088	+ 6° 784		52	33	6	11	6.4	1.53	9.3	9.4	14.82	J	1
								8.6	1.17	9.4	9.4	16.11	J	2
739	E 330	+31° 834		52	58	31	8	156.1	3.95	9.2	12.0	06.92	E	2
740	A 2624	+ 0° 905		53	16	0	52	137.1	0.21	9.0	9.0	13.73	A	2
741	A 2625	-13°1029		53	24	-13	45	359.1	0.25	9.5	9.5	13.92	A	2
742	A 1303	+53° 836		53	30	53	20	213.6	0.17	8.5	8.5	06.76	A	3
743	A 2626	+ 3° 723		53	32	3	51	273.2	1.42	9.0	12.8	13.75	A	2
744	A 1551 AB	+43°1149		54	8	43	12	284.2	0.28	9.1	9.1	07.73	A	3
	CD=E 14							285.2	5.39	9.0	11.8	99.33	E	3
								281.4	4.95	10.5	12.5	07.72	A	1
	AB-C							156.3	32.84	8.5	9.0	99.50	E	4
								155.7	33.33	..	..	07.72	A	1
745	A 2627	+ 1° 870		54	10	1	30	270.4	0.48	9.2	12.2	13.75	A	2
746	E 1139 AB	+49°1284		54	13	49	23	109.4	2.00	9.2	9.4	12.13	E	4
	AC							343.1	7.75	9.2	13.5	12.12	E	3
747*	J 12	Anon.		54	35	42	45	236.2	1.77	9.9	11.4	09.41	J	2
								236.1	2.62	9.7	11.5	15.24	J	1

727—In Burnham's *Measures of Proper Motion Stars*, page 129.—J.747—In *A.N.* 4406, for 235°2 read 236°2.—J.

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No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h	m	s	°	'						
748	J 1003	Anon.	4	54	36	—	9 15	233°0	4.13	9.3 11.5	13.15	J	1
								231.8	3.82	9.4 11.8	13.15	Dj	1
								236.6	4.30	9.3 11.8	16.10	J	1
749	A 2427	+19° 831	54	42		20 5	257.2	3.90	8.2 12.2	12.76	A	2	
750	A 2628	+ 1° 873	54	47		2 3	147.3	0.72	9.5 9.5	13.72	A	2	
							153.6	0.97	9.3 9.3	16.12	J	1	
751	J 651	+48°1200	55	33		48 58	233.2	3.95	8.9 9.9	11.87	J	1	
							232.2	4.13	9.0 9.9	11.87	V	1	
							238.4	3.74	9.4 10.0	15.24	J	1	
752*	J 47	+ 0° 913	55	44		0 24	312.9	1.45	9.3 9.6	10.20	J	2	
							310.5	1.70	9.6 10.4	13.06	Doo	4	
							307.8	1.99	9.5 9.8	15.54	J	2	
753	J 32	+38° 999	55	44		38 6	287.8	2.13	9.2 12.5	10.06	J	2	
754	A 1552	+41°1038	56	23		41 12	209.8	0.53	9.0 11.0	07.73	A	3	
755*	A 1844 BC AB=S 461	+26° 775	56	47		26 33	354.5	0.26	7.2 9.8	08.75	A	2	
							158.6	78.79	6.0 7.0	33.42	Σ	5	
							158.9	78.75	.. ..	92.64	Franz	4
756	A 2041	+ 8° 832	56	59		8 45	113.7	0.81	8.8 10.7	09.82	A	2	
757	J 935	+37°1022	57	0		37 44	41.8	1.90	9.3 12.2	13.01	J	1	
758	A 2629	—11°1036	57	17		—11 19	147.6	0.22	7.6 7.6	13.92	A	2	
759*	J 240	Anon.	57	27		34 59	18.8	0.39	9.5 9.5	10.32	J	3	
							24.2	1.24	9.7 9.7	15.24	J	1	
760	A 1944	+ 6° 811	57	43		7 0	30.2	2.10	9.0 13.4	09.06	A	2	
761	A 2630 BC A—BC=Σ 630	+ 1° 886	57	51		1 30	25.2	0.53	8.0 11.0	13.72	A	2	
							49.2	14.00	6.8 8.0	32.00	Σ	3	
							49.1	14.25	6.5 8.0	13.73	A	1	
762	J 403	+ 2° 840	57	58		2 39	210.6	2.08	8.9 9.5	10.15	J	1	
							204.6	2.12	9.0 9.8	11.85	V	1	
							208.4	2.33	8.9 9.8	13.40	J	2	
							210.4	1.89	9.0 10.0	16.06	J	1	
763	A 2428 AB AB—C	+19° 843	58	18		19 24	281.7	0.19	9.5 9.5	12.76	A	2	
							292.6	3.31	8.8 12.0	12.76	A	2	
764	J 13	Anon.	58	24		43 34	167.2	0.99	9.6 9.6	09.91	J	2	
							163.2	0.87	9.4 9.7	13.03	Doo	3	
							164.8	1.16	9.3 9.3	16.02	J	1	
765	Hu 1221 AB BC	+33° 946	58	42		33 47	40.3	3.70	9.2 12.0	04.96	Hu	1	
							38.7	3.38	.. 10.2	05.67	A	1	
							63.9	0.83	12.0 13.5	04.96	Hu	1	
							62.7	0.73	10.2 12.5	05.65	A	1	
766	E 412	+32° 876	58	43		32 16	267.6	4.77	8.5 12.0	07.11	E	3	
767	A 2631	—13°1052	59	5		—13 46	190.3	4.23	8.8 13.0	13.92	A	2	
768	A 2042	+10° 702	59	24		10 42	308.1	1.84	9.0 13.2	09.82	A	2	

752—In the centre of a triangle of 9.5 stars.—J.

755—Battermann gives a proper motion of $0^{\circ}033$ in $335^{\circ}9$, which evidently also belongs to B.— β .

759—This *may be* another instance where a *faint* close pair appears closer than it really is with the smaller instrument. In 1910 the distances measured on the three nights were $0^{\circ}38$, $0^{\circ}40$, $0^{\circ}39$ respectively.—J.

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No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'								
769*	J 307 BC	— 2°1111	4	59	39	— 2	38	194.6	0.29	8.6	8.6	10.91	J	2	
									196.6	0.30	8.7	8.7	10.99	V	1
									321.7	52.23	6.8	8.5	16.10	J	2
	AB														
770	A 2632	+ 2° 852		59	53		2 51	126.2	0.76	9.3	9.3	13.72	A	2	
771	A 2803	— 3° 992	5	0	0	— 3	36	65.7	0.30	9.4	9.6	14.83	A	2	
772	A 2043	+ 5° 800		0	16		5 39	172.5	1.45	8.9	11.0	09.81	A	2	
								172.2	1.40	8.8	11.3	11.07	J	2	
								172.5	1.48	8.9	11.5	11.07	V	2	
773	A 1845	+27° 726		0	16		27 33	317.6	1.66	9.6	9.6	08.71	A	2	
								320.3	1.59	..	..	12.72	Dob	3
								318.8	2.23	9.3	9.3	13.00	Dj	1	
774	J 319	— 5°1140		0	25	— 5	20	235.4	2.73	8.8	9.4	11.08	J	1	
								233.8	2.68	9.0	9.6	11.09	V	1	
								233.2	2.87	9.0	9.5	15.09	J	1	
775*	A 2633	—10°1087	1	5	—10	37	342.3	4.98	8.5	13.2	13.92	A	2		
776*	J 320	Nebula	1	8	10	36	129.6	2.17	9.8	9.8	11.09	J	1		
								119.9	2.99	10.4	10.4	16.06	J	2	
777	J 321	+ 5° 804	1	25		5 21	234.1	0.56	9.0	9.5	11.07	J	2		
								235.2	0.65	9.0	9.5	11.07	V	2	
								230.0	0.61	9.1	9.5	16.06	J	2	
778	A 1945	+ 7° 796	1	26	8	5	42.8	0.24	9.1	9.1	09.06	A	2		
779	J 1249	Anon.	1	54	43	36	18.2	0.75	10.0	10.0	16.02	J	1		
780	A 1553	+41°1065	2	11	41	55	211.8	2.52	8.6	14.4	07.73	A	2		
781	J 14	Anon.	2	25	27	6	226.8	1.40	9.6	9.9	09.96	J	2		
								228.6	1.87	9.6	10.3	13.05	Doo	3	
782*	Hu 1222	+14° 883	3	7	14	7	169.4	0.22	9.0	9.2	04.70	Hu	1		
								166.9	0.21	..	..	05.75	A	1
783	J 404	Anon.	3	10		2 34	137.4	3.25	9.5	10.0	11.15	J	1		
								136.8	3.20	9.7	10.7	16.06	J	1	
784	A 2634	+ 2° 865	3	12	2	21	345.0	1.22	8.8	11.8	13.79	A	2		
785	E 169	+39°1191	3	23	39	23	176.5	4.5 ±	8.3	12.0	05.03	E	2		
786	J 322	Anon.	3	34	10	56	328.0	2.67	9.5	11.5	11.09	J	1		
								330.0	2.71	9.6	11.8	11.09	V	1	
								331.0	3.34	10.2	11.5	16.08	J	1	
787	E 708	+53° 857	3	39	53	33	68.1	3.52	9.2	12.0	09.22	E	2		
788	J 33	Anon.	3	42	6	30	18.5	1.30	9.7	11.6	09.97	J	2		
								19.9	1.56	9.8	11.1	13.04	Doo	4	
								18.8	1.95	9.7	11.6	16.06	J	1	
789	E 467	Anon.	3	54	47	27	98.2	1.52	11.0	11.3	07.94	E	2		
790	A 2635	+ 0° 957	4	15	0	40	345.9	1.38	9.0	13.0	13.85	A	2		
791	A 2636	+ 3° 785	4	45	3	7	71.2	0.21	7.5	8.0	13.79	A	2		

769—On three nights with the 28-inch I measured a doubtful elongation at 200°. Attempted on many other nights. The principal star is red and the supposed double companion green.—J.
 775—A 6" pair (8.6–13.5) precedes this pair about 24" and is 1'3 further south.—A.
 776—With the 28-inch I noticed that this object is not a double star but a new small elongated nebula. See *The Observatory*, No. 498.—J. Quite bright. It is surprising that the spectrographic surveys had not long ago picked up the two objects (see JC 1226) as bright-line nebulae. Four accurate observations for radial velocity show that J 320 is in rapid rotation. We have evidence as to rotation in about twenty nebulae in the northern hemisphere. (*Letter*, 1916 December 1.)—Campbell.
 782—In *Lick Obs. Bul.* 117, for +14°883 read +14°833.—Doo.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'							
792*	J 1004	Anon.	5	5	0	—	8 46	326.6	2.75	9.8	9.8	13.17	J	2
								324.9	2.93	9.7	9.8	13.17	Dj	2
								324.4	2.64	9.8	9.8	16.10	J	1
793*	J 323	+10° 725	5	34		10	48	161.2	3.05	7.5	9.5	11.09	J	1
								163.0	3.00	7.8	10.0	11.09	V	1
								165.8	3.54	7.1	9.5	15.00	J	2
								165.8	3.26	7.8	9.8	16.08	J	2
794	E 709	+52° 933	5	37		52	15	228.2	1.94	9.0	9.2	09.16	E	5
795	J 308	Anon.	6	16		—	3 34	156.5	2.07	9.5	11.5	10.99	J	1
								160.6	2.13	9.5	11.5	10.99	V	1
								154.2	2.89	9.5	11.0	16.10	J	1
796	E 280	+39° 1201	6	19		39	51	302.8	3.19	9.0	10.7	06.14	E	1
797*	J 1253	+42° 1199?	6	40		42	43	264.2	2.65	9.8	10.0	16.03	J	1
798	A 1554	+41° 1111	7	17		41	30	26.8	0.31	9.1	9.1	07.71	A	3
799	A 2429	+17° 867	7	33		17	9	50.4	0.74	9.0	9.8	12.89	A	2
800	E 414	+33° 975	7	37		33	27	183.8	2.38	9.0	9.1	07.13	E	3
801	A 1304	+54° 870	7	38		54	40	84.5	1.66	8.6	9.5	06.85	A	3
802*	J 15	+ 8° 885	7	40		8	53	240.2	1.88	9.1	10.9	09.96	J	2
								240.3	2.07	9.3	12.0	13.06	Doo	3
								244.0	2.29	9.2	11.8	16.02	J	1
803*	Doolittle	Anon.	7	46		16	23	359.7	2.2 ±	11.0	11.5	..	Doo	..
804	A 2637	+ 0° 978	7	59		0	31	214.4	1.33	8.8	13.5	13.85	A	2
805	Hu 1223	+33° 979	8	29		33	18	193.2	0.52	9.0	13.5	04.96	Hu	1
								191.0	0.52	..	11.5	05.67	A	1
806	J 1251	Anon.	8	32		16	49	16.8	3.80	9.5	12.0	16.02	J	1
807	A 2701	+ 8° 889	8	38		8	22	157.4	0.41	9.4	9.4	14.02	A	2
808	J 1043	+18° 796	8	38		18	26	330.6	1.77	9.1	9.1	14.04	J	1
								331.0	1.91	9.2	9.2	14.04	Dj	1
								329.4	2.03	9.3	9.5	16.02	J	1
809	J 936	Anon.	8	56		17	11	178.0	4.25	9.6	10.5	12.95	J	1
								185.4	3.86	10.0	11.8	16.10	J	1
810	A 1946	+ 7° 839	9	4		7	22	358.2	1.42	9.0	10.5	09.06	A	2
811	E 1374	+44° 1142	9	11		44	28	262.3	1.89	9.5	14.0	15.09	E	4
812	A 1555	+42° 1215	9	20		42	24	185.6	0.97	7.9	10.6	07.71	A	3
813	J 1250	Anon.	9	38		31	40	291.2	1.90	9.5	9.8	16.02	J	1
814	A 1947	+ 7° 841	9	39		7	19	166.6	4.62	8.5	13.0	09.06	A	2
815	J 324	— 3° 1045	10	5		—	3 22	18.0	4.68	9.0	10.0	11.00	J	1
								13.9	4.97	9.2	11.1	16.10	J	2
								132.0	0.93	8.2	9.0	07.79	A	2
816	Hu 1224	+12° 752	10	16		12	26	232.6	2.59	8.9	9.3	07.70	A	2
817	A 1556	+40° 1225	10	27		41	0	235.4	2.76	..	..	13.61	Dob	4
								229.2	2.63	9.6	9.7	13.97	J	1
818	J 1044	Anon.	10	38		19	48	227.2	2.29	9.7	9.7	13.97	Dj	1
								237.2	2.13	10.0	10.2	16.10	J	1

792—According to Boss, the proper motion is 0.07 in 180°.—A.

793—Principal star yellowish, companion blue. In A.G. mags. observed from 7.8 to 8.5.—J.

797—The preceding component of a wide triple.—J.

802—Doolittle notes this star, a rather difficult pair.—J.

803—Same Decl. and 14s. preceding B.D. +16° 729, which is β .G.C.—2575— h 3270 : 326° 2, 13° 96, 9.5—9.7, 1908-92, 2.—Doo.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
819	J 405	Anon.	5	10	50	2	33	320.3	0.93	9.3	9.4	11.15	J	1
								307.4	0.94	9.7	9.9	16.10	J	1
820	J 48	+ 1° 949	11	34		1	7	27.6	1.89	9.2	9.6	10.21	J	3
								26.4	1.84	8.9	9.6	11.01	J	2
								26.0	1.90	9.0	9.5	11.01	V	2
								27.9	2.22	9.2	9.7	13.06	Doo	4
								31.6	2.29	8.8	9.4	16.10	J	1
821	A 2638	+ 3° 827	11	40		3	39	70.6	1.12	9.0	9.0	13.79	A	2
822*	E 574 BC	+47°1122	11	44		47	14	87.7	1 ±	9.7	10.3	08.11	E	3
	AB							63.1	33.65	9.4	9.7	08.11	E	3
823*	A 2430	+18° 811	12	0		18	17	126.9	1.04	9.0	12.0	12.89	A	2
								146.0	1.05	8.8	10.7	13.00	J	2
824*	β 1334 AB	- 5°1207	12	8		- 5	40	349.3	1.69	9.0	13.5	04.81	β	2
	AC=Σ675							6.6	9.36	8.8	9.0	66.42	De	2
								6.6	9.43	..	..	04.79	β	3
825	J 184	Anon.	12	9		34	55	94.4	4.16	9.1	9.7	10.80	J	2
								92.2	4.25	9.3	9.8	10.81	V	1
826	J 241	+ 5° 872	13	1		5	52	168.2	3.80	9.2	9.5	10.86	J	1
								167.0	3.20	9.2	9.5	10.86	V	1
								164.4	3.78	9.0	9.5	11.08	J	1
								165.8	3.84	9.4	9.9	16.10	J	1
827	A 2639	+ 3° 841	13	51		3	36	7.6	0.35	9.1	9.8	13.79	A	2
828	A 1557	+40°1247	13	53		40	57	167.0	1.16	8.6	13.5	07.69	A	2
829	J 674	+13° 855	14	19		13	39	81.5	2.99	9.2	10.0	11.89	J	1
								88.8	2.99	9.3	10.0	16.10	J	1
830	J 325	- 9°1117	14	23		- 9	31	188.2	1.45	9.0	9.5	11.11	J	1
								187.3	1.40	9.2	9.8	11.11	V	1
								183.8	2.21	9.3	10.3	16.10	J	1
831	J 242	Anon.	14	37		9	22	26.3	4.90	9.6	9.6	10.93	J	1
								24.7	5.00	9.7	9.7	10.93	V	1
								30.8	4.91	10.0	10.0	16.10	J	1
832	A 2105	+ 5° 882	14	40		5	57	272.7	1.98	8.8	13.8	10.07	A	2
833	J 1089	+32° 947	14	41		32	31	187.2	2.81	9.0	10.5	14.93	J	1
834*	J 897	+44°1174	14	47		44	48	236.6	2.75	9.0	11.0	12.77	J	1
								234.0	2.93	9.0	11.0	12.77	Dj	1
								234.0	3.17	9.5	10.5	15.03	E	2
835	A 1558	+42°1248	14	50		42	46	75.0	0.42	9.5	9.6	07.71	A	3
836	E 281	+40°1254	14	55		40	15	215.4	2.29	9.0	9.6	06.14	E	2
								214.5	2.13	9.4	9.6	07.70	A	2
837	J 652	Anon.	15	27		33	45	356.2	3.83	9.4	9.5	11.87	J	1
								353.2	3.72	9.4	9.6	11.87	V	1
838	A 1559	+52° 947	15	29		52	8	44.2	4.93	8.6	13.0	07.39	A	2
839	A 1305	+56°1022	15	43		56	28	30.3	4.90	8.8	13.0	06.75	A	2

822—Burnham has confirmed the duplicity with the 40-inch.—E.

823—Σ 670 is in the field about 4' north.—A. Σ 670 is 166°, 2".4, 7.7-8.2. One of the angles must be in error.—J.

824—In β.G.C., part ii. page 412. The magnitudes of AC are those of Struve.—J.

834—Measured by Espin as E 1375 in *M.N.*, vol. lxxv. page 555.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				°
840	A 2804	- 2° 12 17	5	16	19	-	2	46	93.0	1.04	9.2	9.8	14.87	A	2
841	E 333	+ 31° 936		16	28	31	24		36.7	3.37	9.2	9.3	06.92	E	2
842	E 1231 AB AC	+ 46° 1002		16	35	46	16		35.9	1.12	9.3	10.0	13.99	E	2
									9.4	14.12	9.3	10.5	13.99	E	2
843	E 1140	+ 48° 1259		16	36	48	18		286.7	2.87	9.4	10.3	12.77	E	2
844	A 1718	+ 42° 1264		16	56	42	34		77.6	0.32	9.0	10.2	07.85	A	2
845	A 2640	+ 7° 874		17	14	7	35		4.6	0.38	9.0	10.2	13.84	A	2
846	A 1560	+ 53° 898		17	22	53	29		220.0	1.09	9.4	9.5	07.39	A	2
									222.1	1.42	..	..	12.20	Dob	4
847*	J 144	+ 19° 905		17	26	20	3		165.5	4.94	8.7	9.2	10.77	J	2
									166.0	5.04	8.9	9.2	10.77	V	2
									166.7	4.51	9.0	9.7	16.10	J	2
848*	Lewis FG AF AB = β 887	+ 33° 1026		17	31	33	20		359.5	2.33	12.5	13.5	03.07	L	1
									351.6	38.18	9.0	12.5	03.07	L	1
									194.3	1.00	9.0	10.5	82.22	β	2
									187.8	1.01	..	..	02.67	L	2
	AC								112.8	9.54	9.0	13.5	98.84	β	1
	AD								332.8	10.50	9.0	12.0	02.67	L	2
	AE								201.6	14.80	9.0	13.5	98.84	β	1
849	J 898	Anon.		17	49	33	56		159.4	1.90	10.0	10.5	12.76	J	1
850	Hu 1225	+ 14° 890		18	24	14	17		321.0	3.54	7.5	12.0	04.94	Hu	1
									319.1	3.21	..	..	05.75	A	1
851	A 2641	+ 2° 934		18	27	2	32		160.7	1.14	8.5	11.0	13.74	A	2
852	A 2642	- 0° 933		18	37	0	4		32.8	0.39	9.0	10.5	14.02	A	2
853	A 1719 AB AC = E 576 AD	+ 42° 1273		18	38	42	32		95.1	0.66	8.5	9.5	07.85	A	2
									342.8	8.45	8.0	13.7	08.02	E	2
									236.3	42.35	8.0	8.2	08.02	E	2
854	A 2702	+ 11° 787		18	52	11	21		75.2	3.22	9.0	13.5	14.72	A	2
855	E 577	Anon.		19	13	47	19		133.5	2.30	9.7	11.5	08.10	E	2
856	A 2431	+ 18° 843		19	28	18	56		95.2	3.06	8.8	13.5	12.84	A	2
857	A 1306	+ 44° 1195		19	44	44	19		226.2	0.25	8.1	9.1	06.75	A	3
858	J 326	- 1° 883		19	48	-	1	28	245.8	2.76	8.8	9.3	11.08	J	2
									246.7	2.87	8.8	9.4	11.08	V	2
									246.5	2.88	9.0	9.7	16.09	J	3
859	J 145	Anon.		20	0	20	3		168.0	2.42	9.4	9.4	10.71	J	1
									171.7	1.72	9.8	9.8	16.10	J	2
860	E 1376	+ 44° 1196		20	4	44	36		250.1	3.98	9.3	9.6	15.18	E	3
861	A 2703	+ 9° 821		20	11	9	6		302.6	0.20	8.5	9.1	14.74	A	3
862	Hu 1226	+ 15° 809		20	31	15	17		56.9	0.72	9.0	9.6	04.94	Hu	1
									58.9	0.82	..	..	05.75	A	1
863	J 327	Anon.		21	12	-	1	30	283.6	3.25	10.0	10.4	11.08	J	1
									284.4	3.02	11.0	11.8	16.10	J	1
864	A 2704	+ 9° 830		21	20	9	9		324.4	1.49	8.5	13.6	14.72	A	2

847—The magnitude is 8.6 in B.D. and 9.1 in A.G. Berlin A, where the duplicity of this wide and almost equal pair is not noted.—J.

848—In β .G.C., part ii. page 415, the magnitudes of A, B, C, D, E are those of Burnham. In B.D. the principal star has a magnitude of 9.3.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
865	J 185 AB	+ 1°1010	5	21	30	1	34	182.0	2.67	9.3	12.5	10.83	J	1
								189.2	4.20	9.4	12.0	16.10	J	1
	AC	72.2	11.91	9.3	12.0	10.83	J	1						
		80.4	13.02	9.4	13.5	16.10	J	1						
866	Hu 1227	+38°1160	21	43	38	31	135.8	0.46	9.1	10.0	04.86	Hu	1	
							137.9	0.46	..	..	05.71	A	1
867	J 589	+14° 909	21	53	14	52	195.3	4.87	9.4	9.5	13.48	J	2	
							193.0	4.61	9.5	9.8	16.10	J	1	
868	E 1377	+44°1204	22	4	44	37	187.6	4.37	9.3	9.7	15.17	E	2	
869*	E 171	+62° 756	22	11	62	37	222.9	2.3±	8.7	10.5	04.06	E	1	
							239.5	3.06	8.5	10.0	04.87	Hu	2	
870	J 329	— 0° 948	22	30	—	0	2	171.8	1.25	9.0	9.6	11.08	J	2
								171.1	1.20	9.0	10.0	11.08	V	1
								172.6	1.34	9.3	9.6	16.09	J	2
871	J 328	Anon.	22	34	—	1	33	148.7	1.73	9.5	11.8	11.08	J	1
872	A 2508	—11°1171	22	44	—11	36	308.8	1.05	9.0	11.2	12.96	A	2	
873	A 2432	+18° 855	22	48	18	26	288.0	1.08	9.0	10.2	12.84	A	2	
874	E 282	Anon.	22	59	33	45	114.6	1.99	9.1	10.3	06.09	E	3	
875	J 34	Anon.	23	11	1	23	347.0	1.44	9.8	10.5	10.02	J	2	
							349.6	1.80	9.9	10.6	13.05	Doo	3	
876	A 2643	+ 0°1078	23	29	1	2	13.2	0.58	8.4	12.5	13.85	A	2	
877	J 675	+21° 853	23	33	21	50	188.7	2.06	9.2	9.7	11.95	J	1	
							189.8	1.88	9.1	9.7	11.95	V	1	
							191.0	1.88	9.2	10.5	14.04	J	1	
							194.3	2.09	9.0	10.0	16.19	J	2	
							256.8	0.33	9.0	9.2	12.07	J	1	
						260.0	0.36	9.0	9.2	12.07	V	1		
						268.2	0.57	..	..	15.10	HF	1	
878	A 1561	+53° 914	24	0	53	36	336.5	0.45	8.9	9.7	07.73	A	2	
879*	J 49	+ 2° 972	24	1	2	19	272.0	0.31	8.8	9.1	10.21	J	2	
							256.8	0.33	9.0	9.2	12.07	J	1	
							260.0	0.36	9.0	9.2	12.07	V	1	
							268.2	0.57	..	..	15.10	HF	1
880	A 2644	+ 0°1085	24	3	0	43	122.9	1.32	9.0	13.7	13.85	A	2	
881	A 1720	+41°1203	24	33	41	42	269.4	1.88	9.0	10.0	07.85	A	2	
882	A 2645	+ 5° 933	24	46	5	46	137.6	1.16	9.4	9.8	13.84	A	2	
883*	A 2433 CD	+18° 864	25	10	18	22	247.8	1.12	7.9	13.2	12.86	A	3	
							20.6	52.86	7.2	7.7	75.31	De	3	
							20.7	53.54	7.5	7.9	98.45	β	2	
							122.2	10.66	7.5	12.7	98.85	β	2	
884	Hu 1228	+13° 910	25	17	13	31	320.2	0.35	9.0	9.0	04.94	Hu	1	
							318.1	0.40	9.3	9.7	05.75	A	1	
885	E 335	+32°1012	25	19	32	36	330.6	2.65	9.1	9.2	06.95	E	1	
886	A 1721	+42°1308	25	23	42	52	114.9	0.18	8.9	9.0	07.86	A	3	
887	J 330	Anon.	25	28	2	47	265.8	3.43	9.7	9.7	11.04	J	1	
							268.0	3.77	9.6	9.6	11.04	V	1	
							271.2	3.22	9.6	9.6	16.10	J	1	
888	J 1255	Anon.	25	30	2	23	203.0	0.58	9.5	9.5	16.08	J	1	

869—This is also β .G.C. 13058—Hu 1105.—J.

879—Not separated, 28-inch, 1915.10.—HF. I could not see the duplicity of this pair on two nights in 1916.—J.

883—The meridian positions of 1825 make the distance of AC 51"0 at the time.— β .

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.	
			h	m	s	°	'							
889	J 243	+11° 825	5	25	42	11	39	26.2	4.98	8.7 11.0	10.93	J	1	
									28.4	4.68	8.9 11.2	10.93	V	1
										31.6	3.85	8.9 11.0	16.10	J	1
890	J 590	Anon.	25	44		22	18	160.8	4.46	9.4 11.8	11.75	J	1	
								160.3	4.64	9.4 12.0	11.75	V	1	
891	J 1256	+ 2° 978	25	51		2	19	70.4	1.65	9.0 12.0	16.08	J	1	
892	A 2705	+11° 833	26	15		11	50	257.0	0.92	9.0 9.6	14.72	A	2	
893*	J 7	- 2° 1270	26	16		-	2	50	213.8	0.95	9.7 10.6	09.88	J	2
									205.4	1.40	8.7 9.2	10.99	J	1
									205.2	1.60	8.8 9.3	10.99	V	1
									211.2	1.09	9.6 10.3	13.09	Doo	4
									208.0	1.81	9.0 9.8	15.01	J	1
894	A 2706	+ 8° 982	26	26		8	20	98.5	3.85	8.0 14.5	14.72	A	2	
895	J 899	Anon.	26	29		32	21	178.6	2.60	9.7 10.3	12.72	J	1	
896	A 1722	+42° 1317	26	35		42	21	31.1	1.50	7.5 9.5	07.86	A	2	
897	A 2646 AB	+ 4° 953	26	43		4	37	357.9	0.22	9.0 9.0	13.84	A	2	
								179.0	9.48	8.5 13.0	13.82	A	1	
898	E 1072	+49° 1366	26	45		49	9	359.5	4.05	9.3 10.4	11.08	E	2	
899	J 244	Anon.	26	57		11	36	152.0	3.42	9.7 9.7	10.93	J	1	
								155.4	3.10	9.8 9.8	16.10	J	1	
								214.0	2.97	9.2 11.5	10.71	J	1	
900*	J 146	+21° 881	26	58		21	58	222.8	3.29	9.4 12.5	16.17	J	2	
								214.0	2.97	9.2 11.5	10.71	J	1	
901	A 2647	+ 2° 983	27	13		3	1	71.4	0.25	9.1 10.5	13.83	A	2	
902*	Fox 7	- 3° 1125	27	39		- 3	31	43.6	2.63	9.5 11.0	14.37	Fox	3	
903	J 245	+ 9° 861	27	41		9	32	9.8	3.45	9.3 11.0	10.93	J	1	
								12.0	3.25	9.3 11.0	10.93	V	1	
								14.2	3.10	9.2 11.5	16.10	J	1	
904	A 2509	+ 2° 991	28	8		2	14	271.2	0.20	9.5 9.5	13.03	A	2	
905	A 2434	+19° 953	28	23		19	59	147.6	3.90	8.7 10.5	11.80	A	2	
906	J 169	+21° 886	28	28		21	23	241.5	3.62	8.8 9.1	10.74	J	2	
								244.2	3.53	8.8 9.3	10.77	V	1	
								243.8	3.61	8.8 9.3	11.00	V	2	
								241.1	3.72	8.9 9.3	12.34	J	2	
								239.6	3.47	8.8 9.2	12.95	Dj	1	
								240.8	3.44	9.0 9.6	16.10	J	1	
907	A 2707	+11° 846	28	31		11	37	260.6	4.17	8.9 13.0	14.72	A	2	
908	A 1723	+40° 1332	28	39		40	39	291.6	0.54	9.2 9.7	07.86	A	2	
909	J 246	+18° 878	28	53		18	44	333.0	4.22	8.8 8.8	10.90	J	1	
								332.4	4.00	9.0 9.0	11.26	V	4	
								331.6	3.83	9.0 9.0	12.09	J	1	
								332.1	3.25	9.2 9.3	16.19	J	2	
								298.8	1.31	9.1 11.0	09.91	A	2	
910	A 2106	+22° 946	29	10		22	22	276.2	2.58	9.2 9.9	14.05	J	1	
								277.8	3.00	9.4 10.0	14.05	Dj	1	
								266.7	2.34	9.3 9.9	16.17	J	2	
911	J 1045	+23° 947	29	22		23	29	276.2	2.58	9.2 9.9	14.05	J	1	

893—In *A.N.* 4406, for 5^h 27^m 31^s—2° 52' read 5^h 26^m 16^s—2° 50'.—J.

900—In 1916.10 I suspected another companion: 264° 4 3" 04 9.2—14.5.—J.

902—If this is B.D.—3° 1125 as given in *Annals of the Dearborn Observatory*, vol. i, page 223, the R.A. should there read 5^h 25^m 40^s instead of 5^h 23^m 39^s.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
912	J 654	Anon.	5	29	47	12	45	250°0	4°00	9.2	9.4	11.87	J	1	
									250.5	4.28	9.3	9.6	11.87	V	1
									246.0	4.38	9.3	9.7	16.10	J	1
913	Hu 1229	+37°1242	30	0		37	51	201.6	1.74	7.5	13.0	05.32	Hu	1	
									198.2	1.69	05.71	A	1
914*	Bowyer	..	30	9		26	52	287.8	4.43	..	..	97.01	WB	1
915	A 2354	+18° 881	30	17		18	35	126.1	0.50	9.5	9.5	11.75	A	2	
916	J 247 AB	+20°1004	30	26		20	15	145.4	4.95	9.2	9.0	10.90	J	1	
									146.7	4.84	9.3	9.6	16.17	J	2
									216.8	18.75	9.3	10.8	16.17	J	2
917	J 248	Anon.	30	27		18	36	31.1	3.98	9.0	9.5	10.90	J	1	
									29.9	3.69	9.0	9.6	10.90	V	1
									33.1	3.40	9.4	9.9	16.19	J	2
918	A 2648	+5° 959	30	32		5	25	77.4	2.80	9.0	12.8	13.96	A	2	
919	A 2107	+21° 896	30	39		21	9	329.8	3.05	8.5	11.0	09.91	A	2	
920	A 1307	+58° 845	30	40		58	30	131.7	4.02	8.4	12.2	06.86	A	3	
921	A 1308	+59° 896	31	0		59	47	101.6	4.82	9.0	14.5	06.89	A	3	
922	Lewis	..	31	:		29	45	197.5	0.30	10.0	11.0	08.11	L	1	
923	E 1141	+48°1290	31	7		48	11	267.9	3.39	9.1	9.6	12.18	E	3	
924	A 1562	+43°1314	31	7		43	36	347.1	0.47	8.8	8.8	07.73	A	3	
925*	J 676	+7° 938	31	11		7	20	100.4	1.74	8.9	8.9	11.97	J	1	
									98.0	1.30	9.0	9.0	11.97	V	1
									102.3	1.55	9.5	9.5	13.96	A	2
									100.6	1.05	8.9	8.9	16.10	J	1
926	A 2650 AB	+8°1011	31	42		8	4	121.4	0.57	9.4	9.9	13.96	A	2	
									128.0	12.80	9.4	13.5	..	A	..
927	A 2510	+2°1016	32	31		2	38	278.4	0.96	8.9	11.7	13.03	A	2	
928*	J 798	-6°1253	32	32		-6	45	220±	3±	8.9	13.0	12.15	J	1	
929	A 1563	+42°1354	32	40		42	58	272.8	0.18	8.9	8.9	07.75	A	3	
930	J 147 AB	+23° 976	32	58		23	18	354.4	3.45	9.5	9.5	10.71	J	1	
									359.2	3.40	9.4	9.4	16.10	J	1
									320.2	17.37	9.4	12.0	16.10	J	1
931	A 2651 AB	+4° 989	32	59		4	43	158.0	0.47	8.4	10.4	13.96	A	2	
									325.8	8.43	..	12.0	13.92	A	1
	AB-C														
932	J 249	Anon.	33	8		1	13	223.0	3.00	9.2	11.0	10.93	J	1	
933	J 901	Anon.	33	19		31	58	149.8	2.97	9.9	9.9	12.72	J	1	
									150.4	2.95	10.5	10.5	12.72	V	1
934	A 2708	+8°1019	33	31		8	54	265.2	0.46	8.5	9.3	14.73	A	2	
935	A 1564	+43°1320	33	34		43	40	341.2	0.26	8.4	8.4	07.74	A	3	
936	J 250	Anon.	33	36		1	19	167.0	3.33	9.4	13.0	10.93	J	1	
937	J 331	-6°1266	33	56		-6	29	347.7	3.60	8.9	9.5	11.09	J	2	
									344.4	3.62	9.0	9.6	11.09	V	2

914—In the field with Σ 749 · 168°9, 0"79, (7.0-7.1), 1904.03, 2.—W.B. The coordinates of Σ 749 are given here.—J.

925—Measured by Aitken as A 2649. In A.G. Leipzig II. the magnitude is 8.7.—J.

928—There is perhaps also a 15th mag. at $40^\circ \pm 5'' \pm$. The principal star appears in the centre of the nebula H IV. 33. and is represented as the nucleus of the nebula in the drawing of Rosse, *Trans. Royal Dublin Society*, vol. ii., n.s., plate I.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h m s	° ' "	°	"				
938	A 2108 AB AC AD	+23° 984	5 34 39	23 4	324°6 83°0 202°2	1°15 21°24 22°24	9·1 12·7 9·1 13·5 9·1 13·5	10·10 10·18 10·18	A A A	3 1 1
939	A 2709	+11° 896	34 56	11 48	224°0	0°24	9·1 9·3	14·74	A	3
940*	J 937	Anon.	35 4	31 14	165°0	3°28	9·5 12·0	13·03	J	1
941	A 2109	+22° 976	35 11	22 43	84°5	0°52	9·7 9·7	10·10	A	3
942	J 1046	+20°1036	35 23	20 30	108°8 112°0 110°4	2°55 2°60 2°00	9·4 9·5 9·4 9·6 9·3 9·7	13·97 13·97 16·10	J Dj J	1 1 1
943	E 894	+52° 987	36 30	52 32	187°0	3°22	8·9 9·2	10·03	E	5
944	A 2110 AB CD AB—C=Σ 772	+21° 937	37 18	21 33	115°9 212°1 243°3 243°1	0°38 1°40 29°85 30°21	9·1 9·4 9·1 13·2 8·0 9·0 8·6 9·1	10·10 10·10 29·87 10·10	A A Σ A	3 3 3 3
945	A 2111	+22°1000	37 25	22 20	71°8	2°03	8·7 13·0	10·10	A	3
946	A 1565	+43°1331	37 29	43 20	190°0	3°95	8·7 9·7	07·74	A	2
947	J 406	+13° 960	37 55	13 5	293°0 293°6 290°4 295°6	4°33 4°13 3°82 3°68	9·1 9·7 9·1 9·8 9·1 9·6 9·5 9·9	11·14 11·14 14·09 16·10	J V J J	1 1 1 1
948	A 1566	+43°1336	37 57	43 31	189°9	1°36	8·9 11·0	07·74	A	2
949	J 938	Anon.	37 59	11 24	293°6 293°4	2°87 2°97	9·6 10·0 9·6 10·0	12·93 12·93	J Dj	1 1
950	A 1567	+55°1012	38 13	55 40	102°4	0°97	8·6 9·0	07·39	A	2
951	A 2435	+18° 925	38 25	18 29	107°2	0°86	8·7 12·0	11·95	A	3
952	A 2652	+ 5° 997	38 35	5 34	125°4	0°56	9·0 11·2	13·97	A	2
953	J 939	Anon.	38 35	30 53	39°0 37°7	4°42 4°09	10·0 13·0 10·0 11·0	13·04 13·04	J Dj	1 1
954	A 2112 AB AC	+20°1063	38 50	20 40	326°2 93°0	3°50 14°1±	9·1 12·8 9·1 13·5	10·06 10·16	A A	2 1
955	A 2436	+16° 850	38 52	16 40	62°2	0°32	8·8 9·2	11·96	A	3
956	J 713	Anon.	38 59	— 4 52	225°7	0°60	9·5 9·7	12·07	J	1
957	J 714	— 4°1225	39 7	— 4 56	134°1 131°4	2°91 2°85	9·5 9·9 9·4 10·0	12·07 12·07	J V	1 1
958	J 940	Anon.	39 19	30 54	355°0	4°50	10·8 12·0	13·04	J	1
959	E 172	+39°1397	39 24	39 50	135°4	4°9±	9·0 10·0	05·02	E	1
960	J 8	Anon.	39 28	25 54	252°4 250°5	1°65 1°85	9·6 10·0 10·2 11·2	09·88 12·07	J Doo	2 3
961	A 2653	+ 0°1166	39 40	1 1	324°4	0°16	9·7 9·7	13 91	A	2
962	A 2654	+ 0°1168	40 5	0 56	316°5	0°29	9·5 9·5	13·91	A	2
963	J 941	Anon.	40 13	30 42	172°2 168°2	3°08 3°07	9·6 9·6 9·7 9·7	13·04 13·04	J Dj	1 1
964	A 1309	+59° 911	40 21	59 37	351°2	0°30	9·2 9·9	06·89	A	3, 2
965*	A 1310	+56°1060	40 27	56 29	317°1	2°53	9·5 9·5	06·84	A	2
966	Hu 1232	+35°1227	40 30	35 56	247°2	0°44	9·2 9·2	06·00	A	2
967	E 173	+39°1404	40 30	39 13	nf.	4±	8·5 12·5	05·03	E	1
968*	A 1311	+57° 911	40 39	57 47	153°2	4°84	9·0 13·2	06·84	A	2

940—A B.D. star mag. 6·4, 5' north and 20° following.—J.

965—968—In *Lick Obs. Bul.* 109, stars A 1310—1311 interchange angles, distances, and magnitudes.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h	m	s	°	'						
969	J 655	+14°1015	5	40	40	14	8	171.7	2.21	9.0 11.0	11.87	J	1
								172.1	2.40	9.1 11.0	11.87	V	1
970	A 2655 BC AB=Σ 789 rej.	+ 3°1025	40	48		3	59	108.2	1.23	9.5 13.0	13.72	A	2
								149.5	17.51	7.0 10.0	05.03	β	1
								150.7	17.38	7.0 9.5	13.74	A	1
971	J 170	Anon.	41	1		22	32	80.5	2.93	9.5 12.8	10.74	J	2
								84.0	2.50	9.3 12.8	10.77	V	1
972	A 2656	+ 5°1006	41	2		5	56	61.9	0.58	9.2 10.5	13.86	A	2
973	A 2710	+ 9° 950	41	10		9	18	233.0	0.88	9.0 12.0	14.74	A	2
974	E 283	+39°1407	41	15		39	56	S.	2±	9.5 9.8	06.13	E	1
975	E 710	+53° 946	41	31		53	44	173.6	2.65	9.2 12.0	09.21	E	1
976	A 2711	+10° 876	41	35		10	47	93.3	0.19	9.0 9.0	14.74	A	3
977	J 332	- 6°1306	41	40		- 6	45	121.9	3.93	9.3 10.0	11.07	J	1
								122.4	4.04	9.2 10.4	11.62	V	2
								119.6	3.78	9.2 9.9	12.18	J	1
978*	A 2437 AB AC	+18° 959	41	27		18	50	20.2	3.94	8.3 11.2	12.04	A	2
								234.5	9.50	8.3 13.5	11.98	A	1
979	E 578	+49°1403	41	44		49	23	41.7	2.02	9.1 9.1	08.13	E	2
980	J 902	Anon.	42	7		32	20	231.7	2.38	9.6 9.9	12.82	J	2
981	E 1378	+44°1284	42	7		44	20	281.0	4.70	9.5 9.5	15.16	E	2
982	J 35	+ 6°1021	42	30		6	21	358.1	1.41	9.3 9.5	10.05	J	1
								357.0	1.57	9.5 9.9	12.07	Doo	3
								362.4	1.45	9.0 9.8	15.01	J	1
983	Hu 1233	+36°1264	43	2		36	10	26.0	0.59	8.0 9.0	05.32	Hu	1
								22.8	0.61	.. ..	05.71	A	1
984	A 2511	-12°1267	43	17		-12	50	173.3	1.94	9.2 12.5	12.96	A	2
985	J 1114	+34°1181	43	40		34	50	193.4	4.74	9.5 10.0	15.21	J	1
986*	Lewis	+29°1004 ^p	43	46		29	43	165.0	3.93	8.8 9.8	03.19	L	2
								164.4	3.05	8.8 9.8	09.14	WB	1
987 ^v	J 36	+ 3°1041	44	2		3	53	114.1	1.67	7.8 10.5	10.02	J	2
								112.0	1.75	7.9 9.8	10.12	J	1
								112.4	1.68	7.4 9.7	11.07	V	2
								112.2	1.63	7.3 9.6	11.08	J	3
								113.5	1.68	7.5 9.7	12.07	J	1
								112.6	1.78	7.5 9.7	12.07	V	1
								113.5	1.88	8.9 10.2	12.12	Doo	3
								114.0	2.17	7.0 9.8	14.99	J	1
								113.4	1.88	.. ..	15.12	HF	1
988	J 903	Anon.	44	2		33	21	125.2	2.80	9.2 14.0	12.72	J	1
989	A 2657	+ 1°1137	44	6		1	36	126.0	0.16	8.9 8.9	13.91	A	2
990	A 1312	+56°1066	44	13		56	21	54.8	2.98	9.0 12.8	06.87	A	2
991	A 1313	+56°1069	44	25		56	23	137.0	0.66	9.1 9.7	06.89	A	3

978—The magnitude is given as 7.6 in the Berlin A.G. Catalogue.—A. In *Lick Obs. Bul.* 223, for 19° 49' read 18° 49'.—Doo.

986—In *β.G.C.*, part ii. page 436. It should be 2' S. of B.D. +29°1009, which is β 560, position 161°8, 0°75 (8.0-8.0).—β.

The Lewis pair may be B.D. +29°1008; the R.A. would then be 7^s less than β 560. In 1909 the measure of Bowyer is preceded by the identification +29°1004 (8.2) adopted here. In *Greenwich Results* the declination should then read 29° 43' instead of 29° 40'.—J.

987—Magnitude 7.5 in B.D. The principal star is yellowish and is No. 518 of Krüger's *Catalogue of Coloured Stars, Type III.*, Potsdam. It is curious this pair should have so long escaped detection.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
992	J 942	Anon.	5	44	26	31	31	211.0	4.92	10.5	12.5	13.04	J	1
993	J 943	Anon.		44	59	31	34	205.2	3.80	9.7	11.0	12.04	J	1
								205.6	4.01	9.6	11.8	12.04	Dj	1
994	J 944	Anon.	45	4		17	11	17.2	2.97	10.0	11.0	13.03	J	1
								19.8	3.23	9.8	10.5	13.03	Dj	1
995	A 2438 AB AB-C	+15° 945	45	26		15	59	345.3	0.36	9.1	10.1	12.66	A	3
								14.3	8.43	8.8	14.0	12.79	A	1
996	J 945	Anon.	45	33		16	26	101.6	2.57	9.8	10.5	13.14	J	1
								96.4	2.78	9.9	10.8	13.14	Dj	1
997	J 1047	Anon.	45	53		20	26	290.0	1.48	9.5	9.6	13.97	J	1
998	A 2712	+ 8° 1087	46	11		8	11	310.7	0.52	9.0	11.0	14.74	A	2
999*	J 677 AB	+17° 1032	46	26		17	52	68.5	1.88	8.9	10.8	12.02	J	1
								69.3	2.16	9.0	10.8	12.02	V	1
								72.0	1.68	9.7	11.2	12.48	A	2
								70.0	1.90	8.8	10.0	14.99	J	1
	AC=Σ 806							108.8	10.69	8.8	8.8	30.12	Σ	3
								108.6	10.80	8.9	9.1	12.02	J	1
								108.7	10.97	9.0	9.1	12.02	V	1
								197.7	10.76	9.5	9.5	12.48	A	1
								108.0	10.97	8.8	8.8	14.99	J	1
1000	A 2713	+ 9° 982	46	35		9	51	131.5	1.35	9.0	12.5	14.74	A	2
1001	A 1568	+43° 1373	46	59		43	55	239.2	2.27	8.6	12.2	07.76	A	2
1002	J 946	Anon.	47	11		17	29	187.0	3.33	9.7	11.0	13.03	J	1
								183.2	3.27	9.5	10.3	13.03	Dj	1
1003	A 2512	-11° 1304	47	38		-11	40	277.0	0.96	7.2	8.8	12.96	A	2
1004	J 1090 BC A-BC	+12° 925	47	41		12	48	173.4	1.42	11.0	13.0	15.03	J	1
								5.8	69.53	8.3	..	15.03	J	1
1005	J 947	Anon.	47	43		31	45	321.0	3.92	10.0	11.0	13.14	J	1
								324.8	3.50	9.8	10.7	13.14	Dj	1
1006	E 284	+37° 1345	47	50		37	24	184.4	4.73	9.0	11.0	06.07	E	1
1007*	J 948	Anon.	48	2		14	2	169.6	2.70	10.8	12.0	13.03	J	1
								165.2	2.80	10.5	10.5	13.03	Dj	1
1008	J 949	+31° 1131	48	11		31	28	238.8	3.40	8.9	9.3	13.07	J	2
								238.3	3.56	8.9	9.3	13.07	Dj	2
1009	J 950	Anon.	48	21		44	35	59.8	3.90	9.2	10.3	12.97	J	1
1010	J 951	Anon.	48	24		32	52	57.2	4.25	9.0	10.0	13.04	J	1
								55.0	4.30	9.0	10.0	13.04	Dj	1
1011	J 656	+14° 1065	48	40		14	23	99.7	3.70	9.1	10.0	11.87	J	1
								101.3	3.94	9.1	10.0	11.87	V	1
1012	J 1048	Anon.	48	56		16	44	311.4	2.33	9.7	11.0	14.09	J	1
								312.8	2.27	9.7	10.9	14.09	Dj	1
1013	J 952	Anon.	49	13		33	31	229.4	3.08	9.4	9.6	13.08	J	1
								229.0	3.05	9.5	9.7	13.08	Dj	1
1014	J 1116	+ 6° 1060	49	30		6	24	275.2	2.53	9.1	9.2	15.22	J	1
1015	A 2714	+ 6° 1061	49	32		6	32	324.2	0.71	9.0	9.0	14.07	A	2
								323.9	0.72	8.8	8.8	15.22	J	1

999—Wrongly numbered J 667 in *Lick*, vol. xii. page 42.—J.1007—A B.D. star mag. 6, 8 same Decl. and 17^s following.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.			1900+	Obs.	n.
			h	m	s	°	'			°	"				
1016	J 678	Anon.	5	49	37	14	26	188.9	2.25	10.0	11.0	12.02	J	1	
								183.9	2.45	10.0	11.0	12.02	V	1	
1017*	J 679	Anon.		49	56	14	34	353.8	2.71	9.4	10.0	12.02	J	1	
								357.5	2.56	9.4	9.8	12.02	V	1	
1018*	A.G.—	+29°1037	50	15		29	57	231.1	4.65	7.3	9.5	04.14	Mil	2	
1019	A 1314	+58° 878	50	37		58	30	132.1	0.99	9.0	13.7	06.90	A	2	
1020	A 2658	+ 6°1067	50	40		6	12	84.0	0.58	9.6	9.6	13.86	A	2	
1021	J 953	+28° 946	50	51		28	46	269.2	3.70	8.9	9.6	12.94	J	1	
								265.2	3.88	9.0	9.7	12.94	Dj	1	
1022	A 1724 AB AB—C	+46°1071	50	56		46	40	257.1	0.44	9.6	9.6	08.19	A	2	
								176.4	33.30	9.3	9.5	08.15	A	1	
1023	A 1569	+55°1033	51	29		55	54	86.0	0.38	8.4	8.6	07.39	A	2	
1024	A 1948	+ 7°1059	51	44		7	52	100.9	0.64	9.5	10.2	08.82	A	2	
1025	Hu 1234	+36°1308	51	45		36	22	124.9	0.65	8.8	8.8	05.32	Hu	1	
								127.0	0.55	..	..	05.71	A	1
1026	E 895	+53° 974	51	48		53	49	90.1	4.40	9.3	12.5	10.17	E	1	
1027	J 657	Anon.	51	49		12	14	213.3	4.25	9.6	10.6	11.87	J	1	
								214.8	4.06	9.5	9.9	11.87	V	1	
1028	A 1570	+42°1447	51	50		42	37	29.7	1.56	9.5	10.0	07.76	A	2	
1029	J 954	Anon.	51	57		17	9	85.0	4.99	10.5	12.0	13.14	J	1	
								84.8	4.95	10.4	11.5	13.14	Dj	1	
1030	Hu 1235	+35°1290	51	58		36	0	106.1	0.32	8.5	8.5	06.00	A	2	
1031	A 2659	+ 3°1078	52	6		3	54	34.9	1.03	9.2	10.2	13.74	A	2	
1032	A 2439	+18°1026	52	8		18	21	143.0	2.18	9.2	10.5	12.89	A	2	
1033	J 955	Anon.	52	35		17	49	75.2	4.00	9.5	11.0	13.03	J	1	
								74.1	4.50	9.5	10.3	13.03	Dj	1	
1034	A 2805	+11° 977	52	50		11	26	207.0	1.20	8.6	14.0	14.75	A	2	
1035	A 1725	+45°1211	52	59		45	9	234.8	0.36	9.3	9.4	08.19	A	2	
1036	J 252	Anon.	53	24		27	22	318.4	4.90	9.0	9.8	10.90	J	1	
1037	E 896 BC AB AD	Anon.	53	29		53	9	331.6	2.53	10.8	11.0	10.08	E	4	
								76.7	29.38	9.0	10.8	10.10	E	4	
								308.9	31.40	9.0	9.5	10.06	E	3	
1038	A 1726	+45°1216	53	30		45	37	272.8	4.98	7.2	14.2	08.19	A	2	
1039	A 2440	+16° 935	53	36		16	5	121.2	0.27	9.0	10.3	12.82	A	3	
1040	J 956	Anon.	53	38		25	15	36.6	2.60	9.6	11.5	12.85	J	1	
								39.8	2.86	9.6	11.8	12.85	Dj	1	
1041	E 1232 AB AC	+47°1224	53	40		47	52	262.7	3.75	9.5	10.7	13.18	E	2	
								175.2	22.72	9.5	9.8	13.18	E	2	
1042*	J 957	Anon.	53	55		23	51	179.6	3.27	10.5	11.0	13.14	J	1	
								175.0	3.22	10.4	11.3	13.14	Dj	1	
1043	A 1571	+43°1402	53	59		43	59	90.0	4.70	7.9	13.2	07.74	A	2	
								91.4	4.52	8.0	12.2	08.05	E	2	
1044	A 1727	+46°1077	54	1		46	42	232.5	0.67	9.5	9.5	08.19	A	2	
1045	J 1105	+10° 952	54	12		10	24	196.3	1.81	9.1	10.0	15.14	J	1	
1046	J 958	Anon.	54	22		16	58	146.6	3.83	9.3	12.0	13.11	J	1	

1017—A 10th mag. star at 188°2, 10".—J.

1018—It is surprising that this pair has not been catalogued before. It is noted double in A.G. Cambridge, and was measured by Miller. The description is almost entirely that of Σ 811, which is, however, 11 9^m p^s and 31' n.—J.

1042—A 9.2 star at 20".—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
1047	A 29..	- 5°1456	5	54	27	-	5	3	223.4	4.51	9.0	13.0	15.06	A	1
1048	E 711	+52°1026		54	39		52	19	271.2	2.42	9.1	9.6	09.14	E	2
1049	A 2441	+13°1065		54	51		13	44	270.4	0.15	9.0	9.3	12.91	A	2
1050	J 253	+ 7°1082		55	19		7	45	291.9	4.10	9.5	11.5	10.87	J	1
1051	J 959	Anon.		55	29		17	44	294.0	3.75	9.5	11.8	10.87	V	1
1052	J 680	Anon.		55	38		16	9	264.2	4.05	9.3	9.6	13.03	J	1
									271.8	3.60	9.5	9.7	13.03	Dj	1
1053	J 960	+30°1080		55	43		30	53	166.9	2.98	9.7	11.5	12.02	J	1
1054	A 1728	+40°1478		55	44		40	40	160.0	3.19	9.5	11.0	12.02	V	1
1055	J 407	+ 9°1043		55	55		9	41	220.2	4.06	9.3	12.5	13.01	J	1
									119.6	1.58	8.8	12.2	07.86	A	2
									188.5	1.83	8.0	9.2	11.15	J	1
									189.7	2.06	8.3	10.5	11.62	V	2
									190.7	2.33	8.2	10.0	13.54	J	2
									193.8	2.20	..	..	15.12	HF	1
1056	J 904	Anon.		55	58		39	38	195.2	3.75	9.9	10.2	12.77	J	1
1057	A 1315	+58° 887		56	11		58	13	350.0	0.28	9.4	9.4	06.90	A	2
1058	A 1949	+ 7°1092		56	50		7	6	13.0	0.73	9.0	10.5	08.82	A	2
1059	J 309	Anon.		56	55		10	20	74.5	2.11	9.5	10.0	10.99	J	1
1060	J 681	Anon.		57	7		14	37	74.5	2.35	9.5	10.8	10.99	V	1
									213.4	2.99	9.7	9.7	12.02	J	1
									212.9	3.25	9.8	10.0	12.02	V	1
1061	Hu 1236	+36°1336		57	9		36	20	26.0	0.49	9.6	9.8	06.00	A	2
1062	J 254 AB	Anon.		57	9		12	48	17.6	1.58	9.3	9.3	10.93	J	1
									18.5	1.52	9.3	9.4	11.03	J	2
									18.5	1.45	9.4	9.6	11.13	V	1
	AC								195.0	12.67	9.3	14.0	10.93	J	1
1063	A 2442	+17°1095		57	10		17	25	255.9	3.82	8.4	13.2	12.80	A	2
1064	J 905	+39°1491		57	10		39	39	40.2	3.56	9.2	10.0	12.77	J	1
1065*	A 1316	+32°1164		57	17		32	46	188.2	4.60	8.4	14.2	06.30	A	2
									181.0	4.68	8.5	11.7	07.12	E	3
1066	A 2660	-10°1347		57	36		-10	8	314.3	4.88	9.0	10.5	13.92	A	2
1067	J 333	+12° 992		57	43		12	10	295.4	2.22	8.7	10.3	11.12	J	2
									296.0	2.10	8.8	10.2	11.12	V	2
1068	E 1233	Anon.		57	50		47	54	211.1	3.03	9.2	11.0	13.19	E	3
1069	A 1950	+39°1494		57	50		39	49	25.8	0.34	8.8	10.0	08.76	A	2
1070*	A 2715 AB	+ 9°1064		57	59		9	39	32.0	0.36	4.3	6.6	14.74	A	3
	AB-C=β 1056								272.7	17.11	4 ±	14 ±	90.86	β	3
									274.4	17.58	4.2	14.5	14.74	A	2
1071*	J 50	+ 8°1156		58	21		8	1	58.6	0.35	8.6	8.7	10.21	J	3
									57.6	0.43	8.7	8.7	11.56	J	2
									56.4	0.46	8.6	8.6	11.56	V	2
									63.7	0.48	8.7	8.8	13.10	Doo	4
									62.9	0.49	8.7	8.7	14.98	J	2
									60.6	0.79	..	..	15.12	HF	1

1065—In *M.N.*, vol. lxviii. page 205, for 30° 0' read 32° 46'.—J.

1070—*μ Orionis*. The magnitude is given as 4.19 in R.H.P. and the spectral class as A 2. Boss assigns a proper motion of +0.0012 -0.029 to the star, but the component in R.A. is very uncertain. A small change both in angle and distance is shown in β 1056, which is probably due to the proper motion of the bright star.—A.

1071—The *N.* star of a *N.* and *S.* row. A not very difficult, but interesting pair.—Doo.

No.	Name.	B.D.	R.A. 1920.			Dec. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1072	A 1729	+45°1235	5	58	33	45	36	8.6	0.28	7.0	9.0	08.25	A	2
1073	J 16	Anon.		58	43	6	31	183.9	1.84	9.8	11.8	09.94	J	2
								180.6	1.93	9.5	12.1	13.05	Doo	3
1074	A 2806	+9°1071	58	45		9	2	255.9	0.52	9.0	10.2	14.75	A	2
1075	A 2807	+11°1007	58	51		11	8	95.6	0.49	8.2	9.7	14.77	A	3
1076	A 2661	-10°1355	58	51		10	26	301.3	0.78	9.2	10.2	13.92	A	2
1077*	J 51	+8°1160	59	2		8	12	124.6	1.23	8.7	9.3	10.21	J	3
								118.5	1.05	8.9	9.5	12.00	J	4
								117.0	1.17	8.8	9.4	12.00	V	4
								121.9	1.06	8.8	9.7	12.18	Doo	3
								119.5	1.38	8.8	9.3	15.00	J	2
1078	A 2662	+0°1260	59	2		0	25	156.8	2.44	9.1	11.8	13.73	A	2
1079	J 334	+12°1002	59	16		12	9	162.0	3.42	8.9	13.0	11.12	J	1
								163.1	3.65	9.0	13.0	11.12	V	1
								168.3	3.62	8.8	13.0	15.05	J	1
1080	A 2443	+19°1191	59	24		19	15	61.6	0.42	9.0	11.0	12.80	A	2
1081	J 17	+43°1436	59	25		43	3	153.8	2.26	9.3	9.6	09.91	J	2
								150.8	2.49	9.2	9.6	13.04	Doo	3
1082	J 310	+10°990	59	30		10	15	321.5	2.21	8.6	8.9	11.05	J	2
								320.3	2.34	8.8	8.9	11.32	V	3
								320.5	2.43	8.8	9.0	12.09	J	1
								319.2	2.26	8.8	8.8	15.04	J	2
1083	A 2663	+1°1205	59	34		1	20	330.3	0.31	9.2	10.4	13.73	A	2
1084	J 335	+11°1012	59	42		11	2	302.9	0.57	7.9	9.0	11.61	J	2
								307.0	0.60	7.9	9.3	11.61	V	2
								300.6	0.58	7.5	9.0	15.00	J	2
								298.8	0.77	..	..	15.12	Hf	1
1085	J 311	+10°995	6	0	30	10	54	85.4	3.56	8.4	11.0	10.97	J	1
								85.8	3.40	8.5	11.0	10.97	V	1
								88.6	4.73	8.8	11.0	15.09	J	1
1086	J 312	Anon.	0	33		10	14	156.7	2.83	9.2	10.0	10.99	J	1
								153.5	2.78	9.3	10.5	10.99	V	1
								161.8	2.97	9.4	12.0	13.02	J	1
								167.2	3.36	9.3	11.0	15.09	J	1
1087	A 1951	+7°1118	0	51		7	8	48.6	0.42	8.3	8.8	09.01	A	2
1088	E 285	+38°1375	0	55		38	55	167.4	2.33	9.0	9.3	06.15	E	2
1089	J 186	+12°1010	1	1		12	51	40.3	3.97	9.1	12.0	10.39	J	2
1090*	J 313	Anon.	1	3		7	57	13.0	2.47	9.5	11.6	10.99	J	1
								11.3	2.75	9.4	11.5	10.99	V	1
								17.6	2.95	9.7	11.0	12.09	J	1
1091	J 1049	+16°994	1	11		16	52	123.0	1.98	9.4	9.5	14.06	J	1
								125.8	2.10	9.5	9.5	14.06	Dj	1
								116.4	2.49	9.3	9.3	15.06	J	1
								117.6	2.71	9.4	9.7	16.20	J	2
1092	A 2513	+16°995	1	14		16	36	295.3	0.72	9.0	11.8	12.97	A	2

1077—In *J.A.*, vol. i. page 50, for 8.2-8.2-8.5 magnitudes read 8.7-8.8-8.6.—J.1090—Same Decl. and 7^s5 preceding A 665 : 105°, 2^s5, 8.5-10.0.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			"	"			
1093	J 961	Anon.	6	1	19	28	49	152.6	3.52	9.4	9.7	13.07	J	1
								151.2	3.44	9.3	9.7	13.07	Dj	1
								144.5	3.88	9.7	10.0	15.11	J	1
1094	J 962	Anon.	1	26	33	37	354.2	4.95	10.0	10.8	13.07	J	1	
							353.6	4.40	10.0	12.0	13.07	Dj	1	
1095	J 9	Anon.	1	31	27	38	145.3	1.72	10.7	10.8	09.88	J	2	
1096*	A 2444	+18°1091	1	46	18	33	147.5	1.80	10.8	11.4	12.18	Doo	3	
							177.8	0.38	9.0	9.8	12.80	A	2	
1097	J 963	Anon.	1	39	33	37	335.1	3.72	9.5	10.5	13.07	J	1	
1098	Hu 1238	+15°1064	2	3	15	11	338.8	3.52	9.9	9.9	13.07	Dj	1	
							300.1	1.03	9.2	13.8	04.94	Hu	1	
1099	J 10	Anon.	2	8	27	32	300.2	0.86	..	12.0	05.75	A	1	
							131.8	2.81	9.6	11.8	09.88	J	2	
1100	J 906	Anon.	2	18	38	38	127.1	3.25	9.6	11.9	12.18	Doo	3	
							129.6	2.30	9.6	12.0	13.01	J	1	
							276.2	2.99	9.4	9.5	12.72	J	1	
1101	A 2445	+12°1022	2	20	12	1	274.8	3.13	9.5	9.5	12.72	V	1	
1102	J 907	Anon.	2	25	35	33	37.6	1.18	8.5	13.0	12.91	A	2	
1103	A 1317	+58° 896	2	31	58	43	228.2	1.90	9.4	9.5	12.72	J	2	
							230.0	2.20	9.5	9.5	12.72	V	1	
1104	J 715	- 2°1478	2	38	- 2	32	175.8	0.45	9.1	10.4	06.90	A	2	
1105	A 1952	+ 6°1123	2	47	6	36	191.5	0.86	9.3	9.7	12.07	J	1	
							188.1	0.89	9.5	9.5	12.07	V	1	
							190.0	0.88	9.4	10.0	16.16	J	1	
							324.5	2.02	9.0	13.0	09.01	A	2	
1106*	J 188	- 3°1298	2	57	- 3	54	270.8	3.52	9.0	12.0	10.83	J	1	
1107*	J 336 AB	+10°1014	3	0	10	46	271.4	4.00	8.9	11.8	10.83	V	1	
							354.3	1.38	9.0	13.0	11.09	J	1	
							360.0	1.16	9.0	13.0	11.09	V	1	
							359.0	1.99	9.3	14.0	15.11	J	1	
							149.6	2.33	9.0	9.1	11.09	J	1	
1108	J 964	+ 9°1095	3	6	9	58	149.9	2.23	9.0	9.1	11.09	V	1	
							147.0	2.36	9.3	9.3	15.10	J	2	
							293.2	1.49	9.1	9.4	13.14	J	1	
1109	A 1953	+ 7°1138	3	10	7	55	292.2	1.60	9.0	9.8	13.14	Dj	1	
							286.8	1.00	9.3	10.0	15.09	J	1	
1110	J 1050	Anon.	3	11	22	15	82.5	0.40	8.8	9.5	09.01	A	2	
1111	J 1091	Anon.	3	12	18	29	359.2	2.67	9.7	9.7	14.09	J	1	
							360.2	2.22	9.8	9.8	14.09	Dj	1	
							358.2	2.72	9.8	9.8	15.11	J	1	
1112	J 1260	Anon.	3	36	16	54	108.5	2.51	9.4	11.5	15.02	J	1	
1113	J 337	Anon.	3	37	0	21	276.8	3.08	9.5	13.0	16.25	J	1	
							16.5	2.32	9.2	9.5	11.08	J	1	
							15.3	2.25	9.1	10.0	11.08	V	1	
							15.4	2.50	9.5	10.5	15.21	J	1	

1096—In *Lick Obs. Bul.* 223, for 6^h 0^m 26^s read 6^h 0^m 36^s.—Doo.

1106—In the field with Σ 850: 18°3, 2°17, 9.2-11.0.—J.

1107—Same Decl. and 58^s following Σ 840, AB 248°4, 21°90, BC 162°9, 0°80, 6.2-8.5-8.7. In *J. A.*, vol. i. page 116, for B.D. +1°1014 read B.D. +10°1014.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h	m	s	°	'						
1114	J 255 AB AC	Anon.	6	3	42	7	45	131.8	2.60	9.2 9.2	10.87	J	1
			131.8	2.46	9.3 9.3	11.61	V	2					
			133.1	2.52	9.2 9.2	11.98	J	1					
			141.2	2.40	9.4 9.4	15.11	J	1					
			241.5	5.77	9.2 12.0	10.87	J	1					
			242.9	6.12	9.3 12.0	10.87	V	1					
			242.6	6.15	9.2 13.0	11.98	J	1					
			245.0	6.95	9.4 13.0	15.11	J	1					
1115	J 338	+ 0°1294	3	43	0	21	229.8	4.95	8.5 10.0	11.08	V	1	
1116	J 965	+34°1273	3	57	34	1	234.4	3.80	9.3 11.0	13.07	J	1	
							234.8	3.70	9.5 11.0	13.07	Dj	1	
1117	A 2664	+ 1°1227	4	14	1	36	258.3	0.86	9.4 9.6	13.76	A	2	
1118	A 1572	+53° 993	4	16	53	31	107.0	0.72	9.0 10.0	07.39	A	2	
1119	J 682	- 7°1295	4	19	- 7	21	173.4	2.19	8.9 9.0	11.95	J	1	
							172.8	1.88	8.9 9.4	12.06	V	2	
							173.2	2.13	9.0 9.4	12.18	J	1	
							172.6	3.02	9.3 9.9	16.16	J	1	
1120	A 2514	+16°1019	5	7	16	31	284.4	0.33	9.3 9.3	12.98	A	2	
1121	A 1318	+56°1096	5	12	56	12	20.2	3.95	8.8 12.0	06.87	A	2	
1122	J 966	Anon.	5	25	35	1	23.6	4.45	9.3 11.5	12.94	J	1	
1123	J 967	+22°1205	5	51	22	30	230.2	1.95	9.1 10.5	13.00	J	1	
							231.3	2.28	9.4 10.5	13.00	Dj	1	
							250.5	2.37	9.3 12.0	15.11	J	1	
1124	A 2113	+38°1403	6	9	38	33	322.7	1.04	10.0 10.0	10.31	A	2	
1125	J 390	+12°1047	6	19	12	14	103.3	1.72	8.8 9.5	11.12	J	2	
							104.3	1.83	8.9 9.9	11.12	V	2	
							95.0	1.76	8.8 9.3	15.09	J	1	
							103.2	2.50	9.6 10.5	14.05	J	1	
1126	J 1051	Anon.	7	20	23	58	105.0	1.72	9.5 11.0	15.11	J	1	
							103.2	2.50	9.6 10.5	14.05	J	1	
1127	E 1381	+44°1395	7	26	44	55	87.3	1.40	9.5 9.6	15.04	E	3	
1128	J 1102	Anon.	7	30	24	0	170.4	1.97	10.0 10.0	15.11	J	1	
1129*	J 52	+ 2°1152	7	35	2	29	278.9	1.85	8.1 9.8	10.21	J	2	
							277.1	1.87	8.3 9.4	11.04	V	1	
							281.8	1.91	8.1 9.2	12.15	J	2	
							279.9	2.04	8.2 9.4	13.04	Doo	3	
							278.2	1.81	7.8 9.1	15.09	J	1	
							277.4	2.12	.. ..	15.12	HF	1
1130	A 2716	+ 7°1177	7	36	7	7	266.4	1.26	8.5 11.0	14.07	A	2	
1131	J 1052	Anon.	7	48	23	52	200.0	1.58	9.8 10.5	14.05	J	1	
							205.2	2.67	9.5 11.0	15.11	J	1	
1132*	J 339	- 0°1207	7	52	- 0	27	101.6	2.63	9.0 9.9	11.04	J	2	
							100.8	2.87	9.1 10.2	11.43	V	2	
							97.7	3.19	9.3 11.0	11.79	J	1	
							102.0	3.26	9.5 11.4	16.12	J	1	

1129—The companion appears bluish. In *J.A.*, vol. i. page 50, for 278°4 read 278°9.—J. A bright and easy pair; it is strange that this star was not noticed earlier.—Doo.

1132—In *J.A.*, vol. i. page 116, last measure, for J read V.—J.

No.	Name.	B.D.	R.A. 1902.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1133	A 2808	+ 8°1226	6	7	55	8	28	1.7	1.38	9.1	10.5	14.75	A	2
1134	J 968	+17°1166		7	57	17	10	170.2	3.85	9.2	9.6	12.94	J	1
								168.6	3.83	9.2	9.5	12.94	Dj	1
								173.4	3.92	9.1	10.0	15.09	J	1
1135	E 286	+39°1550	8	18		39	46	64.0	2.83	9.0	9.5	06.15	E	2
1136	J 716	+14°1197	8	37		14	49	70.2	2.27	9.3	9.3	12.12	J	1
								71.6	2.15	9.3	9.4	12.12	V	1
								75.8	2.15	9.2	9.2	12.95	J	1
								74.5	2.53	9.2	9.4	15.11	J	1
1137	J 18	+15°1113	8	39		15	56	187.9	0.73	9.2	9.4	09.94	J	2
								190.0	0.74	9.3	10.8	13.16	Doo	3
								191.0	1.33	9.2	9.9	15.09	J	1
1138	A 2114	+39°1552	8	44		39	8	275.8	1.35	9.0	12.0	10.31	A	2
1139	E 581	+49°1470	8	52		49	0	61.6	3.25	8.8	11.5	08.12	E	2
1140	J 717 AB	Anon.	8	57		- 6	7	290.8	2.17	9.4	9.4	12.14	J	2
								294.0	2.15	9.5	9.5	12.16	V	1
								288.8	2.45	10.0	11.0	16.16	J	1
	BC=h 36							215 ±	30 ±	11.0	12.0	20+	h	..
								210.0	24.31	9.4	9.8	12.16	J	1
								212.2	24.72	9.5	9.8	12.16	J	1
								206.8	22.03	11.0	11.0	16.16	J	1
1141*	J 340	Anon.	9	10		- 1	16	339.3	4.17	9.2	9.4	11.04	J	2
								337.6	4.30	9.5	9.7	11.08	V	1
								334.5	4.79	10.2	10.5	11.93	Fox	3
1142	J 969	Anon.	9	12		5	58	297.6	3.02	10.0	11.0	13.07	J	1
								296.2	3.55	9.5	9.8	13.07	V	1
1143	J 19	+19°1265	9	26		19	0	137.7	1.74	9.0	10.9	09.96	J	1
								134.6	1.77	9.0	10.0	11.98	J	1
								133.6	1.81	9.0	10.6	11.98	V	1
								132.6	2.41	8.9	10.8	13.06	Doo	3
								131.4	2.38	8.8	10.5	16.06	J	2
1144	J 970	Anon.	9	31		6	0	288.3	2.58	9.2	9.2	13.07	J	1
								283.8	1.92	9.3	9.3	13.07	Dj	1
								288.3	2.49	9.4	9.8	16.06	J	2
1145	A 2515	+12°1069	9	32		12	18	11.8	0.35	9.5	9.8	13.03	A	2
1146	J 683	+17°1183	9	56		17	27	7.5	0.94	8.3	9.0	11.98	J	1
								5.5	1.12	8.5	9.3	11.98	V	1
								4.2	1.45	8.0	9.0	14.93	J	1
								5.4	1.38	..	..	15.12	HF	1
								9.1	1.20	8.2	9.4	16.06	J	2
1147	A 2044 AB	+16°1055	10	19		16	51	23.7	0.29	9.1	9.1	09.81	A	2
	AB-C							182.6	64.13	8.8	9.1	09.81	A	2
	CD							11.2	4.65	9.1	14.0	09.81	A	2
1148	J 37	+ 7°1201	10	27		7	56	319.4	2.46	8.9	10.8	10.04	J	2
								317.4	2.70	9.1	10.7	13.08	Doo	3
								313.6	3.34	9.0	10.5	16.16	J	1

1141—Measured as Fox 8 in *Annals of the Dearborn Observatory*, vol. i. page 223, and given with the comparison: 21" n. of B.D. -1°1146. If this is correct, as it is supposed here, the declination should there read -1°15' instead of -0°55'.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1149	J 684	+18°1140	6	10	38	18	15	249.0	2.50	9.0	9.9	12.02	J	1
									248.8	2.41	9.3	10.8	16.07	J	2
1150	A 2446	+19°1276	10	45		19	33	105.3	2.78	9.0	11.2	12.85	A	2
1151	J 391	Anon.	10	48		13	5	172.2	3.08	9.5	11.0	11.13	J	1
								171.8	2.78	9.5	11.0	11.13	V	1
1152	A 2717 AB AB—C	+ 6°1170	10	56		6	33	351.5	0.37	9.1	9.1	14.07	A	2
								297.5	8.19	8.5	13.0	14.01	A	1
1153	A 2447 AB AC CD	+16°1061	10	56		16	16	306.2	3.98	8.8	13.0	12.85	A	2
								310.2	33.82	8.8	12.2	12.85	A	2
								102.0	3.50	12.2	14.0	12.85	A	2
1154	J 392	+13°1176	11	2		13	6	293.4	2.27	8.8	9.8	11.13	J	1
								299.0	2.22	9.0	10.2	11.13	V	1
								306.0	1.87	9.0	11.0	14.09	J	1
								311.4	2.33	9.2	10.8	14.09	Dj	1
								298.0	1.97	9.1	10.0	16.06	J	2
1155	J 1053	Anon.	11	21		21	21	36.4	1.25	9.5	9.5	13.97	J	1
								36.0	1.11	9.6	9.8	16.06	J	2
1156	J 1054	Anon.	11	32		20	54	146.6	1.82	9.5	9.6	14.06	J	1
								147.6	1.87	9.6	9.6	14.06	Dj	1
								140.3	1.89	9.6	9.9	16.06	J	2
1157	J 341	Anon.	11	36		23	20	149.4	1.47	9.4	9.5	11.12	J	1
								145.8	1.20	9.5	9.5	11.12	V	1
								138.1	1.67	9.7	9.7	16.06	J	2
1158	J 971	Anon.	11	39		5	29	259.0	3.33	9.7	12.5	13.14	J	1
1159	J 592	+ 9°1165	11	40		9	11	173.2	3.48	9.0	10.5	11.77	J	1
								170.6	3.60	9.1	10.8	11.77	V	1
								168.8	3.31	9.3	11.0	11.99	J	1
								171.6	3.70	9.2	11.0	16.16	J	1
1160	J 342	Anon.	12	20		—	0 27	36.0	1.35	9.8	9.8	11.00	J	1
								29.8	1.71	11.2	11.2	16.16	J	1
1161	J 685	Anon.	12	21		—	6 32	175.4	1.93	9.4	9.4	11.95	J	1
								172.3	2.30	9.5	9.5	11.95	V	1
1162	J 686	+22°1258	12	36		22	28	49.9	2.05	8.9	9.2	11.95	J	1
								45.6	1.89	8.9	9.5	11.95	V	1
								47.8	2.05	9.0	9.3	16.06	J	2
1163	A 1730	+54°1009	12	37		54	12	113.2	2.75	9.0	12.5	08.12	A	2
								112.1	3.06	9.2	11.1	11.33	Fox	3
1164	J 972	Anon.	12	41		8	49	113.2	4.50	9.6	11.0	13.14	J	1
1165	A 2718	+ 6°1181	12	53		6	7	126.4	2.28	8.7	13.0	14.21	A	2
1166*	β 96	+ 9°1174	12	44		9	56	226.5	4.74	9.0	11.5	77.93	β	1
								225.7	4.50	9.2	12.0	11.15	J	1
								227.0	5.00	9.3	12.0	11.15	V	1
1167	J 343	— 0°1240	12	56		—	0 28	64.4	2.25	9.3	9.9	11.00	J	1
								61.0	2.42	9.7	9.7	16.16	J	1
1168	J 593	Anon.	13	11		37	53	192.2	4.77	9.2	10.2	11.64	J	1
								185.9	4.56	9.3	10.4	11.64	V	1

1166—Measured later as J 408. Observed by Burnham in connection with 75 *Orionis*, which is 119" away at 339°.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
1169	J 393	+13°1186	6	13	12	13	9	110°3	2.15	8.7	10.0	11.13	J	1	
									113.0	2.18	8.7	10.0	11.13	V	1
									119.1	2.21	8.9	9.8	16.06	J	2
1170	Fox 10	Anon.	13	31		—	4	16	315.4	1.98	10.1	10.9	11.83	Fox	3
1171	A 2448 AB AC	+16°1080	13	34		15	59	256.9	4.90	8.5	12.2	12.85	A	2	
									214.0	7.60	8.5	13.2	12.85	A	2
1172	E 1382	+44°1416	13	47		44	38	358.5	1.82	9.5	11.7	15.08	E	3	
1173	A 2115	+39°1587	13	47		39	37	183.2	1.57	9.5	10.0	10.31	A	2	
1174	J 1115	+12°1096	13	47		12	23	168.0	1.99	9.3	9.3	15.22	J	1	
								164.4	1.35	9.3	9.3	16.06	J	1	
								267.6	0.58	9.3	9.7	12.77	Dj	1	
1175	J 908	+41°1414	13	49		41	7	262.0	0.50	9.3	9.6	12.77	J	1	
1176	J 687	+7°1231	14	9		7	47	171.5	2.07	9.0	9.0	11.92	J	1	
								173.8	2.10	9.1	9.1	11.98	V	2	
								177.1	2.05	9.0	9.0	12.03	J	1	
								175.5	1.87	9.1	9.1	15.60	J	2	
1177	A 2116	+38°1452	14	13		38	29	23.2	1.62	7.0	13.2	10.31	A	2	
1178	J 256	Anon.	14	19		12	42	113.0	2.75	9.5	12.0	10.93	J	1	
1179*	A 2809	+11°1110	14	23		11	12	194.8	0.28	7.9	10.0	14.79	A	2	
1180	A 2810	+10°1088	14	41		10	40	75.4	0.56	9.9	9.9	14.79	A	2	
1181	J 973 BC AB	+17°1207	15	10		17	44	313.3	1.75	9.7	9.8	12.93	J	1	
								311.2	2.21	9.7	9.8	12.93	Dj	1	
								152.2	22.21	9.2	9.7	12.93	J	1	
1182	J 38	+6°1195	15	12		6	20	152.2	22.41	9.2	9.7	12.93	Dj	1	
								193.3	0.59	9.5	9.5	10.03	J	3	
1183	A 2355	+40°1566	15	15		40	20	190.4	0.87	9.3	9.5	13.11	Doo	3	
1184	E 1235	+47°1289	15	32		47	24	192.7	0.66	9.0	11.7	10.92	A	3	
1185	A 1954	+36°1407	15	39		36	21	156.2	2.72	9.4	9.5	13.21	E	4	
1186	J 344	Anon.	15	45		10	40	112.0	0.35	7.8	10.2	08.79	A	3	
								97.7	3.53	9.5	11.0	11.09	J	1	
1187	J 345	+12°1115	15	50		12	1	96.5	3.50	9.5	11.0	11.09	V	1	
								333.6	0.97	8.7	9.5	11.12	J	1	
1188	A 2665	—11°1449	15	51		—11	1	336.5	1.07	8.8	9.8	11.12	V	1	
1189*	A 2719	+7°1243	15	57		7	46	31.8	2.00	9.0	10.6	13.92	A	2	
								236.7	0.30	8.0	8.0	14.25	A	2	
1190	A 2516	+18°1180	15	58		18	35	241.0	0.33	7.6	7.6	15.14	J	1	
								96.4	0.64	9.0	11.0	12.98	A	2	
1191	A 29..	—10°1476	16	12		—10	35	136.2	0.30	9.0	9.0	14.03	A	1	
1192	E 288 AB AC	+39°1600	16	17		39	11	148.9	4.40	9.0	9.3	06.16	E	1	
								273.8	13.42	9.0	12.0	06.16	E	1	
1193*	J 409 AB AC	+8°1282	16	27		8	51	133.7	4.62	8.9	9.2	11.15	J	1	
								133.6	4.33	9.0	9.6	11.15	V	1	
								139.8	24.68	8.9	11.8	11.15	J	1	
1194	A 1319	+46°1135	16	28		46	14	139.6	25.02	8.9	11.8	11.15	V	1	
								139.1	0.65	6.9	9.3	06.77	A	3	

1179—B.D. 7.8. The magnitude in the A.G. Catalogue is 7.1.—A.

1189—The magnitude in Leipzig A.G. Catalogue is given as 8.2. My estimates agree with the B.D. magnitude 7.2.—A.

1193—This wide pair was not noticed double in A.G. Leipzig II. 2811.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				°
1195	J 718	+10°1100	6	16	45	10	21	148.6	2.75	9.0	12.0	12.10	J	1	
									149.6	2.61	8.9	12.0	12.10	V	1
									151.4	4.14	8.7	13.5	15.22	J	1
1196	A 2666	+2°1196	16	53		2	37	303.9	0.93	7.8	11.7	13.86	A	2	
1197	J 974	Anon.	16	54		5	29	194.8	3.42	9.5	9.6	13.11	J	1	
1198	Lewis	..	17	:		22	5 :	120.5	1.22	9.0	9.5	10.19	L	1	
1199	A 2667	+2°1197	17	16		2	19	269.8	0.37	7.5	7.8	13.86	A	2	
1200*	J 346	Anon.	17	25		11	1	206.3	1.40	9.4	10.0	11.09	J	1	
									213.8	1.52	9.5	10.0	11.09	V	1
1201	J 258	+7°1257	17	33		7	43	258.2	1.73	8.9	9.4	10.94	J	2	
1202	J 410	+9°1204	17	33		9	2	348.8	2.63	9.5	9.7	11.15	J	1	
									349.2	2.70	9.3	9.7	11.15	V	1
1203	J 347	+12°1122	17	44		12	5	158.3	1.38	7.9	11.0	11.12	J	1	
									157.0	1.20	8.1	12.0	11.12	V	1
									167.8	1.80	15.12	HF	1
									160.2	1.55	7.9	11.0	16.06	J	2
1204	Hu 1241	-14°1415	18	2		-14	22	84.6	0.74	9.3	9.5	06.96	A	2	
1205	A 2668	+2°1205	18	14		2	6	316.8	1.46	9.0	13.8	13.86	A	2	
1206	J 975	Anon.	18	29		19	11	209.2	2.70	10.0	11.0	13.14	J	1	
1207	A 1731	+55°1074	18	32		55	43	310.0	3.14	8.9	13.0	08.12	A	2	
1208*	J 976	Anon.	18	37		23	6	229.4	1.75	10.5	10.5	13.00	J	1	
1209*	A 2720	+14°1267	18	51		14	35	27.0	0.90	9.0	11.3	14.05	A	3	
1210	J 1254	+14°1268	18	53		14	36	322.6	4.40	9.4	10.5	16.03	J	1	
1211	A 2517	+17°1226	18	54		17	42	14.3	0.16	9.1	9.1	12.98	A	2	
1212	A 2356	+42°1547	19	16		42	36	79.0	0.58	8.8	8.8	11.25	A	2	
1213	A 2811	+5°1223	19	30		5	31	48.9	2.13	9.0	13.5	14.51	A	2	
1214*	J 53 AB	+2°1213	19	37		2	42	129.7	1.77	6.8	10.5	10.19	J	4	
									124.2	1.66	6.8	10.6	11.09	J	4
									125.4	1.72	6.9	10.9	11.12	V	3
									122.9	1.78	6.8	12.2	12.07	V	1
									124.9	1.85	7.2	10.8	13.09	Doo	4
									125.2	1.97	6.9	10.3	13.21	Dj	2
									127.3	1.76	6.8	10.6	13.36	J	4
									129.6	1.65	6.5	10.0	14.93	J	1
						127.5	1.77	..	..	15.12	HF	1		
	AC							103.1	33.99	7.2	9.5	13.04	Doo	2	
1215	J 688	+21°1224	19	51		21	10	110.7	0.83	9.2	9.6	11.98	J	1	
									108.9	1.06	9.2	9.7	11.98	V	1
1216	J 259	+12°1103	19	54		7	56	321.8	4.83	7.9	11.8	10.91	J	1	
									325.6	5.01	8.0	12.5	16.06	J	1
1217	A 2357	+40°1594	19	57		40	24	279.2	3.44	9.0	10.2	11.29	A	2	
1218*	J 741	-8°1415	20	8		-8	10	85.2	2.95	9.2	10.8	12.17	J	2	
									83.6	2.95	9.4	11.0	12.18	V	1

1200—Same Decl. and 6^s preceding B.D. +11°1138 (8.4), which is also double, A.G. Leipzig I. 2197-98.—J.

1208—A B.D. mag. 8.5 at 2' north and 4^s following.—J.

1209—A faint pair (5" to 6") is 68" distant at 32°. Other faint stars are nearer.—A. The faint pair referred to is B.D. +14°1268 of 4".—J.

1214—The principal star is red, the companion green. I have suspected both components to be variable. Mag. 8.5 in Lalande, 7.8 in A.G., and 7.3 in B.D. In *J.A.*, vol. i. page 125, for 1"61 read 1"66.—J.

1218.—Magnitude A.G. 8.9, B.D. 9.2.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'							
1219	J 594 AB	Anon.	6	20	10	11	9	96.5	2.33	9.5	11.8	11.77	J	1
								93.3	2.60	9.5	11.6	11.77	V	1
	AC							297.3	6.97	9.5	13.0	11.77	J	1
								295.4	6.90	9.5	12.8	11.77	V	1
1220	A 2721	+13°1235	20	20		13	3	297.8	3.53	8.8	13.6	14.05	A	3
1221	A 2722	+14°1280	20	23		14	27	324.4	0.96	9.2	10.4	14.02	A	2
1222*	J 977	+25°1264						118.6	2.97	9.3	9.9	12.85	J	1
								117.6	2.87	9.4	10.0	12.85	Dj	1
1223	J 909	Anon.						251.2	2.88	9.7	9.7	12.72	J	1
								246.2	2.83	..	..	12.72	V	1
1224	A 2812 AB AC	+ 8°1324						1.4	0.48	9.5	9.5	14.80	A	2
								294.0	12.48	8.8	13.2	14.80	A	2
1225	A 2669	+ 3°1237	21	5		3	2	230.3	0.35	9.1	9.6	13.86	A	2
1226*	J 900 AB AC	nebula						148.0	2.17	9.8	9.8	12.72	J	1
								193.2	11.11	neb.	10.5	12.72	J	1
								201.0	11.22	neb.	10.5	15.21	J	1
1227	J 260	+ 7°1278						172.8	1.53	7.9	9.5	10.93	J	1
								176.7	1.45	8.1	9.8	12.34	V	4
								177.2	1.34	7.9	9.7	12.34	J	4
								176.6	1.36	7.8	9.8	14.93	J	1
								182.3	1.66	..	..	15.12	HF	1
								176.0	1.95	7.9	10.8	16.06	J	1
1228	A 2723	+ 7°1280	21	28		7	49	24.2	0.71	9.2	10.8	14.25	A	2
1229	A 2724	+ 4°1251	21	40		4	34	201.4	0.71	9.0	9.5	14.23	A	2
1230	A 2813	+11°1171	21	52		11	1	107.4	4.08	8.6	13.6	14.81	A	2
1231	J 595	+11°1173						39.1	4.98	9.2	9.2	11.77	J	1
								37.9	5.02	9.3	9.3	11.77	V	1
								40.0	4.56	9.3	9.3	16.06	J	1
1232	A 2670	+ 3°1244	22	12		3	14	330.0	1.70	9.2	13.0	13.86	A	2
1233	A 1732	+52°1075	22	26		52	30	14.2	3.53	7.5	12.2	08.12	A	2
1234	A 2671	+ 3°1250	22	35		3	12	161.8	1.28	8.8	14.0	13.86	A	2
1235	J 978	Anon.						124.6	1.98	9.3	9.8	12.96	J	1
								131.0	1.95	9.3	9.7	12.96	Dj	1
								124.0	1.89	9.4	10.5	16.25	J	1
1236	J 910	+43°1541	22	43		43	7	337.6	1.30	8.8	9.2	12.77	J	1
								339.0	1.46	9.0	9.4	12.77	Dj	1
1237	J 261	Anon.	22	59		7	52	92.6	3.22	9.4	10.0	10.93	J	1
1238	J 689	Anon.	23	1		8	28	143.9	1.80	9.3	13.0	11.99	J	1
1239	J 1092	Anon.	23	1		22	54	255.4	1.81	9.5	10.4	15.07	J	1
1240	A 2449	+42°1558	23	23		42	42	62.8	1.72	9.5	9.5	11.83	A	2
1241	J 1261	Anon.	23	42		12	30	47.8	1.97	10.5	10.5	16.18	J	2
1242	A 2725	+11°1188	23	55		11	46	123.5	1.36	9.0	13.0	14.05	A	3
1243	J 658	Anon.						271.4	2.70	9.8	10.0	11.87	J	1
								274.7	2.72	9.7	9.9	11.87	V	1

1222—North star of a triangle.—J.

1226—A new planetary nebula. With the 28-inch the diameter was measured 6".09, it appeared quite bright, and there seem to be three condensations or stars forming a letter V. The lower and right-end object may be AB measured in 1912.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h m s	° ' "	°	"				
1244	J 659	+ 4°1269	6 24 26	4 56	232.1	2.40	9.2 11.0	11.87	J	1
					235.4	2.69	9.1 11.0	11.87	V	1
1245	J 660	+ 4°1270	24 26	4 52	87.4	3.00	9.0 9.1	11.87	J	1
					92.7	2.57	9.1 9.1	11.95	V	2
					91.9	2.96	9.0 9.1	12.03	J	1
					98.8	2.71	9.2 9.2	16.06	J	1
1246	J 1103	+ 22°1345	24 48	22 25	105.8	3.25	9.2 10.0	15.11	J	1
1247	A 2726	+ 12°1173	24 48	12 36	129.3	0.63	9.0 9.0	14.05	A	3
1248	A 2518	+ 18°1234	24 57	18 4	152.2	2.18	8.6 13.2	12.94	A	2
1249*	A 2672 AB	- 10°1544	24 58	- 10 18	263.2	0.68	9.5 9.8	13.92	A	2
	AB-C=h 2318				280.0	15±	9.0 11.0	30+	h	..
					285.9	19.12	9.1 11.5	13.81	A	1
1250	A 2450	+ 17°1264	24 59	17 2	55.8	2.53	8.2 11.5	12.82	A	3
1251	J 348	Anon.	25 22	11 13	149.2	3.25	9.5 9.5	11.09	J	1
					143.3	3.20	9.5 9.5	11.09	V	1
1252	J 262	+ 7°1313	25 35	7 53	140.4	3.97	8.7 11.0	10.90	J	1
1253	J 719	- 2°1632	25 35	- 2 12	209.2	1.90	9.5 9.8	12.07	J	1
					207.2	1.86	9.5 9.7	12.07	V	1
1254	J 720	Anon.	25 38	8 23	201.6	0.85	10.5 10.5	12.05	J	1
1255	A 2814	+ 8°1366	25 39	8 21	288.8	0.48	8.8 11.5	14.80	A	2
1256	A 2727	+ 13°1283	25 56	13 25	311.8	2.46	8.7 13.0	14.02	A	2
1257	J 979	Anon.	26 5	11 43	256.8	2.42	9.3 9.8	13.14	J	1
					261.4	2.40	9.4 10.0	13.14	Dj	1
1258*	J 690	+ 10°1158	26 22	10 7	357.4	1.80	8.8 11.0	11.92	J	1
					358.2	2.17	9.0 11.0	11.92	J	1
					352.8	1.58	8.8 10.0	14.24	J	1
					355.2	1.75	8.8 10.2	14.24	Dj	1
					357.6	1.55	9.3 11.0	14.81	A	2
					361.1	1.80	.. ..	15.12	HF	1
1259	J 980	Anon.	26 22	7 8	186.8	3.36	9.8 11.0	13.14	J	1
1260	A 2117	+ 31°1320	26 35	31 35	50.8	1.30	9.4 11.0	10.22	A	2
1261	J 691	+ 4°1286	26 38	4 43	203.7	0.99	8.8 9.7	12.02	J	1
					203.5	1.13	8.7 9.8	12.02	V	1
					201.0	1.07	8.4 9.3	16.06	J	1
1262	J 981	Anon.	26 43	7 8	323.0	2.20	10.0 12.0	13.14	J	1
1263	A 2816 AB AC	+ 10°1159	26 45	10 0	318.0	0.80	8.3 10.5	14.82	A	2
					40.8	23.5±	.. 12.5	..	A	..
1264	J 263	Anon.	26 56	7 51	132.5	2.28	9.0 9.5	10.90	J	1
1265	A 2817	+ 7°1327	27 5	7 53	94.6	0.18	9.4 9.4	14.83	A	2
1266	A 2519	+ 39°1661	27 26	39 50	70.4	4.14	7.2 12.0	13.12	A	2
1267	J 394	+ 13°1291	27 31	13 13	287.8	4.25	8.9 9.7	11.13	J	1
					288.8	4.02	8.8 9.8	11.13	V	1
					290.2	4.52	9.2 9.6	16.06	J	1
1268	A 29.. AB AD AE AC	+ 15°1283	27 41	5 0	284.6	3.14	7.4 13.1	14.65	A	2
					288.9	12.30	7.4 13.2	14.65	A	2
					197.3	13.32	7.4 13.5	14.65	A	2
					318.6	6.74	7.4 14.0	14.84	A	1

1249—There are no other measures of the wide pair.—A.

1258—Published later by Aitken as A 2815.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1269	J 661	Anon.	6	28	3	5	46	141.6	3.70	9.4	9.4	11.87	J	1
								139.0	3.81	9.4	9.5	11.87	V	1
1270	J 982	+ 3°1286	28	10		3	33	220.6	3.89	9.0	9.3	12.97	J	1
								220.8	3.67	9.0	9.4	12.97	Dj	1
1271	J 662	Anon.	28	29		6	3	101.6	3.97	9.0	11.0	11.87	J	1
								102.2	4.11	9.2	11.0	11.87	V	1
1272	J 692	+ 8°1385	28	31		8	33	28.5	2.72	9.3	11.0	11.96	J	1
								27.3	2.58	9.4	11.0	11.96	V	1
1273	J 663	+ 12°1189	28	34		12	32	119.4	4.53	9.1	9.7	11.79	J	1
								119.6	4.64	9.2	9.8	11.79	V	1
1274	J 349	+ 5°1293	28	44		5	0	96.8	4.50	9.0	11.0	11.07	J	1
								99.5	4.65	9.2	10.8	11.07	V	1
1275	J 1093	Anon.	29	3		26	8	2.5	1.17	9.2	9.9	15.02	J	1
1276	A 2818	+ 10°1178	29	11		10	35	160.6	1.34	9.5	9.5	14.82	A	2
1277	A 2520	+ 39°1672	29	15		39	5	46.4	0.35	9.2	11.0	13.22	A	2
1278	J 1094	Anon.	29	23		21	36	182.0	2.29	9.3	10.0	15.05	J	1
1279	Hu 1242	+ 35°1450	29	49		35	1	136.7	0.85	9.1	10.8	04.82	Hu	1
								139.8	0.67	..	..	06.30	A	1
1280	J 264	Anon.	29	49		8	31	79.8	4.20	9.5	9.5	10.95	J	1
1281	J 693	+ 29°1276	29	59		29	14	271.1	1.35	9.1	9.3	11.99	J	1
								276.3	1.18	9.1	9.2	11.99	V	1
								270.6	0.87	9.0	9.2	13.00	J	1
1282	J 1005	Anon.	30	4		4	36	257.2	2.38	9.6	11.3	13.17	J	2
1283	A 2118	+ 20°1489	30	5		20	39	286.8	4.75	8.9	12.7	10.19	A	2
1284	J 983 AB	+ 29°1277	30	8		29	7	228.8	2.97	9.4	11.5	12.85	J	1
								230.6	2.92	9.5	11.5	12.85	Dj	1
	AC							16.2	6.83	9.4	12.5	12.85	J	1
								13.0	6.54	9.5	12.5	12.85	Dj	1
1285	A 2673	+ 3°1304	30	10		3	22	305.2	1.21	7.7	10.2	13.84	A	2
1286	J 664	Anon.	30	20		5	39	179.8	3.23	10.0	11.0	11.87	J	1
								181.6	3.29	9.8	10.7	11.87	V	1
1287	J 1006	Anon.	30	22		4	35	291.0	2.81	9.3	9.7	13.17	J	1
								288.5	2.75	9.4	9.8	13.17	Dj	1
1288	J 1095	+ 26°1288	31	8		26	4	173.0	2.63	9.0	11.0	15.02	J	1
1289	A 29..	+ 4°1332	31	12		4	32	23.8	0.92	8.9	13.0	14.65	A	3
1290	J 265	Anon.	31	31		5	12	226.4	4.32	9.2	9.5	10.93	J	1
								220.9	4.39	9.4	10.0	11.87	J	1
1291	Vanderdonek 1	+ 26°1293	31	31		26	48	41.9	2.87	9.1	10.2	11.92	V	1
								40.8	2.98	9.1	10.0	11.92	J	1
								40.3	2.75	9.3	10.0	12.03	J	1
								42.2	2.85	9.2	10.0	12.03	V	1
1292	J 1101	+ 21°1299	31	32		21	9	112.8	1.65	9.2	10.0	15.09	J	1
1293	A 2819	+ 2°1302	31	33		2	47	74.4	0.28	9.0	10.0	14.31	A	2
1294	J 350	Anon.	31	40		0	33	103.3	3.13	9.5	9.5	11.08	J	1
								102.6	2.97	9.6	9.6	11.08	V	1
1295	A 2119	+ 21°1304	31	56		21	43	94.3	0.41	9.2	9.5	10.19	A	2
1296	J 721	Anon.	31	57		7	56	203.8	2.79	9.4	11.5	12.05	J	1
								205.2	2.80	9.4	11.5	12.05	V	1

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1297*	A 2820	+ 5°1319	6	32	12	5	52	48.4	4.54	8.7	12.7	14.52	A	2
1298	J 984	Anon.		32	15	5	25	306.8	3.80	9.5	9.5	13.13	J	1
								310.4	3.93	9.6	9.6	13.13	Dj	1
1299	J 266	+ 3°1318	32	29		3	23	178.0	4.70	8.6	11.0	10.95	J	1
1300	A 2674	+ 0°1504	32	34		0	36	315.2	2.04	8.7	11.5	13.87	A	2
1301	A 2451	+ 42°1581	32	39		42	6	143.0	0.69	9.2	9.2	11.84	A	3
1302	A 2821	+ 5°1326	32	47		5	35	212.0	3.35	7.8	13.8	14.52	A	2
1303	J 985	Anon.	32	57		6	8	81.4	3.58	9.4	9.8	13.11	J	1
								84.4	2.92	9.5	10.0	13.11	Dj	1
1304*	A 2675 AB AC	+ 3°1325	33	12		2	57	172.4	2.41	9.0	13.0	13.84	A	2
								116.0	14.30	9.0	14.0	13.74	A	1
1305	J 986	Anon.	33	15		6	15	233.1	4.95	9.7	13.0	13.11	J	1
1306	A 2452	+ 19°1418	33	23		19	57	269.4	0.60	9.2	9.2	11.90	A	2
1307	A 2822	+ 9°1310	33	31		9	0	123.3	0.68	9.5	9.8	14.84	A	2
1308	J 351	Anon.	33	31		11	39	205.0	2.13	9.1	11.2	11.09	J	1
								205.6	2.45	9.0	11.2	11.60	V	2
								202.7	2.64	9.2	10.8	12.02	J	1
1309	J 987	Anon.	33	36		5	32	86.0	4.00	9.5	11.5	13.13	J	1
1310	J 694	Anon.	33	45		21	28	316.2	2.77	9.6	9.7	11.99	J	1
								319.0	2.76	9.6	9.6	11.99	V	1
1311	A 1320	+ 59°1002	33	46		58	59	240.4	0.35	9.5	9.5	06.90	A	2
1312	A 2453	+ 42°1588	34	4		42	21	229.6	3.60	9.1	13.5	11.87	A	2
1313	A 1733	+ 52°1110	34	7		52	53	124.3	1.28	8.6	12.2	07.85	A	2
1314	J 988	Anon.	34	34		30	31	169.4	4.20	10.0	11.0	13.14	J	1
								169.6	3.80	10.6	11.5	13.14	Dj	1
1315	J 352	- 8°1505	34	48		- 8	11	90.6	3.55	9.0	11.5	11.08	J	1
								89.0	3.57	9.0	11.5	11.08	V	1
1316	J 353	+ 16°1233	35	21		16	26	62.4	3.30	8.7	9.8	11.12	J	1
								64.8	3.70	8.6	9.5	11.12	V	1
1317	A 2676	+ 2°1336	35	33		2	7	340.9	3.97	8.9	13.5	13.92	A	2
1318	J 695	+ 6°1333	35	33		6	2	155.0	1.85	9.0	11.0	12.02	J	1
1319	J 54	- 1°1316	35	36		- 1	41	201.6	1.98	9.1	9.8	10.21	J	2
								203.4	2.53	9.0	9.8	13.10	Doo	3
1320	J 696	- 10°1627	35	56		- 10	30	163.4	1.30	9.1	9.2	11.92	J	1
								166.8	1.38	9.4	9.4	11.92	V	1
1321	J 411	+ 9°1337	36	25		9	27	143.2	4.90	9.0	9.6	11.15	J	1
								143.9	4.83	9.2	9.5	11.15	V	1
1322	Fox 11 BC AC	+ 23°1459	36	34		23	41	183.7	1.68	9.9	11.0	14.11	Fox	2
								25.7	18.47	9.1	9.9	14.11	Fox	2
1323	A 2728	+ 15°1281	36	48		15	30	234.0	4.97	7.8	13.6	14.16	A	2
1324	J 596	+ 2°1348	36	53		2	15	43.7	4.93	9.2	9.2	11.77	J	1
1325	J 597	+ 2°1351	37	11		2	11	46.5	4.97	9.0	9.6	11.77	J	1
1326	A 2454	+ 41°1490	37	13		41	41	255.6	1.97	9.0	14.2	12.09	A	2
1327	A 1734	+ 54°1064	37	15		53	57	87.0	1.61	9.0	13.0	07.85	A	2
1328*	E 1077	Anon.	37	17		50	43	95.9	3.75	9.6	11.0	11.12	E	3

1297—Several faint stars in the field, the nearest being 8"5 distant at 45°3. A very faint 4" pair is 1½' distant *sf.*—A.

1304—The principal star is bright orange-red; the two faint stars are bluish and dull.—A.

1328—The star B.D. +50°1344 was found to be 13 mag. on Jan. 31, and is not identical with the pair here measured.—E.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1329	A 29..	+ 4°1395	6	37	21	4	18	186.3	1.47	9.0	12.1	14.55	A	2
1330*	J 39	+ 9°1357	37	28		9	17	272.2	0.93	9.3	9.7	10.06	J	2
								274.7	1.01	9.2	10.3	13.12	Doo	3
								275.4	1.69	9.0	9.7	15.15	J	1
1331	J 40	Anon.	37	43	—	0	10	100.8	1.79	9.5	10.1	09.99	J	2
								102.1	2.16	9.7	10.9	13.06	Doo	3
1332	A 2120	+20°1539	37	50		20	23	200.2	3.88	9.0	13.2	10.19	A	2
1333	J 598	Anon.	37	53		2	30	25.8	3.92	9.5	11.9	11.77	J	1
1334	J 989	+18°1315	37	53		18	42	101.0	1.47	9.1	9.5	12.93	J	1
								100.8	1.70	9.2	9.6	12.93	Dj	1
1335	A 2455	+19°1445	37	54		19	41	297.2	2.44	9.1	13.0	11.90	A	2
1336	J 722	— 2°1723	38	7		—	2	228.4	2.91	9.3	9.4	12.10	J	1
1337	A 2677	+ 3°1362	38	10		2	57	16.0	0.80	8.0	12.0	13.92	A	2
1338	A 2456	+40°1492	38	24		40	57	329.6	0.44	9.5	10.0	11.83	A	2
1339	E 1383	Anon.	38	28		44	18	308.7	1.99	9.5	9.5	15.14	E	2
1340	J 412	+14°1402	38	37		14	0	18.4	4.25	9.0	9.5	11.15	J	1
								18.3	4.67	9.2	9.6	11.77	V	1
								19.4	4.74	9.0	10.0	11.77	J	1
								310.1	3.29	9.5	10.6	15.21	E	3
								126.0	3.65	9.1	9.3	11.87	J	1
1341	E 1384	+43°1591	38	37		43	41	310.1	3.29	9.5	10.6	15.21	E	3
1342	J 665	+38°1585	38	38		38	27	126.0	3.65	9.1	9.3	11.87	J	1
1343	A 2358	+16°1259	38	57		16	31	301.4	0.28	9.6	9.6	11.79	A	2
1344	A 2823	+ 6°1360	38	58		6	12	299.5	4.10	8.7	9.8	14.85	A	2
1345	A 1735	+54°1070	39	2		54	26	164.9	0.37	8.5	10.0	08.15	A	3
1346	J 697	+11°1284	39	6		11	14	187.3	1.58	8.6	9.9	11.02	J	1
								186.9	1.91	8.8	10.0	11.02	V	1
								180.2	1.57	8.6	10.0	15.09	J	1
								183.2	2.25	..	..	15.12	HF	1
								178.2	2.83	9.3	12.0	13.14	J	1
1347	J 990	Anon.	39	8		13	24	178.2	2.83	9.3	12.0	13.14	J	1
1348	A 2521	+38°1590	39	16		38	53	137.8	0.90	8.8	12.5	13.26	A	2
1349*	E 583	+44°1527	39	26		44	32	69.4	4.67	9.4	9.6	08.08	E	4
1350	A 2824	+ 3°1374	39	40		3	32	330.5	1.58	8.9	12.0	14.34	A	2
1351*	J 666 AB	+ 7°1425	39	37		7	34	25.7	2.09	8.0	11.5	11.87	J	1
								26.8	1.90	8.3	11.7	11.87	V	1
								33.3	1.90	8.4	11.5	13.84	A	2
								27.4	1.75	8.2	11.0	15.09	J	1
								26.7	1.94	..	..	15.12	HF	1
								22.1	14.14	..	10.5	11.87	J	1
								23.9	14.35	..	10.7	11.87	V	1
								23.7	15.02	..	11.0	13.84	A	2
								24.0	14.37	..	11.0	15.09	J	1
								22.0	14.42	..	..	15.12	HF	1
1352	A 2522	+36°1495	39	44		36	0	243.2	0.62	9.5	9.5	13.20	A	3

1330—In *A.J.*, Nos. 679–680, Doolittle says “BD+9°1357 should be 9°1257 in *J.A.* and *A.N.* 4406,” but retains the coordinates given. Reinvestigation shows, however, that my original identification is correct. B.D. +9°1257 would make the place 6^h 25^m 32^s and 9° 34′.—J.

1349—A 14th mag. south.—E.

1351—There is also a 14th magnitude star about 8" north preceding C.—A. Measured later by Aitken as A 2678. In *M.N.*, vol. lxxii. page 165, notes, for J 649 read J 666.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1353	A 2729	+ 6°1369	6	39	52	6	17	325.0	0.25	9.1	9.5	13.97	A	2
1354	J 667	+ 7°1428		39	57	7	30	71.0	4.25	8.7	10.0	11.87	J	1
								72.2	4.00	8.9	10.0	11.87	V	1
1355	A 2679	+ 2°1369	40	0		2	29	2.0	2.14	8.8	12.5	13.96	A	2
1356	J 1106	+ 10°1248	40	3		10	10	255.2	1.39	9.3	9.6	15.15	J	1
1357*	J 267	+ 8°1473	40	21		8	14	77.8	1.15	8.7	8.7	10.91	J	1
								80.2	1.00	8.9	8.9	10.91	V	1
								79.5	1.41	8.9	8.9	11.10	J	3
								80.3	1.43	9.0	9.0	11.10	V	3
								81.2	1.38	8.9	8.9	11.54	J	2
								84.6	1.94	8.9	8.9	13.58	J	3
								90.1	1.90	9.1	9.5	15.18	J	2
1358	A 2457	+ 42°1601	40	30		42	8	208.5	0.50	8.7	8.7	11.83	A	2
1359	A 2825	+ 10°1253	40	34		10	50	323.8	0.17	8.6	8.8	14.85	A	2
1360*	A 2826	+ 12°1267	40	34		12	20	254.9	4.78	8.6	13.2	14.51	A	2
1361	J 723	Anon.	40	38		10	3	66.8	1.72	9.7	11.5	12.10	J	1
								73.6	1.63	9.8	12.0	12.10	V	1
1362	A 2827	+ 9°1374	40	50		9	46	171.2	0.82	8.7	12.2	14.85	A	2
1363	A 2730	- 10°1674	40	56		-10	34	36.4	0.71	9.8	9.8	14.06	A	2
1364	J 724	Anon.	41	11		14	24	172.2	2.94	9.2	9.8	12.06	J	1
1365	A 2680	+ 3°1391	41	40		3	29	336.9	1.34	9.5	9.5	13.96	A	2
1366	J 268	Anon.	41	58		8	16	352.0	4.42	9.5	9.8	10.91	J	1
1367	J 991	+ 12°1279	42	9		11	57	181.0	4.67	9.2	11.0	13.00	J	1
								180.0	4.95	9.3	11.2	13.00	Dj	1
1368*	J 725	- 2°1754	42	10		- 2	18	165.0	2.15	8.9	13.0	12.07	J	1
1369	J 726	Anon.	42	26		10	14	128.4	2.27	9.5	9.5	12.12	J	1
								130.0	2.17	9.5	9.5	12.12	V	1
1370	A 2828	+ 10°1263	42	39		10	6	349.9	0.22	9.5	9.5	14.85	A	2
1371	A 2359 AB AC	+ 41°1512	42	40		41	11	240.7	1.79	8.9	11.8	11.25	A	2
								46.9	8.04	8.9	10.0	11.25	A	2
1372	J 802	- 4°1653	42	46		- 4	8	90±	3.30	9.3	10.0	11.95	J	1
								108.0	3.65	9.0	13.0	15.21	J	1
1373	J 1104	Anon.	42	50		23	46	288.1	1.57	9.4	10.0	15.12	J	1
1374	J 314	Anon.	43	11		- 3	46	41.0	2.62	9.2	11.8	10.99	J	1
								40.9	2.80	9.2	11.5	10.99	V	1
1375	J 1096	Anon.	43	20		18	34	329.5	2.65	9.8	9.8	15.02	J	1
1376	A 2360	+ 40°1721	43	26		40	44	279.9	0.20	9.2	9.6	11.47	A	3
1377	J 1097	+ 18°1352	43	30		18	35	143.0	4.98	8.8	12.0	15.02	J	1
1378	J 992	Anon.	43	31		16	58	102.2	3.50	9.5	10.0	13.13	J	1
								98.0	3.37	9.5	9.7	13.13	Dj	1
1379	J 993	Anon.	43	41		11	49	149.6	1.98	9.5	11.5	13.00	J	1
1380*	A 2829	+ 0°1605	43	45		0	20	91.0	3.22	8.6	13.8	14.33	A	2
1381*	E 1385	Anon.	43	48		44	9	225.5	1.47	9.2	10.5	15.21	E	5
								229.1	1.41	9.4	11.0	15.23	J	1

1357—The measures indicate a possibility of motion.—J.

1360—This is the *sf.* star of a very wide equal pair.—A.

1368—Also a 13th mag. at 146°4 and 20"±.—J.

1380—The principal star is orange-red. It is about 6' south of OΣ 157.—A. OΣ 157: 340°0, 0'66, 7.5-8.0, 1898-81 Hu 3 —J.

1381—In *M.N.*, vol. lxxv. page 556, for 255°5 read 225°5.—E.

No.	Name.	R.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	"				
1382	J 1055	Anon.	6	43	48	13	4	149.8	2.17	9.6	9.8	14.09	J	1	
									150.0	2.50	9.5	9.7	14.09	Dj	1
1383	E 899	+53°1072	44	4		53	33	300.8	3.08	9.3	10.5	10.25	E	3	
1384	A 1955	+4°1452	44	16		3	57	10.9	0.25	9.4	9.4	09.94	A	2	
1385	A 2731	+7°1457	44	20		7	44	108.6	0.74	8.7	9.5	13.07	A	2	
1386	A 2733	-11°1641	44	30		-11	55	131.9	0.60	9.0	11.0	14.16	A	2	
1387	A 2732	+7°1461	44	35		7	12	206.2	0.24	9.5	9.6	13.97	A	2	
1388	A 29..	-12°1635	44	48		-12	21	308.6	0.28	9.5	9.5	14.17	A	1	
1389	A 1573	+54°1078	45	0		54	18	288.1	0.36	9.0	9.0	07.82	A	2	
1390	J 994	+6°1390	45	4		6	46	194.4	1.52	9.2	9.4	12.97	J	1	
									193.8	1.88	9.3	9.5	12.97	Dj	1
1391	E 584	+47°1353	45	23		47	17	325.4	3.00	9.4	10.0	08.05	E	2	
1392	J 55	+2°1413	45	37		2	6	174.5	1.53	9.7	9.6	10.25	J	2	
									178.9	2.55	9.8	10.2	13.94	Doo	3
1393	J 698	Anon.	46	9		5	47	234.6	2.70	9.1	10.0	11.95	J	1	
									240.9	2.75	9.0	10.2	11.95	V	1
1394	A 2458	+16°1305	46	14		16	20	323.5	0.48	9.2	11.0	12.09	A	2	
1395	J 727	+15°1341	46	20		15	54	150.1	2.87	9.0	12.0	12.06	J	1	
									154.4	3.05	9.0	12.4	12.06	V	1
1396	A 1321	+58°973	46	27		57	56	309.6	0.29	9.4	9.4	06.87	A	3	
1397	J 269	Anon.	46	37		5	54	181.8	3.52	9.0	10.0	10.93	J	1	
									176.7	3.99	9.8	11.5	11.95	J	1
1398	J 1098	Anon.	46	39		19	35	14.0	1.51	9.7	9.7	15.07	J	1	
1399	J 911	Anon.	46	44		23	25	313.4	2.98	9.7	9.7	12.77	J	1	
									313.2	3.37	9.9	9.9	12.77	Dj	1
1400	A 1736 AB AC	+47°1358	46	50		47	18	231.2	1.14	8.0	12.0	08.18	A	2	
									153.4	12.50	8.0	13.2	08.18	A	2
1401	J 20	Anon.	47	6		0	29	127.5	0.69	10.0	10.0	09.97	J	2	
1402	A 1956	+4°1474	47	16		4	4	130.6	0.73	10.1	10.9	13.97	Doo	3	
									298.6	0.18	9.1	9.7	09.04	A	2
1403	A 2830	+0°1655	47	35		0	28	318.2	0.24	9.0	9.0	14.33	A	2	
1404	J 1056	Anon.	47	40		18	14	281.0	1.90	9.7	11.5	14.31	J	1	
									281.6	1.88	9.8	11.2	14.31	Dj	1
1405*	A 1322	+56°1163	47	43		56	52	202.6	0.32	9.5	9.8	06.84	A	2	
1406	A 2831	+1°1561	47	56		1	21	347.8	2.32	8.5	14.0	14.33	A	2	
1407	J 699	+12°1330	48	5		12	18	252.9	1.17	8.7	9.0	12.02	J	1	
									256.4	1.26	8.9	9.1	12.02	V	1
1408*	J 56	+3°1445	48	26		3	20	255.3	1.30	..	..	15.12	HF	1
									330.7	1.52	8.7	8.9	10.21	J	2
									327.6	1.48	8.7	9.0	11.11	V	2
									329.0	1.39	8.6	9.0	11.13	J	3
									327.8	1.18	8.7	9.0	12.11	J	1
									325.6	1.40	8.7	9.0	12.11	V	1
1409	A 2734	-10°1737	48	37		-10	8	328.8	1.16	8.4	9.3	13.95	Doo	4	
									157.1	3.14	9.1	10.8	14.18	A	2

1405—The preceding star of two of the same magnitude.—A.

1408—In *J.A.*, vol. 1, page 50, for Alb 2476 read Alb 2472.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	"				
1410	E 1142	+49°1567	6	48	41	49	51	278.7	3.01	9.5	12.0	12.17	E	2	
1411	J 1057 AB	Anon.		49	7	—	0	7	36.2	2.12	9.8	11.5	14.17	J	1
									32.8	2.13	9.9	12.0	14.17	Dj	1
	AC								85.0	10.60	9.8	9.8	14.17	J	1
									84.2	10.95	9.9	9.9	14.17	Dj	1
1412	J 742	— 7°1615	49	19		—	7	36	217.8	1.18	9.0	11.5	12.19	J	1
									218.6	1.10	9.2	11.4	12.19	V	1
1413	J 599	Anon.	49	27		14	58		111.5	2.19	9.4	11.7	11.77	J	1
1414	J 270	Anon.	49	42		8	30		280.4	2.48	9.8	9.8	10.91	J	1
1415	J 354	Anon.	49	44		1	48		257.2	4.75	9.5	10.5	11.08	J	1
									260.3	4.88	9.5	10.0	11.08	V	1
1416	J 271	+12°1338	50	9		12	41		246.6	4.25	8.9	12.0	10.95	J	1
1417	J 272	Anon.	50	13		8	27		261.5	3.00	9.5	9.7	10.91	J	1
1418	J 395	+13°1461	50	18		13	55		161.3	2.10	8.8	8.8	11.13	J	1
									161.2	1.83	9.0	9.0	11.77	V	2
									162.0	1.72	8.9	8.9	12.92	J	2
1419	J 700	Anon.	50	20		10	20		104.7	2.19	9.5	9.5	11.95	J	1
									103.8	2.13	9.5	9.6	11.95	V	1
									104.8	1.93	9.5	9.5	14.23	J	1
									108.4	2.25	9.6	9.6	14.23	Dj	1
1420	A 2832	+11°1356	50	21		11	33		334.2	3.05	8.3	12.0	14.86	A	2
1421*	E 174	Anon.	50	35		36	51		108.7	3.0±	9.6	9.8	05.10	E	2
1422*	A 2833	+12°1344	50	29		12	5		166.0	0.56	8.7	9.1	14.51	A	2
1423	J 743 AB	Anon.	50	36		12	45		25.2	1.31	9.5	9.5	12.19	J	2
									21.2	1.27	9.5	9.5	12.19	V	2
	AC								209.0	11.51	9.5	12.7	12.19	J	2
									209.5	12.04	9.5	12.4	12.19	V	2
1424*	J 273 AB	+12°1348	50	50		12	41		335.4	4.62	8.7	8.8	10.95	J	1
									339.3	4.53	8.9	8.9	12.19	J	2
									335.7	4.43	8.9	8.9	12.19	V	2
	AC								212.2	9.18	8.7	12.5	10.95	J	1
									215.1	12.25	8.9	12.9	12.19	J	2
									217.3	12.52	8.9	12.7	12.19	V	2
1425	J 274	+ 8°1560	50	58		8	24		300.0	3.27	8.9	9.8	10.91	J	1
1426	J 600	+15°1377	51	23		14	57		60.8	3.45	9.0	9.7	11.77	J	1
									60.4	3.40	9.0	9.7	11.77	V	1
1427*	J 1099	+22°1520	51	28		21	57		49.1	0.93	9.3	9.3	15.07	J	1
1428	A 2834	+14°1494	51	38		14	37		271.0	2.38	8.4	12.8	14.51	A	2
1429	A 1323	+44°1558	51	47		44	33		353.5	1.65	9.0	10.5	06.77	A	3
1430	J 41	+ 6°1444	52	10		6	35		226.9	3.84	9.2	10.5	10.07	J	2
									225.2	4.19	9.4	10.1	13.22	Doo	3
1431	J 275	+13°1483	52	20		13	40		24.0	4.85	9.0	12.0	10.95	J	1
1432	J 995	+18°1415	52	36		18	2		91.2	3.47	9.5	10.3	13.13	Dj	1
									83.8	3.96	9.3	10.0	13.14	J	2

1421—42" n. 10^s. *pr.* B.D. +36°1528.—E. In *M.N.*, vol. lxx. page 711, for 6^h 27^m.9 read 6^h 47^m.9.—J.

1422—B.D. 8.0. This pair is certainly fainter than 8.0. The magnitude in the A.G. Catalogue is 8.5.—A.

1424—This wide equal pair was observed as a single star in A.G. Lpz. I. 2584 (8.7) and not noted double.—J.

1427—There may be a 13th mag. at 270°±1"±.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
I433	J 355	Anon.	6	52	44	1	44	85.4	3.97	9.0	13.0	11.08	J	1
								83.2	4.10	9.0	13.0	11.08	V	1
I434	A 2835	+ 9°1452		52	46	9	12	306.0	0.36	9.6	9.7	14.82	A	2
I435	J 276	+ 8°1578		52	49	8	32	13.6	0.92	9.2	9.5	10.93	J	1
								12.2	1.10	9.3	9.5	10.93	V	1
I436*	A 2459	+19°1553		52	57	19	42	254.5	0.36	9.6	9.7	12.86	A	3
I437	A 2836	+ 5°1488		53	6	4	56	137.9	1.04	9.0	13.6	14.35	A	2
I438	J 277	Anon.		53	18	6	58	9.4	3.93	9.5	9.5	10.93	J	1
I439	A 2681	+ 3°1477		53	18	3	0	293.5	0.23	8.5	8.7	13.97	A	2
I440	J 1058	Anon.		53	54	13	49	168.2	1.63	9.2	9.2	14.09	J	1
								168.6	2.03	9.2	9.2	14.09	V	1
I441	A 2460	+18°1432		54	9	18	54	158.0	0.29	9.6	10.1	12.85	A	2
I442	A 1574	+55°1153		54	10	55	4	166.9	3.52	9.0	11.5	07.82	A	2
I443	Doolittle	+ 6°1463		54	10	6	47	149.1	2.34	9.4	10.0	13.13	Doo	4
I444	A 2121	+21°1455		54	12	21	12	123.6	3.76	8.2	12.7	10.27	A	2
I445	E 1238	+47°1376		54	17	47	17	202.1	3.25	9.6	9.9	13.24	E	2
I446	A 1737	- 0°1517		54	18	0	14	210.2	0.31	9.2	9.8	08.20	A	2
I447*	J 278	+ 6°1464		54	18	6	47	151.8	2.33	8.8	8.8	10.93	J	1
								142.2	2.20	8.9	9.2	15.25	J	1
I448	A 1738	- 1°1480		54	30	1	31	208.6	0.21	9.5	9.5	08.20	A	2
I449	E 1078	+52°1154		55	1	52	10	285.5	4.51	9.3	11.7	11.07	E	4
I450	A 2461 AB	+16°1352		55	15	16	3	286.5	0.30	7.7	9.1	12.87	A	2
	AB-C							154.9	21.16	..	..	79.15	β	5
	=OΣ 162 rej.							155.4	21.27	7.4	12.0	12.83	A	1
I451	A 2837	+ 1°1626		55	28	1	10	56.5	4.26	8.7	13.0	14.40	A	2
I452	J 996	Anon.		55	45	9	25	141.8	4.42	9.6	11.0	13.14	J	1
I453	A 2838	+ 9°1475		55	48	9	7	11.0	2.00	9.0	13.0	14.83	A	2
I454	A 1957	+36°1547		55	50	36	29	162.2	0.48	9.8	10.2	09.12	A	2
I455	J 356	Anon.		56	3	3	11	212.1	4.99	9.1	10.0	10.99	J	1
								213.2	5.08	9.1	10.0	10.99	V	1
I456	A 1575	+54°1100		56	33	54	9	276.3	0.56	7.5	8.5	07.82	A	2
I457	A 1739	- 0°1542		56	51	0	34	97.0	4.30	8.3	13.5	08.20	A	2
I458	J 315 AB	Anon.		56	51	3	11	218.2	3.08	9.2	9.8	10.99	J	1
								215.4	3.27	9.2	9.8	10.99	V	1
	AC							29.4	27.56	9.2	14.0	10.99	J	1
								32.4	27.76	9.2	13.5	10.99	V	1
I459*	J 357	- 6°1874		56	57	6	49	228.3	2.97	8.6	11.8	11.08	J	1
								225.6	2.88	8.7	12.0	11.08	V	1
I460	J 1059 AB	Anon.		57	12	15	17	251.2	0.78	9.2	11.8	14.24	J	1
	AC							122.0	12.96	9.2	11.5	14.24	J	1
I461	E 289	+39°1825		57	19	39	5	98.9	1.97	9.4	9.7	06.18	E	2
								101.8	2.04	9.4	9.7	07.23	WB	1

I436—A faint 4" pair is in the field to the north.—A.

I447—In *J.A.*, vol. i. page 101, for Leipzig 3396 read Leipzig II. 3396.—J.

I450—The wide pair shows no relative motion. According to Auwers, the proper motion of A is 0.03 in 293.25. B must share in this, or it would have been seen by Otto Struve in 1843.—A.

I459—This may be A 516 : 225.1, 3.34, 9.0-12.5, 1903.22, A 2, but in this case A 516 is not -6°1873.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1462*	A 1324 AB	+56°1173	6	57	26	56	33	316.4	0.25	9.3	9.3	06.83	A	3
	AB—C=Σ 1002							316.5	30.17	8.5	9.0	29.76	Σ	2
								317.2	30.20	..	..	06.82	A	1
1463	A 1958	+38°1669		57	37	38	45	154.4	0.57	9.3	10.1	09.12	A	2
1464	J 358	+18°1453		57	47	18	16	171.6	3.32	9.0	11.6	11.12	J	1
								169.1	3.20	9.0	12.0	11.12	V	1
1465	J 21	+10°1381		57	55	10	38	273.1	2.69	9.3	9.3	09.98	J	2
								273.6	2.87	9.2	9.4	11.22	V	2
								273.1	2.94	9.1	9.4	11.22	J	2
								274.6	3.02	9.5	9.8	13.12	Doo	3
1466	A 2462	+16°1365		58	2	16	5	175.2	0.22	9.5	9.5	12.87	A	2
1467	A 1959	+39°1828		58	4	39	48	157.2	0.27	9.2	9.2	09.12	A	2
1468	J 997	Anon.		58	6	22	31	153.0	1.90	9.6	9.6	12.97	J	1
								152.6	2.36	9.5	9.6	12.97	Dj	1
1469	J 359	Anon.		58	13	—	6 44	121.2	0.75	9.0	9.0	11.09	J	2
								121.8	0.72	9.0	9.1	11.09	V	2
1470	A 2839 AB	+ 3°1516		58	17	3	37	324.5	4.74	8.5	12.5	14.87	A	2
								134.4	10.68	8.5	14.5	14.88	A	1
1471*	J 22	+12°1400		58	35	12	41	333.3	0.84	9.0	9.0	09.97	J	2
								332.6	1.10	9.1	9.3	13.08	Doo	3
								331.3	1.59	..	..	15.22	HF	2
								334.4	1.36	9.2	9.2	15.25	J	1
1472	J 279	+13°1535		59	3	13	11	0.0	3.47	8.9	12.5	10.95	J	1
1473	A 2463	+42°1651		59	30	42	0	32.2	3.90	9.1	9.3	12.03	A	2
1474	A 2464	+16°1375	7	0	2	15	57	50.5	0.63	8.9	10.1	12.88	A	3
1475	A 2735	+ 4°1569		0	19	3	58	262.6	3.93	8.4	12.2	13.97	A	2
1476	A 2840	+ 2°1536		0	43	2	20	312.6	0.30	9.0	10.0	14.45	A	2
1477	A 1740	— 1°1535		0	56	—	1 40	22.9	0.67	9.0	11.0	08.20	A	2
1478	A 2841	+ 0°1791		1	3	0	27	239.0	0.32	8.2	9.2	14.45	A	2
1479	J 360	Anon.		1	4	1	2	30.0	3.58	9.5	9.5	11.08	J	1
								29.5	3.38	9.5	9.5	11.08	V	1
								126.5	1.82	9.5	10.8	12.12	A	3
1480	A 2465 AB	+40°1790		1	5	40	17	213.5	11.80	9.3	12.5	11.98	A	1
1481	A 1741	— 0°1582		1	6	—	0 45	9.6	0.72	8.4	8.7	08.20	A	2
1482	A 1325	+59°1051		1	7	59	22	313.4	2.83	8.8	11.2	06.00	A	3
1483	A 1742	— 1°1539		1	17	—	1 27	21.0	3.10	8.9	12.7	08.20	A	2
1484	J 728	+19°1601		1	23	19	10	72.3	2.06	8.6	9.2	12.06	J	1
								73.9	2.19	8.6	9.2	12.06	V	1
								73.1	2.76	..	..	13.68	Dob	2
								71.8	2.86	8.8	10.0	15.30	J	1
								73.0	3.02	..	..	15.31	HF	1
1485	J 998	Anon		1	55	15	56	108.4	1.97	9.4	9.6	13.07	J	1
1486	A 2466	+42°1659		1	58	42	52	98.4	1.80	9.5	9.5	13.07	Dj	1
								38.2	0.33	9.5	9.8	12.02	A	2

1462—Aitken gives the position 137°2 to AC; but, as he does not make a special note of it, I have added 180° as observed by Struve and Dembowski. It may be, however, that the position angles should be interchanged in *Lick Obs. Bul.* 109, but in any case the three components are practically on a straight line.—J.

1471—In *A.N.* 4406, page 235, for 6^h 38^m 35^s read 6^h 58^m 35^s, as given in *J.A.*, vol. i. page 26.—J.

No.	Name.	R.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1487	A 1960	+39°1860	7	2	40	39	1	179.8	0.30	9.3	9.7	09.12	A	2
1488	J 701	Anon.	3	3		24	24	275.3	1.86	9.3	9.6	11.95	J	1
								276.8	1.77	9.5	9.6	11.95	V	1
1489	J 280	+8°1658	3	10		8	48	156.7	2.69	8.9	11.5	10.90	J	2
								161.1	2.80	8.9	11.8	10.93	V	1
1490	A 2842	+7°1605	3	11		7	6	101.6	0.71	9.0	11.0	14.44	A	2
1491	A 2843	+11°1458	3	22		11	37	107.0	0.70	9.8	10.1	14.83	A	2
1492	A 2844	+10°1425	4	3		10	48	270.6	1.64	8.8	13.2	14.88	A	2
1493*	A 2845	+10°1429	4	33		10	10	314.2	1.48	8.3	12.5	14.88	A	2
1494	J 361	+1°1712	5	24		1	39	267.1	2.28	8.8	12.0	11.08	J	1
								268.5	2.40	8.8	12.0	11.08	V	1
								268.8	2.41	9.2	13.0	16.18	J	1
1495*	J 702	+5°1560	5	30		5	34	267.5	2.92	8.9	9.7	12.02	J	1
								270.6	2.80	8.9	9.7	12.02	V	1
								270.4	2.95	8.8	10.0	12.07	J	1
								273.6	2.41	8.9	9.8	16.18	J	1
1496*	J 57 AB	+3°1577	5	54		3	3	125.0	1.36	9.1	10.5	10.25	J	2
	AC							126.1	2.24	9.5	10.7	13.95	Doo	3
								62.9	20.36	9.5	10.9	13.92	Doo	2
1497	A 1326	+46°1236	5	55		46	9	359.9	0.29	9.0	10.3	06.81	A	3
1498	J 362 AB	+1°1715	6	0		1	29	149.8	3.15	9.4	9.5	11.08	J	1
	AC							147.5	3.30	9.4	9.6	11.08	V	1
								199.4	22.95	9.4	9.5	11.08	J	1
								202.0	23.28	9.4	9.5	11.08	V	1
1499	E 1080	+49°1599	6	1		49	38	29.5	4.62	9.5	10.6	11.16	E	2
1500	J 703	Anon.	6	4		15	51	153.1	2.31	9.7	9.7	12.01	J	1
								149.3	2.51	9.6	9.6	12.01	V	1
1501	A 2846	+6°1547	6	7		6	26	356.1	0.47	9.0	11.0	14.85	A	2
1502	β— Ce	+56°1191	6	17		55	56	250.0	3.10	11.0	11.6	08.95	β	2
	CD							201.6	22.67	11.0	12.9	08.95	β	2
	AC							253.0	235.72	7.5	11.0	08.92	β	3
	AB=Σ 1025							141.3	22.67	7.5	7.8	30.62	Σ	3
								134.9	24.17	7.5	7.8	08.92	β	3
1503	J 704	+5°1572	6	56		5	30	193.8	2.72	9.1	10.0	12.02	J	1
								192.5	2.71	9.2	10.5	12.02	V	1
								187.8	2.50	9.1	10.0	12.07	J	1
1504	A 1961	—0°1633	7	18		—0	17	92.7	0.27	9.0	9.4	08.99	A	3
1505	A 2122	—10°1906	7	29		—10	25	314.6	0.29	8.8	8.8	10.14	A	2
1506	A 1576	+55°1176	7	40		55	23	231.8	1.02	9.0	14.0	07.81	A	2
1507	A 2847	+6°1561	7	47		6	30	316.8	0.32	9.5	9.5	14.85	A	2
1508	E 1081 AB	+51°1301	8	31		51	50	200.4	4.50	9.5	12.7	11.13	E	3
	AC							99.6	37.45	9.5	10.5	11.12	E	2
1509*	A 2523	+17°1525	8	34		17	4	44.5	0.56	9.0	11.0	13.27	A	2

1493—The variable star *R. Canis Minoris* is in the field 14^s preceding and 1'4 south of this pair. The double star is star 7 on Hagen's chart.—A.

1495—Possibly a 15th mag. companion at 2".5, 50°.—J.

1496—Also a 13.5 mag. star at 174°.—Doo.

1509—In *Lick Obs. Bul.* 240, for 7^h 7^m 5^s read 7^h 7^m 25^s.—Doo.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs. n.
			h	m	s	°	'					
1510	A 1327	— 9°1905	7	8	46	— 9	43	188.6	2.26	8.2 12.2	06.03	A 2
1511	A 2848	+ 4°1623	8	54		4	29	138.6	0.65	9.0 12.8	14.83	A 2
1512	J 23	+ 2°1600	8	54		2	21	294.8	3.54	9.4 9.5	09.98	J 2
								295.3	4.90	9.5 9.9	13.96	Doo 3
1513	J 59	+ 3°1600	8	58		2	59	23.8	1.36	9.3 9.3	10.21.	J 2
								22.9	1.13	9.4 9.5	13.97	Doo 3
1514	A 1328	— 9°1906	8	58		— 9	34	346.1	2.78	8.9 11.2	06.03	A 2
1515	A 2524	+ 19°1653	9	6		19	6	312.6	2.53	8.9 12.7	13.25	A 2
1516	A 2525	+ 18°1528	9	7		18	4	110.1	0.93	8.5 11.2	13.28	A 3
1517*	J 60	— 2°1996	9	13		— 2	30	28.0	1.12	8.6 8.8	10.20	J 1
								30.8	1.30	8.7 9.0	11.11	J 2
								29.8	1.35	8.7 9.0	11.11	V 2
								28.1	1.23	8.6 8.9	12.07	J 1
								30.9	1.32	8.7 8.9	12.07	V 1
								30.7	1.30	8.4 9.0	13.95	Doo 4
								29.8	1.03	8.7 9.0	16.18	J 1
1518*	A 2526 BC	+ 16°1422	9	46		15	54	337.4	0.55	10.3 10.8	13.28	A 3
	A—BC=Σ 1047							19.4	20.66	7.3 9.8	28.53	Σ 3
								25.2	22.16	8.5 10.0	13.23	A 1
1519	A 1962	— 0°1652	9	49		— 1	4	99.2	0.40	9.4 9.5	08.99	A 3
1520	A 2849	+ 10°1464	10	21		10	8	44.2	1.21	9.0 12.0	14.88	A 2
1521	A 2527	+ 19°1662	10	41		19	12	289.1	1.89	8.5 13.0	13.25	A 2
1522*	A 2850	+ 9°1581	10	42		9	0	16.5	0.88	8.6 13.0	14.87	A 2
1523*	Roe 25	+ 12°1474	10	52		12	29	359.6	3.12	10.0 11.0	10.18	Roe 2
								5.2	2.85	9.3 10.0	11.15	J 1
								4.6	2.82	9.2 9.8	11.15	V 1
								9.2	2.68	8.8 9.5	12.11	J 1
								7.6	2.85	8.9 9.5	12.11	V 1
								12.4	3.16	9.0 9.9	16.13	J 2
1524	J 42	+ 8°1711	11	1		8	2	78.8	1.98	9.3 9.5	10.07	J 2
								80.6	2.00	9.2 9.6	13.03	Doo 3
								81.4	2.21	8.9 9.4	16.17	J 1
1525	A 2851	+ 1°1746	11	5		1	9	59.4	0.56	8.8 10.0	14.15	A 2
1526*	J 705	+ 4°1640	11	19		4	39	12.7	2.64	8.9 9.2	11.95	J 1
								12.6	2.57	8.8 9.0	11.95	V 1
								13.6	2.20	9.8 9.8	14.64	A 2
								16.0	2.21	9.3 9.6	16.17	J 1
1527	A 2853	+ 12°1477	11	55		12	36	328.8	0.42	9.5 9.5	14.53	A 2
1528	J 363	— 6°2022	12	9		— 6	28	279.8	0.62	9.3 11.5	11.08	J 1
								291.4	1.21	9.5 12.0	15.31	J 1
1529	A 2854	+ 9°1591	12	12		9	29	26.4	0.40	8.3 10.0	14.87	A 2
1530	J 364	Anon.	12	16		— 6	25	342.0	4.27	9.4 13.0	11.08	J 1

1517—In *A.N.* 4406, page 238, for 7^h 10^m 30^s, —2° 33' read 7^h 9^m 13^s, —2° 30'.—J.

1518—Aitken gives for A—BC position angle 205°, but there is no special note, and all other observers have given the first quadrant.—J.

1522—This is the south following star of a wide equal pair.—A.

1523—Possibly in motion.—J.

1526—Measured later by Aitken as A 2852.—J.

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11

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
1531	A.G—	— 6°2024	7	12	21	—	6	26	250.2	1.94	9.5	9.5	07.10	A	2
										247.0	1.54	9.3	9.6	15.31	J
1532	A 2855	+ 1°1757	12	40		1	7	313.0	0.32	9.0	9.0	14.45	A	2	
1533	A 2856	+ 13°1623	13	2		13	32	291.3	0.48	9.5	9.5	14.53	A	2	
1534	A 2857	+ 9°1601	13	10		9	21	91.3	3.76	8.5	13.0	14.87	A	2	
1535	A 1329	+ 58°1022	13	13		58	45	291.0	1.01	8.9	11.7	06.00	A	3	
1536	A 2123 AB	— 11°1874	13	22		— 11	53	336.4	0.30	7.7	7.7	10.14	A	2	
	AB—C=Σ 1064							237.7	15.20	7.0	9.7	31.20	Σ	3	
								240.2	15.64	7.1	9.5	10.10	A	1	
1537	J 365	Anon.	13	23		—	6	26	258.0	3.63	10.0	14.2	11.08	J	1
1538	A 2858	+ 8°1723	13	25		7	57	9.7	3.94	8.5	12.7	14.87	A	2	
1539	J 729	+ 8°1731	13	56		8	35	67.4	2.63	9.3	11.0	12.06	J	2	
								68.3	2.83	9.2	11.0	12.06	V	2	
1540*	E 1241	+ 48°1514	14	17		48	8	0.5	3.57	9.4	9.4	14.18	E	2	
1541	A 2859 AB	+ 6°1606	14	17		6	0	115.4	0.58	10.0	10.0	14.84	A	2	
	AB—C							192.4	8.18	9.3	10.0	14.81	A	1	
1542	E 341	+ 32°1522	14	20		32	35	251.6	3.05	9.0	9.0	06.95	E	1	
1543	J 730	Anon.	14	20		—	2	27	144.8	2.69	9.5	9.8	12.07	J	1
1544	A 2860	+ 13°1632	15	10		13	52	101.2	0.54	9.2	10.0	14.53	A	2	
1545	A 2861	+ 1°1772	15	25		1	30	83.0	0.80	9.1	11.5	14.45	A	2	
1546	E 290	+ 36°1606	15	43		36	53	312.4	4.74	9.2	10.0	06.10	E	3	
1547	A 2862	+ 4°1665	15	50		3	56	62.9	0.73	8.7	10.0	14.81	A	2	
1548	A 2863	+ 0°1903	16	4		0	8	296.4	1.08	9.5	9.5	14.57	A	2	
1549	A 29..	+ 9°1620	16	27		9	49	242.8	3.81	7.6	13.8	14.94	A	2	
1550	A 1963	— 1°1663	16	33		—	1	27	266.0	0.18	8.6	8.6	09.28	A	2
1551	A 2736 AB	+ 25°1649	16	39		25	23	75.0	1.50	8.5	11.8	14.00	A	2	
	AC							154.1	10.14	8.5	12.8	14.00	A	2	
1552	J 1060	Anon.	16	47		9	30	229.2	1.77	10.0	12.0	14.30	J	1	
1553	A 2737	+ 25°1650	16	54		25	4	242.9	1.24	9.0	12.2	14.00	A	2	
1554	A 1743	+ 46°1257	17	1		46	29	269.4	0.94	9.0	10.5	08.16	A	2	
1555	A 29..	+ 9°1622	17	4		9	17	359.8	1.21	9.0	11.0	14.94	A	2	
1556	A 29..	+ 10°1508	17	5		10	42	78.9	3.66	9.0	12.5	14.94	A	2	
1557	A 29..	+ 1°1784	18	29		1	24	285.0	1.30	8.8	12.8	15.21	A	2	
1558	A 2864 AB	+ 5°1640	18	52		5	36	112.6	1.94	9.0	12.5	14.85	A	2	
	AC							65.0	9.44	9.0	14.5	14.82	A	1	
1559	E 585	+ 45°1430	19	7		45	1	237.3	2.72	7.7	11.7	08.14	E	2	
1560*	J 43	Anon.	19	32		8	25	68.3	2.84	9.6	10.1	10.05	J	2	
								63.2	2.94	9.4	9.7	11.21	J	2	
								63.3	2.91	9.4	9.7	11.21	V	2	
								63.5	3.34	9.2	9.6	12.05	J	1	
								67.1	3.15	9.7	10.1	13.03	Doo	3	
1561	J 1061	Anon.	19	33		9	32	344.2	1.40	9.8	9.8	14.25	J	1	
								345.0	1.50	10.0	10.0	14.25	Dj	1	

1540—In *M.N.*, vol. lxxiv. page 248, for 48° 0' read 48° 10', as Espin confirms B.D. +48°1514.—J.

1560—In *M.N.*, vol. lxxii. page 157, for 68°2 read 63°2.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.	
			h	m	s	°	'							°
1562	J 366	+12°1526	7	19	34	12	14	140.1	1.65	7.9	10.9	11.11	J	1
								140.9	1.70	8.1	11.0	11.11	V	1
								141.1	1.91	7.9	10.5	12.95	J	3
								141.8	2.15	8.0	10.8	13.21	Dj	1
								142.1	2.21	15.18	HF	2
								140.7	1.99	8.2	11.2	16.25	J	2
1563	J 396	Anon.	19	38	14	39	58.9	4.93	9.0	11.0	11.13	J	1	
							58.8	5.00	9.0	10.8	11.63	V	2	
							58.8	4.87	8.9	10.6	12.11	J	1	
1564	E 772 AB	+53°1141	19	39	53	21	..	1.±	9.3	9.3	09.14	E	1	
							91.9	1.04	9.6	9.7	09.70	β	..	
	AC=β-						354.3	6.50	9.6	14.0	09.70	β	..	
1565	Lewis	..	19:		29	26:	35.0	2.29	9.0	11.0	05.24	L	1	
1566	A 1964	-1°1691	19	40	-1	40	20.4	0.26	9.4	9.6	09.20	A	3	
1567	A 2682	-10°1023	19	41	-10	23	7.8	0.25	9.2	9.8	13.94	A	2	
1568	J 1062	Anon.	20	5	18	3	247.8	1.70	9.6	9.8	14.16	J	1	
							247.8	1.85	9.6	9.7	14.16	Dj	1	
1569	J 1257	Anon.	20	7	12	16	212.6	1.63	11.2	11.4	16.17	J	1	
1570	A 29..	+0°1933	20	20	0	47	88.4	0.58	9.0	12.0	15.25	A	2	
1571	A 2865	+5°1649	20	23	5	26	110.4	0.80	9.2	10.2	14.85	A	2	
1572	J 1063	Anon.	20	29	3	17	59.6	2.37	9.2	9.5	14.17	J	1	
							58.8	2.40	9.3	9.5	14.17	Dj	1	
1573	A 2045	+46°1266	21	0	46	21	16.2	1.12	8.5	9.2	09.81	A	2	
							20.7	1.06	..	..	12.55	Dob	3.2
1574*	Ho 628	+22°1678	21	12	22	15	177.9	1.59	9.2	9.5	98.31	Ho	1	
							175.6	1.77	9.0	9.7	06.91	Doo	3	
1575	Roe 69	+0°1939	21	39	-0	5	75.4	4.74	9.3	9.3	11.16	Roe	3	
1576	A 29..	+8°1767	21	45	7	57	172.0	0.56	9.2	10.9	14.94	A	2	
1577*	J 1000	+11°1587	22	0	11	29	279.8	4.76	9.2	9.6	13.14	J	1	
							275.2	4.86	9.3	9.8	13.14	Dj	1	
1578	J 1064	Anon.	22	6	9	33	18.2	2.23	9.6	9.6	14.25	J	1	
							21.4	2.10	9.6	9.6	14.25	Dj	1	
1579	A 2467	+40°1863	22	20	39	56	56.5	1.34	9.5	9.8	12.25	A	2	
1580	A 2866	+4°1699	22	25	4	34	329.9	0.28	9.0	10.0	14.86	A	2	
1581	J 999	+12°1547	22	27	12	47	304.2	3.95	9.5	9.5	13.13	J	1	
							303.2	3.75	9.5	9.5	13.13	Dj	1	
1582	J 367	+5°1664	22	32	5	20	317.6	0.85	8.9	9.1	11.08	J	1	
							315.6	0.85	8.9	9.1	11.08	V	1	
							314.0	0.94	9.0	9.8	16.16	J	1	
1583*	A 1965	-0°1723	22	40	-0	26	262.2	2.17	8.8	13.5	09.14	A	2	
1584	A 2867	+7°1726	23	9	7	0	344.9	0.43	9.4	10.0	14.83	A	2	
1585	A 2046	+47°1452	23	33	47	28	234.4	1.10	7.9	9.2	09.81	A	2	
							234.6	1.27	..	..	14.13	Dob	2
1586*	A 2124	+32°1562	23	58	31	57	11.4	2.80	4.2	12.5	10.18	A	2	

1574—Noted "Dupl. 2"-3" maj.," 1881.9, in A.G. Berl. B 2941.—J.

1577—The R.A. is 1^m too large in *J.A.*, vol. ii, page 12.—Doo.

1583—The sign of precession was wrongly applied in *Lick Obs. Bul.* 158; -0° 18' should there be -0° 24'.—J.

1586—*p Geminorum*. The proper motion is 0".227 in 31°.4. If the companion does not share in this motion, the distance between the two will rapidly become smaller.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
1587	A 2738	+24°1670	7	24	16	23	58	74.1	1.39	8.3	12.5	14.00	A	2	
1588	J 706	+18°1634	24	39		18	27	183.0	2.99	8.9	10.0	11.97	J	1	
								185.6	3.14	9.0	10.2	11.97	V	1	
1589	A 2868	+13°1682	24	41		13	3	329.8	0.39	9.3	9.3	14.53	A	2	
1590*	J 62	Anon.	24	49		6	56	312.5	0.34	9.6	9.7	10.08	J	4	
								305.6	0.46	9.6	10.3	13.17	Doo	4	
								310.6	0.77	..	..	15.12	HF	1
								309.8	0.60	9.6	9.8	15.31	J	1	
1591	A 2739	+ 3°1693	25	6		3	33	224.6	3.61	8.0	12.0	14.15	A	2	
1592	J 368	+ 5°1680	25	24		5	42	335.6	1.50	8.7	10.5	11.08	J	1	
								337.9	1.28	8.9	11.0	11.08	V	1	
								336.2	1.39	8.9	12.0	16.16	J	1	
1593	A 2528	+25°1689	25	31		25	37	136.7	2.10	8.3	13.0	13.28	A	2	
1594	A 2125	+34°1623	25	31		33	53	106.8	3.84	9.1	12.5	10.18	A	2	
1595	A.G.—	+26°1573	25	35		25	57	166.1	1.37	8.6	8.7	04.88	Mil	3	
1596	J 369	+ 6°2138	25	47		—	6	8	106.8	2.65	8.9	12.0	11.08	J	1
1597	A 1966	— 1°1740	25	50		—	1	19	73.8	4.42	8.8	13.7	09.14	A	2
1598	A 2869	+ 8°1789	26	9		7	54	84.2	0.40	8.5	8.7	14.90	A	2	
1599	J 44	Anon.	26	25		6	59	196.6	2.67	9.7	9.7	10.05	J	2	
								197.5	3.03	10.1	10.9	13.18	Doo	3	
1600	A 29..	+10°1551	26	25		10	42	31.9	3.64	9.0	14.0	14.94	A	2	
1601	A 2870	+ 7°1749	26	26		7	5	85.7	3.05	9.0	13.2	14.86	A	2	
1602	A 1967	— 1°1745	26	57		—	1	59	353.0	1.25	8.2	10.3	09.18	A	3
1603	A.G.—	+25°1691	27	6		25	20	108.0	3.29	9.0	10.0	05.13	Mil	2	
1604	J 1065	Anon.	27	9		—	3	32	159.2	2.07	9.6	9.6	14.15	J	1
								157.8	2.37	9.5	9.5	14.15	Dj	1	
1605*	J 370	— 5°2144	27	12		—	5	59	69.6	2.24	7.9	8.7	11.09	J	2
								69.2	2.50	8.1	9.0	11.09	V	2	
								68.6	2.51	8.1	9.0	13.21	Dj	2	
								65.3	2.42	8.2	9.0	13.21	J	2	
								68.0	2.59	8.6	9.3	16.16	J	1	
1606*	A.G.—	+27°1403	27	24		27	47	..	..	8.1	..	..	Mil	..
1607	J 371 AB	Anon.	27	40		10	30	314.4	3.87	9.0	9.8	11.09	J	1	
								313.4	3.43	9.2	10.0	11.09	V	1	
								232.3	17.43	9.0	14.0	11.09	J	1	
								230.0	18.57	9.2	13.5	11.09	V	1	
1608	Hu 1244	+14°1690	27	42		14	16	79.0	0.35	9.8	9.8	05.32	Hu	1	
								78.6	0.32	..	..	05.81	A	1
1609	A 2871	+18°1653	27	48		18	33	112.9	4.08	8.1	12.2	14.61	A	3	
1610	A 2047	+46°1282	28	22		46	20	257.0	1.98	7.3	13.5	09.81	A	2	
1611	A 2872	+17°1601	28	34		17	20	103.8	2.24	9.0	13.0	14.49	A	2	
1612	J 281	Anon.	29	4		10	55	82.0	4.10	9.0	9.5	10.93	J	1	
								83.4	3.50	9.3	9.8	10.93	V	1	

1590—In 1915 the two observers noted the star hazy and not separated by the 28-inch. It is probable that the separation is much smaller than that measured.—J. An interesting but difficult pair.—Doo.

1605—The B.D. and A.G. give the magnitude 9.1. It seems much brighter.—J.

1606—This is double, but too close to measure.—Miller.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1613	A 29..	+ 9°1699	7	29	35	9	24	267.1	4.59	9.0	13.8	15.00	A	2
1614	A 29..	+ 11°1612		29	44	11	10	355.0	4.04	9.0	13.5	15.00	A	2
1615	A 2873	+ 12°1597	30	9		12	7	294.0	1.20	8.4	12.0	14.50	A	2
1616	J 372	Anon.	30	24		—	5 48	338.0	3.67	9.5	13.0	11.08	J	1
1617	A 2048	+ 47°1466	31	8		46	59	1.0	1.46	9.5	9.5	09.81	A	2
1618	E 1143	+ 48°1553	31	17		48	14	277.9	4.55	9.0	12.0	11.19	E	2
1619*	E 419 BC AB	+ 34°1641	31	27		33	53	125.6	3.58	10.0	10.7	07.07	E	3
								44.0	58.30	9.4	10.0	07.07	E	2
1620	A 2874	+ 18°1678	31	34		18	26	62.0	0.28	9.3	9.8	14.49	A	2
1621	A 2126	+ 44°1648	31	48		44	49	210.0	1.72	7.5	14.2	09.85	A	2
1622	A 1577	+ 54°1164	32	17		54	44	16.2	0.40	9.5	9.5	07.77	A	2
1623	J 1258	Anon.	32	25		3	19	230.8	0.65	10.0	11.5	16.18	J	1
1624	J 63	+ 2°1717	32	35		2	8	149.9	1.46	8.9	8.9	10.21	J	2
								159.4	1.26	8.5	8.9	13.17	Doo	4
								156.5	1.54	9.0	9.0	13.20	Dj	2
								157.7	1.33	8.9	8.9	13.20	J	2
								153.6	1.66	..	..	15.31	HF	1
1625	J 731	+ 3°1737	32	46		3	5	107.7	2.14	9.3	9.7	12.06	J	1
								109.3	2.30	9.3	9.6	12.06	V	1
								110.8	2.09	9.5	10.0	16.16	J	1
1626	J 64	+ 3°1743	33	44		3	25	176.4	3.39	9.3	9.7	10.20	J	2
								176.0	4.09	9.6	10.2	13.17	Doo	3
								171.8	3.64	9.0	9.6	16.18	J	1
1627	A 29..	+ 9°1724	33	50		9	41	299.8	0.56	9.5	9.5	15.00	A	2
1628	A 2875	+ 13°1722	34	12		13	12	316.0	0.82	9.5	9.5	14.50	A	2
1629	A 2529 AC AB=OΣ 176	+ 0°2026	34	24		0	41	336.6	3.09	7.4	13.2	13.16	A	2
								213.4	1.64	7.3	9.3	69.93	De	5
								211.4	1.63	7.5	9.5	13.15	A	1
1630	J 282	+ 3°1744	34	39		3	26	11.2	0.75	9.0	9.0	10.93	J	1
1631	A 2530	+ 3°1746	34	41		3	1	256.8	3.18	9.0	13.2	13.16	A	2
1632	E 1243	+ 46°1295	34	48		46	2	320.2	3.25	9.4	10.1	14.25	A	2
1633	A 2531	+ 1°1872	34	53		1	8	0.2	0.96	8.0	10.0	13.16	A	2
1634	A.G—	— 8°2015	35	28		—	8 30	316.6	2.18	8.7	8.8	05.15	A	2
1635	A 2532	+ 1°1873	35	36		1	28	34.8	0.30	9.1	9.6	13.16	A	2
1636	J 417	— 8°2022	36	23		—	8 45	355.9	1.91	9.5	11.5	11.28	J	1
1637	A 2049	+ 44°1659	36	30		44	24	160.4	1.60	9.1	10.8	09.84	A	2
1638	A 2740	— 12°2083	36	30		—	12 46	344.6	1.14	9.6	9.6	14.08	A	2
1639	A 2533	+ 0°2041	36	51		0	49	82.0	3.70	8.6	13.5	13.16	A	2
1640	A 1968	— 1°1798	37	0		—	1 13	69.1	0.29	9.4	9.5	09.25	A	3
1641	A 2876 AB AC=Σ 1129	+ 18°1713	37	6		18	14	196.7	0.83	8.8	10.3	14.52	A	2
								62.6	21.66	8.2	8.7	28.68	Σ	2
								63.6	21.50	8.8	9.2	14.24	A	1
1642	J 45	+ 9°1743	37	15		9	12	181.9	2.44	9.0	10.5	10.06	J	2
								185.0	1.87	9.2	10.8	13.93	Doo	3
1643	J 373	+ 6°1762	37	25		6	2	98.2	1.15	8.9	9.9	11.08	J	1
								100.3	1.23	9.0	10.3	11.08	V	1

1619—If this is +34°1641, in *M.N.*, vol. lxvii. page 495, for 7^h 28^m.2, 33° 56', read 7^h 30^m.0, 33° 54'.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1644	J 283	+ 3°1759	7	37	30	3	30	60.0	1.90	9.0	9.2	10.93	J	1
1645	A 2877	+12°1643		37	32	11	57	63.8	0.66	9.2	9.6	14.50	A	2
1646	Hu 1245	+13°1741		37	59	13	26	85.7	1.50	9.0	13.5	05.32	Hu	1
								85.4	1.45	..	11.0	05.81	A	1
1647	A 29..	-10°2166	37	59		-11	4	228.0	4.00	8.8	13.8	14.51	A	2
1648	A 2683	-10°2167	38	3		-10	13	116.4	1.56	9.0	9.8	13.94	A	2
1649	E 904	+51°1347	38	20		51	24	129.3	3.00	9.5	10.5	10.19	E	2
1650	A 29..	-12°2095	38	24		-12	42	116.2	1.44	9.0	13.0	15.22	A	1
1651	A 2741	-13°2176	38	24		-13	9	224.3	0.78	9.7	9.7	14.08	A	2
1652	Hu 1246	+13°1743	38	29		13	21	317.4	1.29	9.3	12.0	05.32	Hu	1
								314.9	1.19	..	..	05.81	A	1
1653	A 2534	+ 0°2054	38	59		0	23	207.8	0.64	6.5	8.5	13.16	A	2
1654	A 2535	+24°1763	40	5		24	31	267.7	1.48	8.6	13.5	13.22	A	2
1655	J 65	- 0°1798	40	9		- 1	4	207.0	1.11	9.2	10.2	10.22	J	2
								211.9	1.35	9.2	10.3	13.12	Doo	3
1656	E 420 BC AB	+29°1597	40	47		28	56	273.4	2.65	12.5	13.0	07.25	E	1
								118.1	60.79	8.7	12.5	07.25	E	1
1657	E 587	+46°1307	40	47		46	7	80.7	4.80	8.9	9.2	08.08	E	2
1658*	Hu 1247	+60°1082	41	4		60	30	36.3	0.15	8.0	8.0	00.93	Hu	1
								319.9	0.15	..	..	05.18	Hu	1
								313.3	0.22	..	..	05.86	A	1
1659	A 2878	+ 3°1786	41	14		3	3	285.2	0.30	9.7	9.7	14.45	A	2
1660	E 588	Anon.	41	33		47	28	304.2	2.15	9.5	9.8	08.08	E	3
1661*	J 189	- 5°2236	41	38		- 5	46	230.0	0.50	9.2	9.3	10.83	J	1
1662	A 1330	+53°1189	42	12		53	22	124.4	0.40	9.2	9.4	06.88	A	2
1663	J 707	+11°1672	42	16		11	17	122.0	1.81	9.0	9.0	11.95	J	1
								120.1	2.03	9.1	9.1	11.95	V	1
1664	A 1331	+54°1175	42	25		53	52	249.8	2.95	8.5	12.5	06.88	A	2
1665	A 2879	+ 2°1776	42	28		2	3	157.5	1.20	7.4	11.0	14.45	A	2
1666	J 418	Anon.	43	29		1	34	270.5	1.73	9.5	9.6	11.28	J	1
								271.2	1.64	9.5	9.6	11.28	V	1
1667	J 66	- 0°1825	43	37		- 0	44	196.4	2.36	9.2	11.5	10.24	J	2
								198.0	2.81	9.6	10.8	13.06	Doo	3
1668	A 2468	+41°1731	44	6		41	41	205.8	1.96	8.9	10.0	12.02	A	2
1669	A 2742	+ 2°1793	44	35		2	8	226.0	3.78	9.0	12.2	14.14	A	2
1670	J 413	Anon.	45	49		13	48	289.6	2.23	9.2	10.0	11.14	J	1
								290.1	2.20	9.2	10.0	11.14	V	1
1671	A 2743	+ 7°1843	46	20		7	3	169.9	0.66	9.1	9.6	14.25	A	2
1672	A 2880	+ 3°1818	46	36		3	29	182.2	0.17	7.3	7.3	14.45	A	2
1673	J 374	Anon.	47	39		10	50	255.4	4.78	9.2	11.0	11.09	J	1
								254.5	5.00	9.2	10.8	11.09	V	1
1674	J 1100	Anon.	48	38		17	45	244.5	2.09	10.0	12.0	15.07	J	1
1675*	A 2881	+16°1577	48	45		15	56	323.7	4.18	7.8	13.6	14.47	A	2

1658—The first observation is retained, though apparently erroneous, as the pair *may* be in rapid motion.—Hu. The B.D. magnitude is 7.0 and A.G. Helsingfors-Götha 5217 gives 6.8.—J.

1661—In *J.A.*, vol. i. page 94, for $-5^{\circ} 41'$ read $-5^{\circ} 46'$.—Doo.

1675—Magnitude: B.D. 7.8, A.G. 8.4.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs. n.
			h	m	s	°	'			°	"		
1676	A 29.. AB AB—C	+ 8°1904	7	48	53	8	23	49·8	0·30	9·2	10·4	15·05	A 2
									230·8	9·47	9·0	14·0	14·89	A 1
1677	J 419	Anon.	49	10	— 7	52		322·5	4·79	9·7	9·7	11·28	J 1
								323·3	4·90	9·7	9·7	11·28	V 1
1678	A 2536	+25°1788	49	47	25	25		304·8	0·84	9·4	9·8	13·18	A 2
1679*	J 803	Anon.	49	56	4	40		60±	3·54	9·4	9·4	12·06	J 1
								54·2	3·38	9·6	9·6	15·32	J 1
1680	J 67	+ 0°2124	50	25	0	28		47·3	3·28	9·4	9·4	10·23	J 2
								51·5	3·60	9·5	9·7	13·03	Doo 3
1681	E 906	Anon.	50	30	50	32		282·0	4·77	9·8	11·0	10·18	E 3
1682	E 905	+50°1490	50	33	50	30		240·7	3·14	9·3	12·0	10·18	E 4
1683*	A 29..	+10°1657	50	41	10	36		162·0	1·93	9·2	13·1	14·94	A 2
1684	A 2537	+24°1802	50	42	24	35		165·8	0·26	8·7	9·0	13·18	A 2
1685	A 2538	+24°1803	50	58	24	33		303·5	0·81	9·0	10·5	13·18	A 2
1686	J 1117	+23°1846	51	7	23	32		114·2	3·10	9·0	11·0	15·22	J 1
1687	A 2744	+ 7°1866	51	10	7	46		22·8	3·34	8·9	12·0	14·25	A 2
1688*	J 46	+13°1796	51	13	12	53		270·7	0·97	9·2	10·0	10·03	J 2
								284·0	1·12	9·1	12·0	13·11	Doo 4
								286·0	1·53	9·2	11·0	15·99	J 3
1689	A 2539 BC AB	—12°2208	51	14	—13	4		4·6	1·76	11·8	12·0	13·08	A 2
								324·0	10·52	8·1	11·8	13·08	A 1
1690	E 179	Anon.	51	40	37	56		..	4±	9·5	9·5	05·07	E 1
1691*	A 2882	+11°1717	51	56	11	5		215·3	1·86	7·3	14·0	14·85	A 2
1692	J 68	+ 1°1952	52	6	1	6		23·0	0·80	9·5	9·8	10·22	J 2
								24·2	1·08	9·3	9·8	13·08	Doo 3
1693*	J 69	+ 3°1844	52	11	3	37		270·8	1·34	9·2	11·8	10·24	J 2
								258·9	1·79	9·4	11·5	14·03	Doo 3
								254·6	1·39	9·1	11·0	16·10	J 1
1694	A 2883	+17°1711	52	29	17	12		14·6	0·92	9·2	9·8	14·49	A 2
1695	A 1578	— 9°2298	53	30	— 9	36		321·7	0·31	9·0	9·7	07·21	A 2
1696	A 1969 AB AC	— 0°1866	53	54	— 0	36		92·6	1·96	8·5	13·5	08·87	A 2
								255·2	11·60	8·5	14·0	08·88	A 1
1697	A 1579	— 6°2380	54	6	— 7	5		66·6	3·05	9·0	10·8	07·18	A 3
1698	A 2884	+17°1722	54	44	17	2		114·8	2·45	7·7	13·7	14·84	A 2
1699	J 70	+ 6°1841	54	50	6	33		305·8	1·91	8·3	10·1	10·21	J 2
								310·0	1·90	8·0	9·8	11·09	J 2
								308·0	1·92	7·8	10·8	11·57	V 2
								306·7	2·13	8·1	10·1	12·11	J 1
								308·3	2·23	8·1	10·4	13·13	Doo 4
								302·6	2·01	..	..	15·23	HF 1
1700	E 1325	Anon.	55	15	45	5		355·6	2·75	9·4	10·1	14·18	E 3
1701	A 2885	+16°1605	55	42	16	10		75·0	2·10	9·3	12·5	14·84	A 2

1679—There is an 11th mag. at 100°.—J.

1683—A star 8·9 mag. is in the field 3^s26 fol. 17"·2 north.—A. These are the differences of coordinates between B.D. +10°1657 and +10°1658 as given in A.G.—J.

1688—Considerably more difficult than would be inferred from the description. A decided increase in angle is indicated.—Doo.

1691—Magnitude: B.D. 7·3, A.G. 8·2.—A.

1693—A large change. Forms with a 9·5 mag. star an E. and W. pair.—Doo.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1702	Doolittle	+ 6°1845	7	55	51	6	47	312.0	1.23	9.3	10.0	13.13	Doo	3
1703	A 29.. AB	+10°1694		56	6	10	8	355.8	0.44	9.0	9.0	15.14	A	2
	AB—C							42.0	3.46	8.5	12.5	15.14	A	2
1704	A 29..	+11°1734		56	24	10	56	7.2	0.65	8.5	11.5	15.24	A	3
1705	A 2745	-11°2195		56	31	-11	13	325.9	0.62	9.8	9.8	14.08	A	2
1706	A 2540	+24°1826		56	43	24	8	163.6	1.32	7.8	13.0	13.18	A	2
1707	J 732	Anon.		57	50	10	22	191.0	2.70	9.4	9.4	12.12	J	1
								187.6	2.91	9.5	9.6	12.12	V	1
1708	A 1580	- 8°2186		57	53	- 8	22	132.8	0.30	7.4	8.8	07.24	A	3
1709	A 2469	+41°1777		58	21	40	57	50.0	1.41	9.2	10.0	11.91	A	2
1710	A 2746	+ 1°1977		58	23	1	39	287.2	1.12	9.0	13.2	13.97	A	2
1711	A 29..	+10°1710		58	53	10	10	170.7	4.61	8.1	13.8	15.14	A	2
1712	A 2050 AB	+47°1522		58	59	47	31	291.2	0.23	8.5	8.5	09.80	A	2
	AB—C=Σ 1174							215.0	5.67	8.0	8.5	30.91	Σ	3
								212.8	5.48	8.0	8.2	09.81	A	1
1713	A 1581	- 6°2423		59	11	- 6	11	189.7	0.28	9.6	9.6	07.26	A	2
1714	A 2470	+43°1768	8	0	1	43	35	131.8	2.02	8.6	11.5	12.08	A	3
1715	A.G—	+28°1543		0	10	28	41	104.3	2.66	9.0	9.3	04.27	A	2
								106.9	2.65	9.0	9.5	05.17	Mil	2
1716	A 2747	-12°2312		0	20	-12	45	228.9	0.30	9.7	9.7	14.08	A	2
1717	J 1001	Anon.		0	30	5	45	165.0	3.65	9.6	9.6	12.18	J	1
								159.0	3.13	9.7	9.7	13.14	J	1
								157.8	3.38	9.7	9.7	13.14	Dj	1
								159.8	3.44	10.0	10.0	15.32	J	1
1718	E 423	+34°1741		0	40	34	48	289.9	3.21	8.5	10.4	07.07	E	3
								292.2	2.92	8.7	11.7	11.55	A	2
1719	A 2748	-12°2313		0	42	-12	43	103.7	1.25	8.9	12.0	14.08	A	2
1720	A 1332	+56°1266		0	45	56	49	31.9	4.96	9.0	13.7	05.95	A	2
1721	A 1333	+54°1200		0	52	54	21	248.4	0.19	8.5	8.5	06.83	A	3
1722	A 1582	- 7°2340		1	3	- 8	5	44.4	1.16	9.6	9.8	07.21	A	2
1723	A 1970	- 0°1902		1	29	- 0	44	349.8	0.33	9.0	10.0	08.87	A	2
1724	J 733	- 3°2205		1	33	- 3	32	147.1	2.11	9.5	9.7	12.07	J	1
								144.8	1.99	9.4	9.8	12.07	V	1
1725	A 1583	- 9°2361		1	35	- 9	42	182.4	4.12	8.1	13.3	07.24	A	3
1726	A 1334	+56°1267		1	40	56	41	245.5	4.94	9.0	13.2	05.92	A	2
1727	A 2541	+26°1718		1	40	26	7	343.0	0.73	8.6	10.0	13.22	A	3
1728	E 591	+45°1536		1	55	45	26	48.2	1.62	9.4	9.6	08.08	E	2
1729	A 1971	- 0°1904		1	58	- 0	32	104.6	0.35	9.0	9.1	08.97	A	3
1730	J 420	+ 2°1871		2	4	2	15	183.2	1.84	9.3	9.3	11.28	J	1
1731	A 29..	+ 9°1873		2	39	9	7	58.6	0.54	9.4	10.8	15.19	A	3
1732	J 1002	Anon.		3	0	12	0	121.6	1.99	9.3	9.5	13.14	J	1
								115.8	2.22	9.4	9.6	13.14	Dj	1
1733	Hu 1248	+51°1392		3	6	51	39	139.3	1.23	8.2	14.0	04.70	Hu	1
								141.5	0.99	..	13.0	05.81	A	1
1734*	E 425	+25°1854		3	31	25	47	257.2	4.52	8.1	12.5	07.22	E	3
								263.2	4.92	8.1	13.0	13.18	A	2

1734—Measured by Aitken as A 2542. In *Lick. Obs. Bul.* 240, for 8^h 2^m 38^s read 8^h 2^m 18^s.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900 +	Obs.	n.	
			h	m	s	°	'							
1735	J 71	+ 6°1877	8	3	34	5	55	321.9	2.72	9.2 10.1	10.24	J	2	
									321.5	3.31	9.2 9.9	13.13	Doo	3
1736	A 2749	-11°2244	3	47		-11	58	115.2	0.29	9.7 10.2	12.18	A	3	
1737	A 1335	+56°1269	3	53		56	3	198.4	1.43	7.7 11.3	06.00	A	3	
1738	A 1744	+45°1544	4	16		44	54	300.4	3.46	8.6 10.5	07.86	A	2	
1739	J 375	+12°1780	4	29		12	27	129.7	4.65	9.2 9.2	11.09	J	1	
									129.0	4.72	9.2 9.3	11.09	V	1
1740	J 734	+ 8°1979	4	37		8	4	236.2	2.21	9.3 9.6	12.07	J	1	
									234.2	2.04	9.5 9.5	12.07	V	1
1741	J 376	Anon.	4	51		12	16	284.2	1.27	9.2 9.6	11.09	J	1	
									283.3	1.45	9.2 9.5	11.09	V	1
1742	A 1972	- 1°1964	4	58		- 1	33	4.1	1.41	8.7 10.2	09.02	A	2	
1743	A 2886	+ 0°2205	5	29		- 0	4	271.0	3.43	9.0 12.0	14.50	A	2	
1744*	Hu 1122	+38°1876	6	14		38	22	166.3	2.69	9.0 10.0	05.25	Hu	2	
									165.7	2.50	8.5 9.1	06.18	E	2
1745	J 414	Anon.	6	52		- 1	16	64.0	2.42	9.5 9.5	11.14	J	1	
									66.1	2.31	9.5 9.5	11.14	V	1
1746	A 2361	-12°2375	6	58		-12	12	258.5	1.40	9.4 10.2	11.22	A	3	
1747	A 2543	+16°1658	7	17		16	21	71.8	1.66	8.4 11.7	13.27	A	2	
1748	E 592	+41°1799	7	37		41	48	327.4	2.72	8.6 9.9	08.31	E	3	
1749	A 2471	+26°1742	7	49		26	28	239.6	0.54	8.8 10.2	11.87	A	2	
1750	J 421	Anon.	8	5		- 1	35	277.7	2.50	9.6 9.8	11.28	J	1	
1751*	A 2544	+16°1663	8	28		16	2	323.4	1.24	9.0 12.0	13.27	A	2	
1752*	Fox 13 AB	+26°1747	8	52		25	58	151.6	1.70	.. ..	14.97	Fox	2
									67.8	21.87	14.90	Fox	1
1753	A 2887	+ 1°2030	9	23		1	8	293.5	0.44	9.0 11.0	14.51	A	2	
1754	J 377	Anon.	9	52		7	13	37.8	1.47	9.4 10.0	11.07	J	1	
1755	J 72 AB	+ 0°2231	10	31		0	14	114.6	2.63	9.3 9.4	10.22	J	2	
									116.3	2.64	9.5 9.9	14.03	Doo	3
	AC							121.6	30.96	9.5 10.1	14.02	Doo	2	
1756	A 29..	+ 8°2013	11	14		7	54	286.8	0.56	8.2 11.5	15.25	A	2	
1757	E 593 BC	+41°1810	11	20		41	8	208.2	4.70	9.4 9.6	08.24	E	2	
									230.2	19.82	8.5 9.4	08.24	E	2
1758*	E 293	+32°1705	11	44		32	31	214.6	4.76	9.0 9.4	06.22	E	2	
									215.6	4.04	8.5 9.0	06.30	WB	1
									215.9	4.19	8.5 9.0	07.36	WB	1
									212.8	4.82	8.8 9.2	11.27	WB	2
1759	J 379	- 4°2274	12	1		- 4	23	53.3	1.60	9.2 9.5	11.08	J	1	
1760	A 29..	+11°1808	13	14		11	6	266.2	0.76	9.0 10.8	15.20	A	2	
1761	J 422	Anon.	13	15		- 0	42	76.2	4.20	9.6 10.0	11.14	J	1	
1762	A 2888	+ 4°1946	13	28		4	10	309.9	0.28	9.6 9.6	14.84	A	2	
1763	A 2889	+ 2°1926	13	43		2	43	45.0	0.24	8.5 9.7	14.51	A	2	
1764	A 2362	+41°1813	13	54		41	8	177.3	0.53	9.2 9.4	11.32	A	3	

1744—Measured by Espin as E 292. In *M.N.*, vol. lxvi, page 430, for +38°3876 read +38°1876.—J.

1751—In *Lick Obs. Bul.* 240, for 8^h 7^m 2^s, read 8^h 7^m 20^s.—A.

1752—In *Annals of the Dearborn Observatory*, vol. i, page 224, Fox does not give any magnitude but simply notes that A and B are equal. The B.D. magnitude of +26°1747 is 9.4. J. Herschel gave: 75°±, 15"±, 9-11, 1820+.—J.

1758—Measured as an anonymous pair by Bowyer. The B.D. magnitude is 9.5.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1765	A 2890	+ 1°2059	8	14	23	0	58	339.7	0.40	9.2	9.8	14.51	A	2
1766*	E 908	+ 53°1235	14	52		53	43	328.1	2.45	9.4	10.7	10.26	E	2
1767	E 1388	+ 43°1803	15	2		43	1	176.8	3.72	9.5	14.0	15.24	E	3
1768	A 1745 Cc	+ 47°1566	15	27		47	40	29.0	0.37	9.5	10.0	07.86	A	2
	A—Cc=OΣ 190							167.1	38.66	7.0	8.5	67.99	De	3
	AD=Hu 224							168.0	38.63	8.0	9.3	07.86	A	1
								314.8	4.32	8.0	12.0	98.92	Hu	3
	AB=OΣ 190							316.7	4.09	8.0	12.0	07.86	A	1
								278.5	78.01	7.0	7.5	67.99	De	3
								280.4	78.11	..	..	98.27	Hu	3
1769	Hu 1250	+ 50°1532	15	59		50	36	182.7	0.73	8.5	10.0	04.70	Hu	1
								181.0	0.67	9.0	11.0	05.81	A	1
1770	A 2891	+ 6°1932	16	8		5	55	217.5	0.94	9.0	12.5	14.87	A	2
1771	A 2363	+ 40°2031	16	10		40	27	341.1	1.21	8.5	13.2	11.32	A	3
1772*	A 2364	+ 43°1811	16	22		43	30	227.9	0.36	9.4	10.4	11.32	A	3
1773	J 397	+ 5°1938	16	39		5	37	333.4	3.42	8.9	10.0	11.13	J	1
								331.4	3.33	8.9	10.0	11.13	V	1
1774	J 380	+ 8°2040	18	19		8	4	195.8	3.02	9.0	9.0	11.07	J	1
								196.3	3.12	9.0	9.1	11.07	V	1
								195.2	3.18	9.0	9.0	13.22	J	1
								195.8	3.03	9.0	9.0	13.22	Dj	1
1775	A 29..	+ 8°2045	19	28		7	48	48.3	0.22	9.2	9.5	15.06	A	2
1776*	A 29..	+ 11°1830	19	33		10	53	259.3	0.98	6.5	11.5	15.25	A	2
1777	E 594	+ 43°1820	19	59		43	32	183.0	2.48	9.2	12.0	08.11	E	3
1778	E 426	+ 28°1597	20	0		28	43	284.0	4.85	9.0	9.2	07.25	E	1
1779	A 1336	— 1°2036	21	29		— 1	51	224.2	4.56	9.0	10.5	06.14	A	2
1780*	J 73	+ 8°2054	21	40		8	7	211.2	2.97	8.3	11.5	10.21	J	2
								212.3	3.61	8.2	10.6	11.14	V	2
								209.4	3.54	8.0	10.5	11.14	J	2
								213.7	3.87	8.2	11.5	13.97	Doo	3
								214.3	4.25	..	..	15.24	HF	2
								211.7	3.36	8.3	11.0	16.20	J	2
1781*	A 1746 BC	+ 25°1920	21	56		24	46	140.7	0.18	8.0	8.1	08.29	A	3
	A—BC=Σ 1224							37.3	5.84	6.0	7.1	30.76	Σ	9
								43.0	5.68	6.7	7.5	08.30	A	2
1782	A 2545	+ 16°1731	23	30		16	34	189.8	2.71	8.6	13.2	13.00	A	2
1783	A 2892	+ 7°1981	24	4		7	3	17.8	0.80	9.0	10.8	14.87	A	2
1784	A 1337	+ 59°1172	24	27		59	36	231.5	2.84	9.0	11.2	06.03	A	2
1785	A 1747	+ 46°1409	24	53		46	8	49.4	0.58	8.8	9.2	07.86	A	2
1786	A 2893	+ 5°1983	25	52		5	29	9.7	0.66	9.0	9.0	14.87	A	2
1787	A 1338	— 0°2005	26	44		— 0	31	27.4	3.36	9.0	10.5	06.14	A	2
								28.6	3.40	9.1	9.8	15.30	J	1
1788	J 381	+ 14°1912	26	56		13	47	308.7	2.60	8.8	11.5	11.09	J	1
								307.5	2.48	8.8	11.2	11.09	V	1

1766—If this is B.D. + 53°1235, in *M.N.*, vol. lxx, page 542, for 8^h 11^m.7 read 8^h 13^m.3.—J.

1772—In *Lick Obs. Bul.* 204, for 8^h 14^m 54^s, read 8^h 14^m 59^s.—A.

1776—21 *Cancri*: magnitude 6.29 in Harv. Phot.—A. This is No. 782 of Krüger's *Catalogue of Coloured Stars*.—J.

1780—Increase in distance is indicated.—Doo. The increase is not confirmed by the observations of 1916.—J.

1781—*v*¹ *Cancri*: the proper motions are for A 0°108 in 222°0; B 0°081 in 210°2.—Auwers.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1789	J 1066	Anon.	8	27	35	0	14	144.8	2.57	9.6	11.2	14.29	J	1
									140.8	2.87	9.6	11.3	14.29	V
1790	A 2894	+ 5°1990	27	43		5	16	343.4	0.94	8.5	12.0	14.87	A	2
1791*	J 416 AB	- 3°2380	27	47		- 3	31	192.2	0.27	8.9	9.1	11.14	J	3
								185.3	0.25	8.9	9.1	11.20	V	1
								..	0.2±	9.2	9.2	15.30	J	2
								100±	5±	..	15.0	11.14	J	1
								102.5	5±	..	15.0	15.30	J	2
	AB—C							100±	5±	..	15.0	11.14	J	1
								102.5	5±	..	15.0	15.30	J	2
1792	A 2895	+ 10°1820	28	41		10	14	61.2	0.80	9.5	9.5	14.87	A	2
1793	A 2365	- 12°2573	29	18		- 12	41	104.7	1.30	9.6	9.7	11.26	A	3
1794	E 1389	+ 43°1829	29	31		43	17	170.3	4.03	9.7	11.7	15.20	E	3
1795	A 2896	+ 11°1870	29	36		10	52	342.8	1.93	7.8	13.0	14.87	A	2
1796	A 2366 BC	- 13°2593	30	3		- 14	7	47.0	0.48	10.5	11.0	11.26	A	3
								138.6	66.1±	8.8	10.0	11.23	A	1
	A—BC							138.6	66.1±	8.8	10.0	11.23	A	1
1797	Barnard	Anon.	30	59		19	55	163.4	4.65	10.2	10.6	08.11	Bar	2
1798	A 1339	- 8°2417	31	6		- 9	8	196.0	1.81	9.0	11.0	05.47	A	2
1799	J 1007	+ 10°1835	32	28		10	4	238.8	3.80	9.3	10.5	10.12	J	1
								233.8	4.00	9.0	9.9	13.27	J	1
								234.4	3.98	9.2	10.2	13.27	Dj	1
								155.8	2.84	9.0	12.0	10.18	A	2
1800	A 2127	+ 24°1963	33	29		23	58	155.8	2.84	9.0	12.0	10.18	A	2
1801*	A 29..	+ 6°2003	33	42		6	41	253.0	1.94	9.0	13.2	14.87	A	2
1802	A 1748	+ 46°1420	34	46		46	34	343.4	0.52	9.2	10.5	08.20	A	2
1803	A 2128	+ 41°1866	34	57		41	33	120.6	1.66	9.0	11.8	10.31	A	2
1804	J 1008	+ 0°2356	35	17		0	2	19.3	2.92	9.3	9.4	13.25	J	2
								18.0	2.97	9.3	9.4	13.26	Dj	1
1805	A 2129	+ 42°1909	35	26		42	5	301.4	0.78	9.4	9.8	10.27	A	2
1806	A 2897	+ 4°2012	35	40		4	30	54.8	0.83	9.4	9.6	14.86	A	3
1807	A 1749	+ 44°1776	35	43		44	9	288.0	0.48	10.0	10.0	08.20	A	2
1808	A 2750	+ 1°2147	36	32		1	4	327.2	1.00	9.4	11.0	14.03	A	2
1809	A 29..	+ 7°2016	37	11		7	7	260.2	3.24	9.1	10.0	14.86	A	2
1810*	J 1110	+ 25°1973	37	23		25	18	38.0	3.13	9.1	9.3	10.06	J	1
1811	A 1750	- 0°2044	37	54		- 0	52	227.2	0.22	8.9	8.9	08.20	A	2
1812	J 382	+ 9°2032	37	59		9	14	41.0	3.83	8.7	10.0	11.08	J	1
								44.4	4.02	8.7	10.0	11.08	V	1
1813	A 1751	- 0°2045	38	3		- 0	51	127.2	0.40	9.1	9.4	08.20	A	2
1814	A 1752	+ 44°1780	38	29		44	21	100.5	0.22	9.2	9.5	08.30	A	3
1815	A 2546	+ 17°1920	39	10		17	12	215.2	0.68	9.4	9.6	13.22	A	2
1816	A 2751	+ 5°2042	39	43		5	25	10.7	1.16	9.2	11.5	14.32	A	2
1817	A 2898	+ 5°2043	39	50		5	11	86.8	1.58	8.8	13.8	14.68	A	3
1818	A 2547	+ 3°2040	39	51		3	3	118.6	0.24	9.1	10.0	13.11	A	2
1819	A 2472	+ 16°1806	39	55		16	13	97.2	0.67	9.1	9.1	12.85	A	2
1820	A 1753	+ 45°1630	40	16		45	23	264.4	0.63	10.0	10.0	08.29	A	2
1821	Hu 1251	+ 15°1890	40	45		15	41	279.0	0.70	9.0	10.5	05.17	Hu	1
								278.5	0.60	..	..	06.29	A	1

1791—The duplicity of this pair could not be verified with the 28-inch. The position angle was measured 152°4 on one night and 75°5 on the other. The 15th mag. component likewise could not be measured in distance.—J.

1801—Magnitude: 9.3 in B.D., 8.7 in A.G. Leipzig II. 4703.—A.

1810—Noted double in A.G. Cambridge 4660.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1822*	A 553	+29°1821	8	41	4	29	19	70.4	2.44	9.0	12.3	03.16	A	3
									72.4	2.50	9.0	10.2	07.18	E	2
1823	A 2548	+0°2380	41	18		0	5	8.4	0.28	9.0	9.2	13.11	A	2
1824	A 2130	+25°1983	41	19		25	39	14.2	0.70	7.8	11.3	10.15	A	3
1825	J 1067	+1°2159	41	21		1	21	194.6	1.70	9.2	10.0	14.29	J	1
								189.0	2.08	9.2	10.3	14.29	Dj	1
1826	J 735	+8°2113	41	52		8	6	158.4	2.77	8.6	8.6	12.12	J	2
								157.2	2.57	8.7	8.7	12.12	V	2
								156.3	2.09	8.7	8.7	13.20	J	2
								155.2	2.45	8.8	8.8	13.20	Dj	2
								156.4	2.13	8.7	8.9	14.33	J	1
1827	E 596	+46°1436	42	26		45	50	201.9	2.86	8.8	9.1	07.86	E	2
								201.3	2.65	8.6	9.0	08.10	E	3
1828	A 2549	+1°2164	42	31		0	53	44.0	4.75	8.8	13.0	13.06	A	2
1829	E 294	+36°1873	44	3		36	27	162.5	1.70	9.0	9.2	06.11	E	2
								160.2	1.70	..	..	07.28	WB	2
1830	E 295	+35°1874	44	4		35	16	306.8	3.58	9.1	11.5	06.74	E	3
1831	A 2550	+3°2058	44	26		3	22	225.1	0.59	9.2	10.0	13.06	A	2
1832	A 2551	+3°2059	44	27		2	55	46.4	0.20	9.0	9.8	13.11	A	2
1833	A 2552	+1°2174	44	33		1	15	79.2	0.26	8.5	8.5	13.11	A	2
1834	J 383	-4°2460	45	2		-4	50	323.4	3.30	9.2	9.3	11.09	J	1
								322.5	3.15	9.4	9.4	11.09	V	1
1835	A 2899	+4°2051	45	12		3	59	355.6	1.55	8.3	13.5	14.60	A	2
1836*	Roe 33	..	45	43		6	55	86.6	4.50	10±	11±	10.26	Roe	1
1837	A 2473	+18°2057	46	9		18	19	324.8	0.27	7.7	7.7	12.87	A	2
1838	J 74	+1°2181	46	10		1	43	103.2	3.14	9.5	9.6	10.22	J	3
								98.2	3.54	9.4	9.7	13.07	Doo	3
								100.6	3.69	9.5	9.5	16.28	J	2
								82.4	1.94	8.6	8.7	12.16	V	1
								84.8	1.92	8.6	8.7	12.16	J	1
1839*	Vanderdonek 3	+8°2131	46	24		8	9	88.8	1.88	9.6	9.7	15.10	A	3
								92.5	2.04	..	..	15.31	HF	1
								91.7	2.16	9.0	9.2	16.22	J	3
								82.4	1.94	8.6	8.7	12.16	V	1
								84.8	1.92	8.6	8.7	12.16	J	1
1840	A 1584	+55°1297	47	10		55	16	348.0	0.28	8.1	8.1	07.13	A	3
1841	Roe 34	+11°1930	47	32		11	37	347.3	2.88	..	..	10.23	Roe	1
								347.9	3.56	9.6	11.1	10.34	Fox	3
1842	A 2474	+17°1963	48	0		16	47	247.0	0.31	9.4	10.0	12.87	A	2
1843*	A 2900	+5°2074	48	10		5	39	294.8	0.76	7.3	10.8	14.61	A	2
1844	J 75	+2°2082	49	1		1	55	30.9	3.09	8.7	12.0	10.21	J	2
								34.5	3.70	8.6	11.5	13.16	Doo	3
								30.9	3.55	8.8	11.0	16.25	J	2

1822—Measured by Espin as E 427.—J.

1836—In *Popular Astronomy*, vol. xviii. page 356: "Found 1 April, 1910. 12⁸⁶ preceding and 3'6" north of a 7^m.7 star which is B.D. +11°2037."—Roe. From the place used here as given by Roe for the pair, it appears that it cannot be the comparison star B.D. +11°2037 (9.5) which is at 9^h 22^m, 10°46', but B.D. +7°2037 would agree with the place if we neglect to subtract the 12⁸⁶ from the R.A. of the B.D. star.—J.

1839—There may be an increase in angle. The B.D. magnitude is 9.2, but this star appears as bright as Leipzig II. 4783 of A.G. 8.5. Found independently by Aitken in 1915.—J. This star is at least as bright as B.D. +8°2130 (9.0).—A.

1843—B.D. 7.3. The magnitude is 6.1 in A.G. Leipzig II. 4853. It is certainly much fainter.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	"				
1845	A 29..	+11°1936	8	49	9	11	28	32.0	1.13	8.7	12.5	15.06	A	2	
1846	A 2752	+5°2076		49	13	5	31	229.2	4.98	9.0	11.2	14.36	A	2	
1847	A 2553	+17°1968		49	42	17	29	308.4	3.32	8.6	13.5	13.09	A	2	
1848	A 2554	+2°2088		49	43	2	8	142.8	0.28	8.0	10.2	13.11	A	2	
1849	A.G—	+17°1972		50	4	16	56	237.2	1.31	9.2	9.3	12.87	A	1	
1850	A 1754	-1°2154		50	9	—	2	10	113.0	0.47	9.1	9.1	08.07	A	3
1851*	A 2131 AB	+26°1865		50	11	26	32	254.6	0.32	6.9	8.0	10.15	A	3	
								265.0	0.45	7.0	9.0	15.14	J	1	
	AB—C=Ho 357							8.2	31.06	6.5	13.0	92.29	Ho	2	
								7.1	37.10	6.2	12.5	04.12	Doo	4	
								4.2	39.79	6.7	12.0	10.13	A	2	
1852	A 29..	+11°1938		50	12	11	7	148.2	4.14	8.8	13.4	15.06	A	2	
1853	A 2132	+42°1944		50	26	42	0	201.7	0.19	7.6	7.7	10.07	A	3	
1854	E 911	Anon.		50	37	50	48	123.6	2.52	9.8	10.6	10.18	E	4	
1855*	A 2555	+16°1853		50	42	16	31	219.0	1.20	9.3	12.0	12.98	A	2	
1856	A 29..	+11°1943		51	6	10	58	0.7	4.86	9.0	12.8	15.08	A	2	
1857	E 1390	+43°1865		51	16	43	22	190.7	1.51	9.4	9.7	15.25	E	2	
1858	A 2133	+42°1866		51	30	42	47	184.0	1.28	9.4	10.5	10.17	A	2	
1859	A 29..	+11°1947		52	46	11	3	315.9	1.12	9.0	9.0	15.14	A	2	
1860	A 1973	+27°1696		53	23	26	53	109.8	1.04	8.9	10.8	09.11	A	3	
1861	A 1974	+25°2017		53	57	25	42	256.9	0.28	8.8	9.1	09.11	A	3	
1862	A 1975	+26°1877		55	14	26	45	82.1	3.49	7.3	14.0	09.11	A	3	
1863	A 29..	+11°1956		55	45	10	56	353.2	2.86	9.0	13.2	15.14	A	2	
1864*	J 76	+9°2103		56	0	9	36	266.5	2.74	9.3	11.7	10.22	J	2	
								261.9	4.29	9.3	12.2	14.03	Doo	3	
								263.0	2.83	9.4	11.0	16.18	J	1	
1865	J 744	+5°2095		56	48	5	37	247.0	1.00	9.2	9.9	12.24	J	1	
								257.2	1.65	9.3	10.0	15.32	J	1	
								261.7	1.58	9.3	11.0	16.25	J	2	
1866	A 1755	-1°2183		57	21	—	2	13	117.6	1.04	8.5	12.8	08.03	A	2
1867	A 1340	-6°2787		57	23	—	6	31	0.0	0.49	8.4	10.5	05.58	A	2
1868*	A 2753	+2°2126		57	37	2	31	47.4	1.89	8.6	11.8	14.03	A	2	
1869*	A 1585	+47°1633		58	11	47	28	283.2	0.21	4.0	4.2	07.83	A	3	
1870	J 384	Anon.		59	11	—	3	17	186.4	1.58	9.2	9.5	11.08	J	1
								191.8	1.63	9.5	10.0	16.18	J	1	
1871	A 29..	+6°2095		59	58	6	5	341.7	0.33	9.4	9.4	14.82	A	2	

1851—The measures of AC show that the stars are separating at the rate of $0''.46$ in 350° . Ristenpart gives the P.M. of the large star as $0''.43$ in 173° . The change is therefore due to the rapid common P.M. of AB, which will become an interesting system. Burnham measured AC on three nights in 1907 with the 40-inch, and did not observe the duplicity of the large star. In 1915 it was an easy object with the 28-inch.—J.

1855—This pair is $68''.5$ in $306^\circ 4$ from a star 8.4 magnitude.—A.

1864—Doolittle's observation probably belongs to another pair which must be close by, and which I once measured: $260^\circ 4$ $4'' 49, 9.3-11.0$.—J.

1868—The magnitude is 8.3 in A.G. Albany 3640. The star is certainly brighter than 8.8 given in B.D.—A.

1869— κ *Ursæ Majoris*. The annual proper motion of this pair is $-0''.0038$ and $-0''.06$ in Dec.—Re-reduction of Groombridge.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
1872	J 77	+11°1978	9	0	45	10	49	138.8	0.81	8.8	8.8	10.20	J	3	
									140.6	0.80	8.7	8.7	11.28	V	1
									139.1	0.71	8.7	8.7	11.29	J	2
									143.1	1.34	8.6	8.9	12.08	V	1
									136.2	1.10	8.6	8.7	12.68	J	2
									142.4	1.08	8.6	8.6	13.26	Dj	1
									143.3	1.16	8.8	9.1	13.99	Doo	4
									139.3	0.97	15.24	HF	1
			1873	J 385	Anon.	0	57		—	3 59	161.5	3.28	9.2	11.0	11.09	J	1
									163.4	2.81	10.0	11.3	16.18	J	1
1874	E 599	+41°1915	1	14		41	27	137.3	3.02	9.0	11.8	08.15	E	2	
1875	A 1976	+42°1969	3	7		42	30	138.4	3.14	9.1	12.4	08.84	A	2	
1876	J 1009	+12°1970	3	7		11	56	261.3	0.69	8.5	9.8	08.98	A	3	
									80±	3±	9.4	9.7	10.12	J	e
									78.8	3.27	9.2	9.7	13.30	J	1
								71.0	3.88	9.5	10.5	15.32	J	1	
1877	A 2134	+22°2058	3	55		22	0	36.9	0.65	9.1	11.5	10.32	A	2	
1878	A 1586	+45°1685	4	37		45	21	287.3	2.79	9.0	10.5	07.81	A	2	
1879	A 2475	+16°1913	5	11		16	25	242.3	0.22	9.6	9.6	12.22	A	2	
1880	J 424	+ 0°2467	5	36		0	32	134.0	0.95	8.8	9.5	11.26	J	2	
									133.8	1.01	8.8	9.7	11.26	V	2
									139.0	0.98	8.8	9.0	13.23	J	1
									138.0	1.09	8.8	9.0	15.26	J	1
									136.0	1.03	15.31	HF	1
											123.3	1.83	11.5	12.5	06.13	E	2
1881	E 296 BC AB	+36°1932	7	26		36	42	174.2	19.88	8.2	11.5	06.13	E	2	
1882	A 1977	+27°1722	7	41		27	12	169.3	0.23	9.5	9.5	09.30	A	2	
1883	A 2135	+20°2287	8	19		20	21	349.4	1.22	9.0	11.2	10.32	A	2	
1884	A 29..	+11°1996	8	37		11	0	42.8	1.33	8.0	11.0	15.06	A	2	
1885	A 1978	+26°1912	8	57		25	46	341.5	0.32	8.8	9.2	09.30	A	3	
1886	J 415	Anon.	9	48		9	26	58.6	3.80	9.5	9.6	11.11	J	2	
									58.7	3.75	9.5	9.5	11.11	V	2
									57.0	3.80	9.7	9.7	15.32	J	1
1887	A 1979	+24°2063	10	46		24	6	254.5	0.29	8.6	9.2	09.30	A	3	
1888	A 2136	+23°2067	10	51		23	8	118.4	1.87	7.7	13.8	10.34	A	2	
1889	A 2754	+ 6°2135	11	5		6	21	25.4	0.83	9.2	10.0	14.19	A	2	
1890	A 1980	+25°2069	11	14		24	51	228.3	1.48	8.7	13.1	09.30	A	2	
1891	A 1981	+41°1942	11	57		41	0	332.0	0.34	9.3	9.8	09.24	A	2	
1892	A 1982	+41°1943	12	3		40	58	291.7	0.26	9.6	9.9	09.24	A	2	
1893	A 1756	— 0°2166	12	4		—	0 38	152.0	1.04	8.7	12.7	08.24	A	2	
1894	A 1983	+25°2073	12	7		24	58	231.4	1.25	8.5	10.0	09.30	A	2	
1895	J 804	Anon.	12	14		4	16	271.5	3.40	9.4	10.0	12.07	J	1	
1896	A 2137	+21°2003	12	38		20	50	312.3	1.07	9.1	12.0	10.33	A	3	
1897	J 745	— 7°2774	13	11		—	8 6	209.0	2.53	9.0	10.0	12.27	J	1	
1898	A 2556	+ 3°2185	13	59		3	5	318.5	0.95	9.5	9.8	13.23	A	3	
1899	A 1757	— 0°2173	14	0		—	1 2	102.9	1.36	9.0	10.5	08.24	A	2	
1900	A 29..	+11°2009	14	40		11	17	356.8	0.66	8.0	11.2	15.13	A	3	

No.	Name.	R.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
1901	A 1984	+24°2070	9	15	0	24	36	318.0	0.30	9.0	9.5	09.30	A	2
1902	A 29.. BC AB	+ 8°2207	16	26		8	30	139.9 236.8	0.74 29.05	10.8 9.0	13.0 10.8	15.18 15.06	A A	2 1
1903	A 2476	Anon.	16	26:		15	58:	162.6	0.46	10.2	10.7	12.32	A	2
1904	A 1758	+46°1493	17	7		46	37	299.6	0.48	10.0	10.0	08.27	A	2
1905	E 717	+51°1501	17	33		51	6	309.0	4.42	9.0	13.2	09.28	E	4
1906	A 29..	+ 8°2211	18	18		7	46	265.5	1.40	8.8	13.2	15.14	A	2
1907	A 1760	- 0°2184	18	27		0	44	146.1	1.74	8.0	11.3	08.27	A	3
1908	A 1759	+45°1713	18	35		45	2	326.3	1.32	8.8	12.5	08.29	A	3
1909	J 386	+10°1987	18	54		10	29	27.1 25.7 26.0 25.4 25.6	1.35 1.10 0.87 1.10 1.01	8.8 8.8 8.7 8.8 ..	8.8 8.8 8.7 8.8 ..	11.07 11.60 12.11 15.26 15.31	J V J J HF	1 2 1 1 1
1910	A 1342	- 9°2816	18	56		9	30	28.6	0.15	7.0	7.0	06.22	A	3
1911	A 1341	+54°1297	19	20		53	44	47.8	2.01	8.0	12.2	06.06	A	2
1912	A 1761	- 0°2186	19	25		0	46	213.5	1.07	8.9	10.0	08.27	A	3
1913	A 2477	+18°2182	20	3		18	29	235.6	0.31	7.0	8.5	12.38	A	2
1914	E 297	+39°2241	20	8		39	6	40.1	3.60	8.6	10.7	06.15	E	2
1915	A 1343	+54°1301	20	26		54	5	324.1	0.50	9.0	9.5	06.06	A	2
1916	E 298 AB CD AC	+39°2242	20	41		38	58	308.7 169.9 318.9	7.89 3.71 92.17	8.8 10.0 8.8	11.2 11.0 10.0	06.17 06.17 06.17	E E E	2 2 2
1917	A 1587	- 8°2669	21	19		8	46	109.2	0.92	8.9	11.2	07.21	A	2
1918	J 425 AB AC BC Bb	- 2°2882	22	27		2	34	186.8 186.5 185.2 243.3 243.3 239.0 269.6 188.4	2.27 2.10 2.29 4.13 4.40 .. 3.38 2.77	9.3 9.4 9.4 9.3 9.4 9.4 9.5 9.5	9.5 9.6 9.5 9.6 9.6 10.0 10.0 13.0	11.26 11.26 15.26 11.26 11.26 15.26 15.26 15.26	J V J J J J J J	2 1 1 2 1 1 1 1
1919	A 1762	+45°1723	22	32		45	17	129.3	0.66	9.2	9.3	08.29	A	3
1920	A 2755	+ 6°2175	22	36		6	19	124.4	1.55	9.0	13.0	14.31	A	2
1921	J 388	+11°2039	23	14		11	14	350.0 351.8 351.8	4.52 4.52 4.97	7.8 8.2 7.9	11.0 11.0 10.9	11.07 15.26 16.25	J J J	1 1 2
1922*	A 1588 AB AB-C= β 590	- 8°2678	23	20		8	52	182.8 176.8 175.4	0.17 10.80 10.79	7.2 6.8 6.7	7.2 11.7 12.5	07.21 78.17 07.21	A β A	2 2 2
1923*	J 387	Anon.	23	32		1	27	358.8 362.0	3.60 3.80	9.5 9.5	9.7 10.0	11.08 11.08	J V	1 1
1924	A 29..	+ 8°2225	23	40		8	39	99.2	1.37	8.5	12.2	15.19	A	3
1925	A 1985	+42°2016	24	56		42	37	34.8	0.80	8.0	8.0	09.30	A	2
1926	A 1763	- 0°2201	24	58		0	54	106.0	1.60	6.7	11.0	08.29	A	2

1922—29 *Hydrae*. The annual proper motion is 0".068 in 268°3, and in this Burnham's companion also shares.—A.
1923—This pair is 52^s f. A.G. 166 : 68°, 3'3, 9.0-11.0.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h	m	s	°	'						
1927	A 1764	+46°1517	9	25	25	46	25	199.6	0.32	8.9 10.0	08.33	A	3
1928	E 299 BC AB	+35°2017		27	5	34	52	217.1	4.78	11.2 11.5	06.26	E	2
								0.0	55.87	9.0 11.2	06.26	E	2
1929	Barnard	+14°2107	28	7		14	6	193.2	1.70	9.3 11.0	08.99	Bar	2
1930	E 300	+35°2021	28	46		35	31	142.4	2.04	9.2 10.3	06.27	E	2
1931	A 2756	+9°2200	29	0		9	32	357.6	1.24	8.4 11.2	14.37	A	2
1932	A 2478	+17°2105	30	19		16	48	29.0	0.86	9.0 10.5	12.30	A	3
1933	A 2757	+5°2198	30	40		5	37	176.5	0.30	9.0 10.0	14.35	A	2
1934	A 1986	-0°2217	30	49		-1	1	167.0	0.28	9.8 9.8	09.23	A	2
1935	E 719	+50°1662	31	37		50	23	258.2	4.55	9.3 11.5	09.28	E	2
1936	A 2758	+5°2205	32	22		5	25	41.6	0.34	8.6 10.2	14.35	A	2
1937	A 1765	+46°1528	32	41		46	16	303.9	0.16	8.3 8.3	08.33	A	3
1938	A 2479	+16°2000	33	15		15	49	257.6	0.28	9.2 9.7	12.28	A	2
1939*	A 2557	+2°2229	33	33		2	4	57.3	1.30	7.2 12.0	13.22	A	2
1940	E 429	+31°2017	33	47		31	13	10.8	3.82	9.5 9.5	07.24	E	2
1941	A 2558	+0°2536	33	49		0	3	322.9	1.48	8.0 11.5	13.22	A	2
1942	A 2759	+8°2249	34	9		8	5	152.7	1.76	7.7 13.0	14.37	A	2
1943	A 1987	-1°2285	34	15		-1	48	70.8	0.62	10.0 10.0	09.23	A	2
1944	J 78	+3°2244	34	44		3	4	209.0	3.18	9.4 11.2	10.23	J	3
								209.1	3.56	9.5 11.0	12.22	Doo	3
								206.6	3.02	9.4 10.5	13.25	J	1
								207.0	3.15	9.3 10.8	13.25	Dj	1
								205.8	3.25	9.5 10.2	16.21	J	2
1945	A 2051	+42°2034	34	47		41	57	199.6	0.25	9.5 9.7	09.41	A	4
1946	A 2052	+27°1795	36	33		27	28	316.0	4.89	8.7 12.2	09.38	A	2
1947	A 2480	+18°2246	36	40		18	18	325.8	1.08	8.5 12.3	12.31	A	3
1948	E 600	+50°1673	36	51		49	43	71.6	3.65	9.0 13.5	08.15	E	2
1949	A 2481	+18°2247	37	6		18	15	49.0	0.32	9.2 9.7	12.29	A	2
1950	Hu 1252	+39°2272	37	10		39	37	183.4	0.57	8.2 12.0	04.95	Hu	1
								181.1	0.66	.. ..	06.30	A	1
1951	E 301	+40°2245	37	46		40	40	236.4	4.23	8.7 10.7	06.19	E	2
								238.2	4.69	9.0 11.0	09.37	A	1
1952	A 2559	+2°2239	38	7		2	41	257.8	4.06	8.0 12.7	13.22	A	2
1953	A 2760	+6°2203	38	35		6	13	225.6	1.28	9.0 12.0	14.34	A	2
1954	A 2761	+6°2206	39	17		6	35	239.9	0.56	9.0 9.0	14.34	A	2
1955	A 2053	+41°2000	39	27		41	9	76.6	0.83	9.0 11.0	09.40	A	3
1956	A 2138	+41°2002	40	14		41	32	225.5	2.84	8.6 14.5	10.18	A	2
1957	E 601	+46°1549	42	18		46	15	287.5	3.47	9.0 9.2	08.12	E	2
								288.2	3.04	9.7 9.7	08.32	A	2
1958	E 1244	+43°1965	45	22		43	8	227.2	2.05	9.1 10.1	14.27	E	2
1959	A 1344	-9°2935	45	33		-10	11	180.1	0.27	9.4 9.6	06.22	A	3
1960	A 2560	+2°2253	45	54		2	10	3.8	0.84	8.8 9.5	13.19	A	2

1939—A.G. Albany 3831 P.M. —.80084, +.037.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs. n.
1961*	J 83	+ 4°2253	h m s 9 46 21	° ' ° 3 59	53.6	1.59	9.3 9.5	10.22	J 2
					50.9	1.63	9.1 9.2	11.30	J 2
					50.1	1.65	9.3 9.3	11.30	V 2
					55.4	2.16	9.1 9.2	12.07	J 1
					54.6	2.21	9.1 9.4	12.07	V 1
					53.2	1.66	10.0 9.7	13.05	Doo 3
					50.6	2.09	9.2 9.2	15.26	J 1
1962	A 29..	+ 4°2256	46 41	4 4	249.7	0.24	9.5 9.5	14.22	A 1
1963	A 2139	+ 41°2020	47 20	41 20	281.8	1.58	7.8 10.2	10.18	A 2
1964	E 602	Anon.	47 50	48 31	32.9	2.95	10.4 11.1	08.26	E 3
1965	A 2561	+ 3°2277	47 54	3 11	142.3	0.22	9.0 9.5	13.23	A 2
1966	A 2762	+ 8°2281	47 58	8 29	293.2	1.60	8.5 12.0	14.36	A 2
1967	A 2140	+ 40°2270	48 14	39 42	66.0	0.96	9.1 10.2	10.18	A 2
1968	E 1393	+ 42°2059	48 37	42 35	215.4	3.41	9.5 14.0	15.25	E 3
1969	A 2763	+ 7°2206	50 40	7 33	127.5	1.91	8.3 12.2	14.30	A 2
1970	J 746	- 7°2921	50 50	- 7 34	281.8	1.67	8.9 9.5	12.27	J 1
					286.8	1.85	8.9 9.6	12.27	V 1
1971	J 426	+ 4°2264	52 0	3 51	209.1	3.04	8.7 8.7	11.26	J 2
					209.9	3.12	8.8 8.8	11.26	V 2
					207.8	2.86	9.0 9.0	15.26	J 1
1972	E 720	+ 50°1701	52 25	50 41	90.8	3.07	9.3 12.7	09.29	E 2
					92.9	2.55	9.5 12.0	10.14	E 2
1973	A 1766 AB AB-C	- 0°2272	53 2	- 0 58	144.3	0.43	9.3 9.5	08.26	A 3
					13.7	14.70	.. 14.0	08.26	A 2
1974*	A 1345	- 9°2967	53 8	- 9 0	226.6	3.92	8.4 11.7	06.22	A 3
1975	A 1767	- 1°2329	53 40	- 1 35	12.8	1.63	7.4 11.0	08.26	A 3
1976	A 1346	+ 53°1375	53 47	53 38	150.7	0.42	8.5 9.2	06.96	A 2
1977	A 2562	+ 1°2388	54 53	0 51	111.4	1.60	8.8 11.2	13.32	A 2
1978	A 2482	+ 16°2055	55 33	16 33	21.5	0.69	8.8 9.6	12.25	A 2
1979*	A 2141	+ 43°1986	56 58	43 11	174.2	4.76	8.8 10.5	10.13	A 2
					169.9	5.55	8.8 9.7	13.34	E 3
1980	A 1347	+ 58°1232	57 57	57 55	23.0	0.39	8.6 9.7	06.85	A 3
1981	Hu 1253	- 14°3005	58 21	- 14 39	95.0	0.35±	7.5 9.1	05.17	Hu 1
					97.8	0.44	.. ..	06.95	A 1
1982	A 2142	+ 41°2050	10 0 52	41 26	308.3	0.59	7.5 8.6	10.05	A 3
1983	E 430	+ 29°1992	1 9	29 41	170.8	1.45	9.4 9.7	07.23	E 4
1984	A 2563	+ 0°2613	3 8	0 39	143.8	1.29	9.1 11.2	13.32	A 2
1985	E 431 BC AC AB	+ 27°1852	3 37	27 10	198.7	3.95	10.5 10.6	07.28	E 2
					347.3	41.87	8.0 10.6	07.25	E 1
					351.6	44.20	8.0 10.5	07.32	E 1
1986	A 2564	+ 8°2322	4 3	8 26	273.0	0.64	9.5 9.5	13.41	A 2
1987	A 1988	+ 26°2051	4 35	25 55	186.0	0.76	9.0 9.1	09.21	A 3
1988	A 2143	+ 42°2090	4 40	41 50	124.6	0.93	9.4 9.7	10.14	A 3
1989	A 2144	+ 21°2155	4 44	21 40	285.4	2.72	9.1 11.6	10.35	A 2

1961—Doolittle observed the fainter star in the opposite quadrant.—J.

1974—This is not A.G. Vienna 3855 given in *Lick Obs. Bul.* No. 109, but 3853. The first star is 30' less in Declination than that given.—J.

1979—Measured by Espin as E 1245.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
1990	A 2145	+21°2156	10	4	55	20	44	195.3	0.15	7.3	7.3	10.36	A	3
1991	A 2367 BC AB	+17°2178		5	45	16	46	81.6 84.6	1.26 61.30	10.0	10.5	11.44	A	2
1992	A 1989	+24°2189	6	8		24	16	283.9	3.30	7.8	14.4	09.21	A	3
1993	A 2565	+ 8°2327	6	42		8	5	249.4	0.76	8.4	11.0	13.41	A	2
1994	A 2368	+16°2092	6	49		15	55	169.2	0.64	8.8	11.2	11.39	A	2
1995	A 2146	+22°2190	7	41		21	42	180.1	0.19	9.3	9.5	10.36	A	3
1996	A 2764	+ 6°2272	8	59		5	53	356.4	1.18	9.0	10.7	14.14	A	2
1997	A 2566	+ 0°2633	10	43		0	7	82.7	1.44	9.0	10.2	13.33	A	2
1998	Hu 1254	+12°2176	10	54		12	17	41.7 38.2	0.61 0.58	9.2	9.5	05.17 06.29	Hu	1
1999*	Fox 14	Anon.	11	11		25	27	184.6	3.25	10.7	11.0	10.47	Fox	3
2000	A 1348 BC AB=h 1176	+58°1245	11	19		58	1	204.8 320.2 318.5 318.4	1.70 10± 8.90 8.95	9.1	12.2	06.86 28+ 02.29 06.82	A	2
2001	A 2147	+40°2311	11	39		40	26	249.4	0.85	8.7	9.4	10.14	A	3
2002*	A 2148	+23°2204	12	29		22	53	173.4	0.66	9.6	9.7	10.36	A	2
2003	J 1126	+12°2184	13	2		12	34	306.4 305.1	2.41 2.01	9.2	9.6	15.35 16.24	J	1
2004	A 2149 AB AC	+20°2460	13	23		20	24	303.4 201.0	1.38 9.99	8.2	14.0	10.36 10.35	A	2
2005	A 2369	+17°2197	13	39		17	35	293.6	0.96	8.2	10.5	11.39	A	2
2006	A 2765	+ 8°2340	13	57		8	29	222.3	0.27	10.0	10.0	13.86	A	2
2007*	A 1349 BC AB	+59°1299	15	25		59	0	166.2 164.3 192.9	2.58 2.76 27.49	9.0	12.0	06.86 09.90 09.90	A	2
2008	E 916	Anon.	16	6		48	48	326.8	2.97	10.2	10.2	10.19	E	2
2009	E 917	+49°1954	18	21		49	7	146.5	2.26	9.0	9.3	10.20	E	4
2010	A 1990	+27°1884	18	57		26	54	288.4 291.0	1.17 1.05	9.1	9.1	09.22 12.30	A	2
2011	A 1991	+27°1885	19	7		26	42	355.4	1.93	9.5	9.5	09.22	A	2
2012*	J 1010	+ 1°2431	19	33		0	45	300± 308.6 305.8 304.5	3± 3.15 2.90 3.83	9.0	12.5	10.12 13.26 13.26 13.40	J	e
2013	E 721 AB AC	+54°1373	19	57		53	53	131.3 285.5	3.69 33.88	9.0	12.5	09.28 0.928	E	4
2014	E 432	+33°1988	21	5		33	2	160.4	2.52	9.3	9.6	07.23	E	2
2015	A 2568	+ 1°2433	21	7		1	25	183.3	0.36	9.3	9.6	13.40	A	2
2016	A 2150	+43°2014	21	19		43	11	324.7	2.38	9.0	11.5	10.17	A	2
2017	E 302	+37°2077	21	36		36	52	348.4	2.63	9.2	10.7	06.17	E	2

1999—In *Annals of the Dearborn Observatory*, vol. i. page 224, it is noted that this pair is *nf*. B.D. +25°2222. There are no comparisons, and the coordinates given are those of the B.D. star.—J.

2002—In *Lick Obs. Bul.* 184, for B.D. +23°2208 read B.D. +23°2204.—Doo.

2007—AB is the wide pair formed by AG Heli-Gotha: 6297-98.—J.

2012—Measured by Aitken as A 2567. It is identified as A.G. Nic. 3049 in *J.A.*, vol. ii. page 15, and as Albany 4024 in *Lick Obs. Bul.* 240. The two identifications refer to the same B.D. star.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitud.-s.	1900+	Obs.	n.
			h	m	s	°	'						
2018	A 1992	+46°1629	10	21	42	46	27	183.3	0.33	8.7 9.2	09.30	A	3
2019	A 2570	+ 3°2365	21	51		3	20	329.8	0.40	8.0 8.0	13.40	A	2
2020	A 2569	+ 8°2359	21	52		8	27	316.5	2.00	8.8 12.8	13.41	A	2
2021	A 2151	+32°2031	22	34		32	8	93.5	0.96	9.8 10.2	10.18	A	2
2022	A 1993	+46°1631	23	54		46	22	45.5	0.46	8.6 9.2	09.30	A	3
2023	A 2152	+35°2147	24	23		35	17	1.0	0.39	9.1 9.2	10.18	A	3
2024	E 1395	+43°2022	24	36		42	58	76.0	4.35	9.0 10.0	15.25	E	2
2025	J 747	- 2°3152	25	0		- 2	57	252.0	2.98	9.3 10.0	12.27	J	1
								247.9	3.21	9.2 10.3	12.27	Van	1
								250.2	2.94	9.4 10.4	16.29	J	2
2020	A 2766	+ 6°2311	25	11		6	40	318.1	1.00	7.9 13.0	14.19	A	2
2027	E 1150	+46°1634	25	2.		45	56	306.5	2.74	9.3 10.8	12.28	E	4
2028	A 2153	+32°2037	25	44		31	50	189.7	3.14	8.9 12.8	10.18	A	2
2029	E 1151	+44°1992	26	0		44	39	301.2	2.80	9.5 9.6	12.29	E	3
2030	J 736	Anon.	26	10		15	9	201.7	2.49	9.1 9.4	12.12	J	1
								200.1	2.50	9.0 9.0	12.12	V	1
								203.2	2.30	9.3 9.3	15.32	J	1
2031	A 1350	- 1°2399	27	18		- 2	2	323.0	2.60	9.1 9.4	06.18	A	2
2032	J 737	+15°2214	27	18		15	0	110.8	2.29	8.8 9.2	12.12	J	1
								111.4	2.21	8.9 9.5	12.12	V	1
								114.4	2.30	9.0 9.8	15.32	J	1
2033	A 1994	+47°1785	27	36		46	56	79.6	1.47	8.5 11.0	09.30	A	2
2034	A 2054	+46°1639	29	11		46	37	204.2	0.26	9.1 9.1	09.42	A	3
2035	A 2767	+ 7°2324	29	13		7	30	16.2	2.77	8.7 12.5	14.36	A	2
2036	β -	+12°2224	29	18		11	45	205.3	2.59	8.5 8.5	78.28	β	1
								201.5	2.49	9.4 9.6	05.11	Doo	3
								204.3	2.35	9.5 9.5	05.41	β	1
2037	E 918	Anon.	29	54		47	3	183.3	3.53	10.6 10.8	10.24	E	5
2038	Hu 1338	+22°2236	30	2		22	1	180.8	3.64	7.6 13.7	10.30	A	2
	AC= Σ 1448							259.8	10.75	7.0 9.0	73.13	De	2
2039	A 2154	+32°2055	31	22		32	12	117.3	0.48	9.4 9.5	10.24	A	2
2040	A 2571 BC	+ 3°2392	31	41		2	58	100.6	0.30	9.8 10.4	13.35	A	2
	A-BC= Σ 1452							329.7	10.06	9.0 9.1	32.66	Σ	5
								327.6	10.34	9.0 9.2	13.34	A	1
2041	A 2055 AB	+45°1844	31	46		44	55	129.9	0.45	8.5 8.5	09.42	A	3
	CD							77.3	4.97	13.0 13.0	09.40	A	1
	AB-C							36.9	11.34	8.0 13.0	09.40	A	1
2042	J 84	+ 1°2461	32	3		1	6	57.7	0.62	8.3 8.3	10.31	J	2
								58.4	0.59	8.1 8.1	11.26	J	5
								58.2	0.63	8.1 8.1	11.26	V	4
								56.8	0.67	8.4 8.4	12.07	J	1
								55.6	0.71	8.4 8.4	12.07	V	1
								60.1	0.67	8.6 8.7	12.25	Doo	4
								61.2	0.54	8.7 8.7	15.21	J	1
								57.0	0.70	.. ..	15.24	HF	1
								65.6	0.57	8.8 8.6	16.24	J	1
2043	E 1152	+45°1845	32	9		45	29	348.5	3.57	9.3 9.4	12.27	E	2

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs. n.
			h	m	s	°	'			°	'		
2044	A 1768	+26°2106	10	33	38	25	54	80.9	2.10	8.7	11.7	08.24	A 3
								78.6	2.65	8.5	12.0	15.35	J 1
2045	Doolittle	-12°3222	34	8		-12	32	332.7	2.06	9.1	9.9	05.88	Doo 6
2046	J 79	+8°2389	35	17		7	51	148.2	1.69	8.3	9.2	10.21	J 2
								145.5	1.53	8.2	9.2	11.24	J 3
								146.3	1.53	8.2	9.2	11.24	V 3
								148.0	1.50	8.4	9.0	12.07	J 1
								145.3	1.68	8.5	9.4	12.07	V 1
								146.1	1.56	8.1	8.7	12.23	Doo 3
								147.2	1.81	8.2	9.0	15.32	J 1
2047	Hu 1255	-13°3182	35	21		-14	5	71.5	0.44	9.2	9.2	04.40	Hu 1
								80.5	0.51	..	10.0	06.35	A 1
2048	A 1589	+55°1403	36	1		54	44	170.4	3.82	9.0	13.3	07.19	A 3
2049	A 1351	-1°2422	36	35		-1	46	23.5	0.45	9.3	9.5	06.24	A 3
2050	A 2483	+17°2263	37	52		16	42	220.9	1.80	9.0	10.5	12.25	A 2
2051	E 1246	+43°2039	37	55		43	29	56.5	3.67	9.3	9.7	14.30	A 2
2052*	A 2768	+4°2375	38	30		4	0	270.6	0.38	8.0	9.5	14.36	A 2
2053	A 2769	+5°2383	39	0		5	5	232.6	0.42	9.0	10.5	14.34	A 2
2054	J 89	-3°2981	39	20		-3	27	90±	3±	9.1	10.5	10.3±	J e
								86.1	3.77	9.0	9.9	11.27	J 2
								86.0	3.76	9.1	10.1	11.27	V 2
								86.4	4.03	9.5	10.8	12.24	Doo 3
								31.6	0.40	8.8	12.0	14.34	A 2
2055	A 2770	+4°2377	40	25		4	28	31.6	0.40	8.8	12.0	14.34	A 2
2056	E 1397	Anon.	40	27		40	48	140.1	4.43	9.8	12.5	15.33	E 2
2057	A 2771	+6°2343	40	30		5	55	208.7	0.75	9.1	9.1	14.34	A 2
2058*	E 604	+45°1865	41	49		45	36	52.7	1.82	10.6	11.4	08.25	E 2
2059	E 1247	+43°2046	43	19		43	21	281.8	2.72	9.1	9.6	14.25	E 2
2060	A 2572	+2°2359	44	42		1	50	117.2	0.62	9.0	9.5	13.27	A 2
2061	A 2155	+40°2374	45	5		40	14	358.4	1.04	8.8	12.2	10.27	A 2
2062	A 2370	+17°2280	45	16		16	56	331.0	2.53	9.5	10.5	11.39	A 2
2063	A 2371	+18°2410	45	29		18	31	318.4	2.50	9.6	9.9	11.33	A 2
2064	A 2372	+16°2175	46	47		16	29	71.8	0.25	8.0	9.4	11.37	A 3
2065	J 80	+7°2377	47	28		7	0	215.9	3.29	8.8	9.5	10.23	J 2
								217.1	4.01	8.7	9.3	11.24	J 3
								217.3	4.07	8.7	9.5	11.24	V 3
								217.9	4.03	8.8	9.6	12.22	Doo 3
								219.0	4.35	8.9	9.4	12.24	J 1
								218.8	4.00	8.9	9.5	12.24	V 1
								216.8	3.62	9.0	9.5	15.26	J 1
2066	A 2373	+16°2180	47	48		16	32	222.8	0.19	8.7	8.7	11.37	A 3
2067	A 2772	+9°2423	47	49		9	30	97.4	1.98	8.3	12.5	14.36	A 2
2068	A 1352	+58°1286	48	5		58	8	31.6	1.32	9.0	12.0	06.10	A 2
2069*	A 2773	+5°2412	48	26		5	26	28.6	1.02	7.8	9.5	14.36	A 2

2052—The magnitude in the A.G. Catalogue is 6.9, but my estimates agree more closely with the B.D. value 7.7.—A.

2058—The star is so faint that it is surprising it is in the B.D.—E.

2069—B.D. 7.3. The magnitude in A.G. Catalogue is 8.0.—A.

No.	Name.	R.D.	R.A. 1920.			Decl 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.		
			h	m	s	°	'								
2070	J 90 AB AC	- 6°3257	10	49	5	- 7	17	230±	3.5±	9.3 9.3	10.3±	J	e		
			239.2	4.18	9.2 9.2	11.27	J	2							
			239.5	4.20	9.2 9.2	11.27	V	2							
			237.1	4.01	9.3 9.5	13.16	Doo	3							
			200±	..	9.3 12.0	10.3±	J	e							
			191.3	11.54	9.2 12.0	11.27	J	2							
			190.9	11.80	9.2 12.0	11.28	V	1							
			190.3	10.69	9.3 11.8	13.16	Doo	3							
			2071	A 2374	- 10°3146	49	42	- 10	59	182.2	0.48	9.0 11.2	11.25	A	2
			2072	A 1769	+ 26°2146	49	58	26	33	262.6	0.59	9.5 9.5	08.24	A	3
2073	A 1770 AB AB-C	- 10°3159	53	31	- 10	39	249.0	0.42	8.7 9.0	08.30	A	2			
							2.3	4.47	8.4 9.0	08.30	A	2			
2074	A 1771	- 11°2982	53	40	- 12	3	351.7	0.65	9.5 9.8	08.30	A	2			
2075	A 2375	+ 17°2301	54	14	17	38	132.5	0.51	9.6 9.6	11.40	A	3			
2076	A 2774	+ 10°2230	55	23	10	22	94.3	1.42	7.5 12.5	14.36	A	2			
2077	A 1772	- 13°3266	55	33	- 14	4	210.6	3.74	9.3 10.0	08.30	A	2			
2078*	E 921	+ 47°1836	55	48	47	3	175.5	2.70	9.5 10.0	10.25	E	2			
2079	A 2376	+ 20°2541	56	1	19	52	5.9	0.25	9.8 9.8	10.93	A	2			
2080	A 1995	+ 46°1684	56	49	46	8	309.9	0.76	10.0 10.0	09.30	A	2			
2081	E 1398	Anon.	58	32	40	59	335.5	2.72	9.4 13.3	15.34	E	3			
2082	A 1590	+ 55°1439	58	46	54	58	262.3	0.42	8.7 9.3	07.19	A	3			
2083	J 1262	Anon.	59	21	19	17	179.3	1.74	9.6 9.6	16.32	J	2			
2084	A 1774	- 10°3184	59	30	- 10	53	269.4	3.66	6.0 10.5	08.30	A	2			
2085	J 427	Anon.	59	39	16	29	100.9	3.73	9.5 9.7	11.26	J	1			
							101.5	3.60	9.5 9.8	11.26	V	1			
							101.2	3.65	9.6 9.7	16.29	J	2			
							47.8	1.99	8.6 10.8	08.26	A	2			
2086*	Lewis	+ 24°2308	59	52	23	49	50.2	2.50	8.5 10.5	06.23	L	2			
2087	A 1591	+ 55°1440	11	0	52	55	15	118.2	0.17	8.9 9.0	07.26	A	3		
2088	A 2378	+ 17°2312	1	5	17	3	128.7	0.70	9.5 9.6	11.41	A	4			
2089	A 2573	+ 0°2739	2	3	- 0	15	108.7	2.92	9.0 11.0	13.36	A	2			
2090	J 1123	+ 11°2309	2	10	11	34	221.0	3.11	9.2 15.0	15.29	J	1			
2091	A 1775	+ 27°1979	2	13	27	19	43.2	0.37	8.8 9.5	08.26	A	2			
2092	J 81	+ 10°2252	3	49	10	38	143.0	1.93	8.8 8.9	10.21	J	2			
							140.5	1.89	8.8 8.9	11.22	J	2			
							140.3	1.85	8.8 8.8	11.22	V	2			
							142.9	2.01	9.0 9.0	12.16	J	2			
							142.7	2.06	8.9 9.0	12.16	V	2			
							140.8	1.78	9.3 9.8	12.23	Doo	4			
							139.4	2.06	8.9 9.0	16.21	J	2			
							60.3	4.88	9.0 11.2	10.22	E	3			
2093	E 922	+ 49°2022	4	15	48	41	286.6	0.66	8.8 10.0	14.37	A	2			
2094	A 2775	+ 10°2255	5	39	10	36	108.4	1.24	9.2 9.8	10.24	J	2			
2095	J 82	+ 11°2318	5	50	11	20	110.9	1.79	9.4 9.9	12.23	Doo	3			
							113.8	2.05	9.3 9.7	12.28	J	1			
							111.7	2.05	9.3 9.6	12.28	V	1			
							110.4	1.95	9.3 9.8	15.26	J	1			

2078—In *M.N.*, vol. lxx. page 543, for 47° 15' read 47° 9', as Espin confirms B.D. +47°1836.—J.

2086—Measured by Aitken as A 1773.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
2096	A 2156	+35°2219	h m s 11 7 42	° ′ 35 27	• 256·8	0·33	7·8 8·7	10·30	A	2
2097	J 1011	+ 5°2461	8 43	5 20	80±	2·5±	9·3 9·4	10·32	J	e
					74·2	2·55	8·9 9·3	13·30	J	2
					75·1	2·75	9·0 9·2	13·30	Dj	2
					71·6	2·71	8·9 9·3	15·32	J	1
2098	A 1353	+56°1508	8 57	55 52	199·6	0·49	7·7 8·4	06·16	A	3
2099*	Σ 1518 rej. BC	Anon.	10 15	5 41	352·2	3·40	9·7 9·9	01·26	β	3
					355±	3±	9·5 9·5	10·16	J	e
					352·8	3·37	9·4 9·7	13·29	J	1
					353·4	3·32	9·5 9·7	13·29	Dj	1
					355·6	3·25	9·6 9·8	13·29	J	1
	AB				256·4	103·50	7·5 9·7	01·23	β	2
2100	A 2157	+32°2125	11 56	32 3	0·1	1·00	8·7 12·0	10·30	A	2
2101	E 305	+35°2230	13 3	34 54	31·8	3·83	9·1 9·5	06·26	E	3
2102	A 2158	+42°2192	13 3	42 13	351·8	0·51	8·5 9·0	10·29	A	2
2103	A 2379 BC	+17°2339	14 7	16 54	257·0	0·40	10·3 11·0	11·37	A	2
	AB				51·8	20·50	9·2 10·0	11·37	A	2
2104	J 748	Anon.	16 1	— 3 30	248·6	1·98	9·5 9·0	12·28	J	1
					245·0	1·75	9·6 10·0	12·28	V	1
					253·4	1·87	9·5 9·6	15·21	J	1
2105	A 1846	+44°2081	16 10	43 50	346·9	1·82	8·2 11·5	08·35	A	2
2106	J 1013	+ 5°2486	17 19	5 7	260±	2±	9·2 13·0	10·32	J	e
					257·2	2·00	9·2 14·0	13·29	J	1
2107	A 1847	+46°1717	17 27	45 46	326·2	1·52	7·7 14·0	08·35	A	2
2108	A 2776 AB	+ 4°2454	18 56	4 34	273·9	0·17	8·9 8·9	14·30	A	2
	AB—C				60·8	6·00	8·3 13·2	14·30	A	2
2109	A 2574	+ 2°2420	20 20	2 21	63·5	1·79	9·0 12·0	13·35	A	2
2110	Olivier 12	..	20 :	— 10 3 :	117·6	1·35	9·5 10·3	07·44	O	1
2111	A 1592	+52°1563	21 29	52 35	63·7	4·32	7·1 13·8	07·31	A	2
2112	A 2575	+ 8°2505	22 22	8 32	328·7	0·42	9·7 9·7	13·39	A	3
2113	A 1354	+56°1519	22 45	55 40	128·2	1·12	7·7 11·2	06·30	A	3
2114	A 1848	+44°2091	23 19	44 36	35·6	0·86	9·2 9·2	08·35	A	2
2115	A 1355	+56°1521	23 42	56 7	359·6	1·44	7·7 12·2	06·30	A	3
2116	J 1014	Anon.	23 47	8 54	7·6	4·30	9·2 9·8	13·32	J	1
					9·0	4·02	9·4 9·8	13·32	Dj	1
					16·4	4·06	9·8 10·6	15·32	J	1
2117	A 2484	+23°2355	25 57	23 3	174·6	0·43	9·0 11·0	12·38	A	3
2118	E 1399	+42°2213	26 0	41 42	302·3	3·14	9·7 9·8	15·28	E	2
2119*	J 85	+ 3°2513	27 16	3 31	162·6	5·63	8·0 12·0	09·50	Fox	4
					163·9	3·89	7·2 14·0	10·34	J	2
					161·3	4·43	7·3 13·6	13·18	Doo	3
					167·4	4·73	7·0 13·5	15·21	J	1
					164·2	5·07	7·4 13·9	16·25	J	1

2099.—Measured by Jonckheere as J 1012.—Doo. The place of the pair is given here, and not of the principal Struve star 2' *nf.*—J.

2119—Fox observed this pair with the 40-inch. The measure was not published till June 1916. I specially noted in 1910 that the pair did not seem to me wider than β_{340} : $7^{\circ}, 4''\cdot 2, 8\cdot 2-10\cdot 0$, and that it was one magnitude brighter than the Burnham star 1^m 24^s *pr.* and 8'*n.*—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2120	E 605	+48°1953	11	28	6	48	5	64.5	4.17	8.9	13.7	08.26	E	2
2121	A 1593	+56°1525		28	28	55	52	253.3	3.96	8.4	10.2	07.18	A	2
2122	E 1400	+41°2202		28	35	41	33	180.5	2.82	9.4	13.0	15.32	E	2
2123*	A 2576 AB	+10°2303		28	59	10	4	201.0	0.48	9.0	11.8	13.39	A	2
	CD=J 428							255.1	4.00	9.7	10.4	11.31	J	2
								254.8	4.16	9.9	10.7	11.32	V	1
								260.5	4.07	12.0	13.0	13.39	A	2
	AB—C							237.3	32.20	8.9	12.0	13.39	A	2
2124	J 86	+4°2496		30	15	4	34	94.1	1.69	8.8	9.9	10.32	J	2
								94.6	1.81	8.6	9.6	11.30	J	3
								93.6	1.98	8.6	9.8	11.30	V	3
								91.3	2.12	8.8	9.8	12.24	Doo	3
								93.1	1.70	8.7	9.8	12.30	J	1
								93.6	2.08	8.7	9.8	12.30	V	1
2125	J 1015	Anon.		30	18	0	6	242.1	3.04	9.8	10.1	13.26	J	2
								244.3	2.92	9.7	9.8	13.26	Dj	2
2126	A 2159	+34°2233		30	44	34	14	268.9	0.19	9.5	9.4	10.30	A	3
2127	A 2777	+4°2501		32	9	3	44	90.4	3.64	7.5	13.2	14.36	A	2
2128*	A 1996	+41°2210		32	52	41	6	181.6	1.66	9.2	9.2	09.21	A	3
								179.3	1.74	..	..	11.68	Dob	3
								189.1	1.55	..	..	13.36	Boh	1
2129	A 2577	+9°2526		35	18	9	23	277.6	0.26	9.6	9.6	13.41	A	3
2130	A 2578	+1°2597		36	18	1	23	140.1	0.88	7.3	12.0	13.40	A	2
2131	Roe 73	—5°3329		36	20	—5	39	360.2	3.38	9.8	10.5	11.32	Roe	3
								359.1	3.44	9.8	10.2	11.45	Fox	3
2132	A 1356	—1°2556		36	50	—2	21	270.8	1.31	8.7	10.8	06.36	A	2
2133*	J 87	+5°2526		36	51	5	24	124.0	1.52	7.9	12.5	10.32	J	2
								127.7	1.60	7.5	11.0	11.34	J	1
								127.5	1.55	7.6	11.3	11.34	V	1
								128.7	1.91	8.0	12.0	12.07	V	1
								130.0	1.81	8.0	11.8	12.07	J	1
								127.4	1.90	7.6	12.2	12.26	Doo	3
								138.5	1.68	7.6	11.8	15.26	J	3
								136.7	1.67	..	..	15.31	HF	1
								134.8	1.78	7.8	12.1	16.25	J	3
2134	E 1084	+48°1963		39	40	47	44	257.7	4.17	9.5	10.7	11.32	E	2
2135	J 1016	Anon.		39	54	7	48	180±	3±	9.5	9.5	10.17	J	e
								184.4	3.29	9.3	9.6	13.29	J	2
								182.8	3.12	9.2	9.5	13.31	Dj	1
								185.8	3.16	9.8	10.0	15.32	J	1
2136	A 1997	+40°2462		41	48	40	30	269.9	3.67	8.9	13.1	09.21	A	3
2137	J 1017	+12°2376		41	48	11	49	45±	3±	9.0	13.0	10.32	J	e

2123—The pair CD appears to be J 428, found two years before. There is a large difference between the magnitudes given by Aitken and the Lille observers.—J.

2128—Measured as new by Bohlin in *A.N.* 4727.—J.

2133—On equally good nights my estimated magnitudes of the faint companion have ranged from the 10th to the 13th magnitude. It is a difficult object to measure.—J.

No.	Name.	B.D.	R.A. 1920			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2138	A 2778	+ 8°2540	11	41	51	8	13	236.2	0.56	8.5	11.2	13.89	A	2
2139	A 2160	+ 33°2152		42	11	33	29	315.7	0.46	9.5	10.2	10.26	A	3
2140	A 2779	+ 6°2498		42	45	5	57	63.6	4.60	8.5	12.8	14.34	A	2
2141	Lewis	..		44	:	14	44	235.6	1.20	..	..	05.22	L	1
2142	J 1018	Anon.		45	27	3	14	0.7	4.25	9.5	11.0	13.31	J	1
								3.4	3.78	9.4	10.6	13.31	Dj	1
2143	A 1357	— 1°2576		46	21	—1	59	314.6	1.77	8.0	12.5	06.36	A	2
2144	A 1776 AB AC	+ 44°2140		48	42	44	2	209.9	1.70	9.5	11.0	08.29	A	2
								209.9	20.4±	9.5	12.5	..	A	..
2145	E 1154	+ 44°2142		49	15	43	43	337.2	3.23	9.6	9.9	12.31	E	3
2146	A 2382	— 14°3429		49	44	—14	24	124.5	2.88	8.7	13.8	11.27	A	2
2147	Hu 1256	+ 21°2372		49	44	20	47	251.4	0.60±	8.8	10.0	04.27	Hu	1
								247.3	0.46	..	..	06.34	A	1
2148	E 724	+ 51°1170		50	4	50	59	227.0	3.12	9.0	11.3	09.31	E	3
2149	A 2485	+ 18°2541		50	23	18	1	215.2	2.01	8.6	11.3	12.35	A	2
2150*	A 1777 AB	+ 47°1913		50	57	46	55	2.9	0.26	7.1	9.0	08.31	A	3
	AB—C=Σ 1579							34.6	3.71	6.0	8.5	32.43	Σ	5
								37.0	3.97	7.1	8.5	08.28	A	1
2151	Hu 1257	+ 15°2393		51	3	14	50	123.1	0.22	9.0	9.2	05.17	Hu	1
								119.5	0.28	..	..	06.34	A	1
2152	E 923	+ 49°2094		51	27	48	41	219.8	2.52	9.5	10.7	10.25	E	3
2153	A 2486	+ 19°2519		53	20	18	49	213.8	0.78	9.0	10.8	12.29	A	2
2154	A 1778	+ 46°1764		53	40	45	44	226.9	2.68	9.0	11.2	08.32	A	2
2155	J 1019	+ 2°2496		54	10	2	28	289.0	4.02	9.1	11.8	13.32	J	1
								289.6	3.95	9.0	11.8	13.32	Dj	1
2156	A 2580	+ 0°2875		56	18	— 0	15	150.5	4.63	8.7	12.0	13.31	A	2
2157	A 2162	— 14°3444		56	22	—14	50	156.4	1.26	9.5	9.6	10.40	A	2
2158	A 1779	+ 44°2149		56	53	44	14	41.7	0.52	8.5	9.3	08.34	A	3
2159	A 2163	+ 21°2383		58	7	21	34	313.9	0.29	9.7	9.7	10.38	A	3
2160	A 2164	+ 21°2384		58	15	21	14	134.0	1.37	9.1	13.5	10.32	A	3
2161	A 2165	+ 20°2670		58	17	19	43	117.6	0.36	8.9	9.8	10.36	A	2
2162	A 2581	+ 8°2563		58	39	8	16	168.6	3.36	8.7	11.5	13.41	A	2
2163	J 1020	Anon.	12	0	11	8	2	208.2	3.88	9.5	12.8	13.32	J	1
2164	A 1594	+ 52°1606		0	55	51	39	135.9	1.21	9.4	11.7	07.35	A	3
2165	E 307	+ 39°2491		1	8	39	17	358.7	4.74	8.0	13.3	06.29	E	4
2166	A 1358	+ 57°1354		1	33	57	25	226.2	0.80	9.2	9.2	06.32	A	2
2167	Barnard	..		3	22	39	39	159.9	1.06	..	..	10.18	Bar	3
								157.4	1.20	9.1	12.2	10.32	A	3
2168	A 1998	+ 43°2191		3	56	43	8	24.4	0.38	9.0	9.0	09.25	A	2
2169	A 2056	+ 16°2343		5	14	15	51	286.4	0.57	8.6	10.2	09.35	A	2
2170	A 2057	+ 19°2537		6	9	19	24	290.9	1.72	8.9	14.5	09.35	A	2
2171	A 1595	+ 54°1497		6	58	54	21	307.0	2.75	8.3	13.2	07.36	A	2
2172	E 1248	+ 42°2277		7	15	41	47	76.9	2.07	9.5	9.7	13.37	E	2
2173	J 1021	Anon.		7	45	3	31	338.2	4.92	9.7	11.5	13.32	J	1
								338.0	4.97	9.6	11.7	13.32	Dj	1
2174	A 1780	+ 13°2503		7	53	13	27	344.2	0.96	8.4	11.8	08.27	A	2

2150—65 *Ursæ Majoris*. Small proper motion, 0.011 in 318°.3.—Auwers.

No.	Name.	R.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs. n.		
			h	m	s	°	'			°	'		°	'	
2175	J 429	Anon.	12	8	12	5	43	306.7	1.86	9.6	11.3	11.31	J	2	
									309.2	2.08	9.5	11.0	11.30	V	1
									307.4	1.79	9.9	13.3	16.29	J	2
2176	A 1849	+47°1937	9	47		47	9	256.6	0.25	9.4	9.4	08.32	A	3	
2177*	A 2058 BC AB=Σ 1615	+33°2205	10	6		33	13	275.5	2.73	8.6	14.0	09.41	A	2	
								88.3	26.93	5.9	8.4	31.90	Σ	4	
								88.0	26.72	7.0	8.6	09.40	A	1	
2178	A 1999	+40°2514	11	28		40	34	312.1	0.84	8.5	10.5	09.25	A	2	
2179	A 1596	+54°1508	11	50		54	18	239.3	2.42	9.0	12.0	07.35	A	2	
2180	J 430	Anon.	12	13		—	1	19	271.2	3.56	9.3	9.6	11.34	J	1
									272.7	3.55	9.4	9.6	11.34	V	1
									274.0	2.92	9.2	9.4	14.38	J	1
									272.4	3.12	9.3	9.4	14.38	Dj	1
2181	A 1781	+45°2012	12	21		45	10	299.2	2.60	8.9	9.3	08.32	A	2	
2182	A 2487	+ 2°2525	13	2		2	9	176.4	1.76	8.5	13.2	12.43	A	2	
2183	A 2582	+ 0°2919	13	38		0	28	89.2	0.36	9.0	11.2	12.80	A	2	
2184	A 2059	+18°2589	15	19		18	10	314.1	0.59	8.4	10.0	09.36	A	3	
2185	A 1597	+ 6°2587	15	35		5	59	272.0	1.37	8.5	12.3	07.42	A	3	
2186	Furner	..	18	:		3	55	189.9	4.37	9.0	10.5	08.31	HF	1	
2187	E 1155	+45°2029	19	57		45	7	194.8	3.93	9.8	10.7	12.30	E	3	
2188	A 1598	+55°1529	20	28		54	59	227.3	2.14	9.3	12.0	07.35	A	2	
2189	E 436	+30°2277	24	28		30	19	316.5	1.85	9.2	9.2	07.27	E	2	
2190	J 1022	Anon.	24	29		4	58	221.1	2.30	9.5	9.6	13.25	J	2	
								221.5	2.31	9.5	9.8	13.25	Dj	2	
								217.0	2.17	9.8	9.8	15.26	J	1	
								271.8	2.20	9.3	10.0	11.34	J	1	
								271.1	2.13	9.3	10.0	11.34	V	1	
2191	J 431	Anon.	25	27		—	0	36	271.8	2.20	9.3	10.0	11.34	J	1
									271.1	2.13	9.3	10.0	11.34	V	1
									269.2	2.12	9.5	9.9	14.38	J	1
									270.4	2.45	9.5	10.0	14.38	Dj	1
									223.3	2.50	9.3	9.9	04.19	β	3
2192*	β 1324 BC	+30°2281	25	31		29	58	222.0	2.50	8.8	9.4	07.24	E	2	
								220.3	2.29	8.9	10.0	15.42	J	1	
								2.0	69.63	8.5	8.8	07.27	E	1	
2193	A 2780	— 6°3584	26	2		—	6	27	211.1	0.56	9.5	9.5	14.42	A	2
2194*	J 1023	+37°2286	26	52		37	6	171.7	4.20	9.4	9.4	10.24	J	1	
								171.5	4.20	9.2	9.6	13.27	J	1	
								169.8	4.08	9.4	9.7	13.27	Dj	1	
								175.8	4.70	9.6	9.6	15.32	J	1	
2195	A 2583	+ 2°2551	27	6		1	46	330.7	4.64	8.7	11.8	13.25	A	2	
2196	Doolittle	+76° 451	27	27		75	45	53.6	4.30	9.4	10.5	02.62	Doo	8	
2197	A 1599	+ 4°2626	27	59		4	20	161.5	0.39	9.5	9.5	07.45	A	3	
2198	A 2060	+17°2493	28	11		17	14	221.4	0.52	10.0	10.0	09.42	A	2	
2199	A 1600	+55°1540	29	11		55	14	2.7	0.63	8.0	11.0	07.34	A	3	
2200	E 924	+48°2037	30	54		48	35	218.4	4.28	9.4	9.7	10.25	E	3	

2177—The proper motion of Σ 1615, according to Lewis, is 0"188 in 270° and is common to both components of the wide pair.—A.

2192—Measured by Espin as E 437.—Doo.

2194—In *J.A.*, vol. ii. page 16, for +37°2287 read +37°2286.—Doo.

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I4

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2201	A 1601	+57°1382	12	32	29	57	16	67.2	2.04	7.5	15.0	06.82	A	2
2202	E 1402	+41°2315	35	49		40	54	23.6	3.50	9.3	10.3	15.34	E	3
2203	A 1850	+44°2215	37	27		44	25	47.6	2.48	8.8	9.5	08.40	A	2
								51.4	2.29	..	..	13.49	Dob	3
2204*	A 1782	+ 8°2632	37	45		7	48	143.9	1.94	9.1	12.8	08.24	A	2
2205	A 1851	+27°2163	38	14		26	47	177.7	0.43	9.1	9.7	08.38	A	2
2206	A 1602	+ 6°2647	38	52		5	42	177.7	0.25	8.3	10.2	07.45	A	3
2207	A 2488	+ 2°2572	39	32		2	36	190.2	4.68	8.6	13.0	12.43	A	2
2208	E 1403	+41°2325	39	51		40	41	215.1	2.75	9.3	10.2	15.34	E	3
2209	A 1603	+ 4°2642	39	55		4	22	145.6	1.45	8.3	10.8	07.53	A	2
2210	A 1783	+44°2223	41	9		43	51	221.1	1.57	9.0	9.0	08.33	A	2
2211	J 432	+ 4°2647	41	17		3	58	260.3	0.68	8.0	8.7	11.35	J	3
								257.8	0.73	8.0	8.8	11.35	V	2
								258.5	0.61	8.4	9.0	14.37	J	2
								259.6	0.90	8.6	9.1	14.36	Dj	1
								263.1	0.75	..	..	15.31	HF	1
								268.4	0.69	8.5	9.3	15.35	J	2
								265.3	0.70	8.0	9.2	16.26	J	2
2212	A 2061	+18°2659	42	4		17	41	191.6	0.86	9.0	11.2	09.42	A	2
2213*	E 730	+51°1785	45	30		51	21	65.3	3.37	9.1	10.5	09.29	E	2
2214	E 439	+28°2155	47	34		27	40	63.8	1.83	8.9	9.4	07.24	E	3
								62.3	2.10	8.7	9.7	08.43	A	1
2215	E 1404	+40°2584	48	17		40	38	30.6	2.77	9.5	13.5	15.35	E	2
2216	J 1024	+ 7°2584	49	0		7	4	66.2	3.18	9.2	9.7	13.33	J	1
								67.6	3.23	9.2	9.6	13.33	Dj	1
								64.4	3.65	9.5	10.0	15.26	J	1
2217*	E 1405 BC A-BC	+40°2585	49	3		40	15	254.7	3.92	10.0	10.2	15.36	E	1
								284.4	66±	9.1	..	15.4±	E	..
2218	A 2000	+43°2282	52	37		43	26	47.1	0.97	9.1	9.4	09.24	A	3
2219	A 1604	+57°1405	55	1		57	30	326.5	2.52	9.1	12.5	07.18	A	2
2220	J 433	+ 0°3007	55	29		—	0 15	157.6	3.33	9.0	9.5	11.33	J	1
								156.3	3.38	8.9	9.6	11.33	V	1
								159.0	2.65	9.2	9.3	14.38	J	1
								155.6	2.80	9.2	9.5	14.38	Dj	1
								155.9	3.14	9.1	9.5	16.30	J	2
2221	A 1852	+30°2351	55	38		30	29	312.4	0.94	8.4	10.8	08.44	A	2
2222	J 1025	Anon.	56	54		2	46	179.0	4.38	9.6	10.5	13.32	J	1
								180.0	4.37	9.7	11.0	13.32	Dj	1
								177.2	4.82	9.8	11.8	15.26	J	1
2223	A 1853	+29°2358	58	39		29	24	305.8	0.96	9.1	12.0	08.44	A	2
2224	A 1784	+ 5°2710	13	0	2	5	38	308.3	1.42	8.7	11.5	08.26	A	2
2225	A 1785	+ 9°2715	1	45		9	30	130.1	1.76	9.1	10.6	08.28	A	3
2226	Hu 1258	+65° 915	1	57		65	2	227.4	0.70	9.2	9.5	05.23	Hu	1
								227.4	0.61	..	..	05.53	A	1

2204—North star of a wide pair.—A.

2213—There is no star in the position of B.D.+51°1785. This star agrees with the R.A., but lies 2'.—E. The correction is applied here.—J.

2217—Espin does not give the magnitude of A; 9.1 is the B.D. mag.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2227*	A 2062	+41°2356	13	3	9	40	49	145.2	0.40	9.4	9.4	09.23	A	2
2228	A 1605	+52°1673		3	28	52	26	339.3	0.53	9.5	9.5	07.34	A	3
2229	J 434	- 0°2661		4	24	- 0	26	328.2	3.20	8.8	9.2	11.31	J	2
								328.2	3.28	8.7	9.2	11.31	V	2
								330.3	2.96	8.9	9.0	14.37	J	2
								329.3	3.16	8.9	9.1	14.37	Dj	2
								325.4	3.03	9.1	9.4	16.30	J	2
2230	A 1786	+ 9°2722	5	12		9	14	95.0	4.15	9.3	10.3	08.25	A	2
2231	A 1359 AB	+31°2462	7	27		31	16	120.8	0.29	8.9	10.3	06.50	A	3
	AB—C=Σ 1729							274.2	8.25	8.5	10.0	68.49	De	4
								274.8	8.46	8.8	11.0	06.47	A	1
2232	A 2225	+16°2476	8	18		16	34	69.4	2.99	7.3	13.0	10.49	A	2
2233	A 1606	+41°2366	9	11		40	56	26.0	1.28	8.8	8.8	07.57	A	2
2234	Fox 15	- 1°2789	9	54		- 1	39	150.1	2.18	9.4	11.8	10.19	Fox	3
								154.7	2.40	..	..	..	Fox	3
2235	A 1607	+53°1606	10	2		53	17	53.8	0.39	9.3	9.3	07.34	A	3
2236	E 1249	+43°2313	10	11		43	32	201.6	2.87	9.5	12.0	13.41	E	3
2237	A 1854	+32°2332	10	19		32	22	291.5	0.46	9.5	9.6	08.45	A	2
2238	A 2584	- 3°3431	10	45		- 3	38	128.6	1.99	9.0	12.5	13.42	A	2
2239	A 2781	- 9°3650	10	58		- 9	38	332.2	0.54	9.1	11.5	14.42	A	2
2240	A 1608	+55°1585	11	15		54	43	265.5	3.10	8.5	13.0	07.35	A	2
2241	E 732	+49°2204	11	47		49	4	79.0	3.30	9.0	9.1	09.35	E	2
								79.3	3.25	9.2	9.4	10.36	E	1
2242	J 435	+ 3°2751	13	17		3	26	151.9	3.05	9.3	9.8	11.37	J	1
								153.5	2.95	9.4	10.0	11.37	V	1
								152.0	2.72	9.2	9.4	14.38	J	1
								149.0	2.97	9.3	9.5	14.38	Dj	1
								150.5	3.33	9.3	9.5	16.30	J	2
2243	E 440	+29°2387	13	35		29	6	1.5	2.55	9.5	9.5	07.30	E	1
2244	A 1360	+59°1500	14	36		59	11	129.4	0.58	8.0	12.2	06.32	A	2
2245*	A 2585	+ 1°2803	14	49		0	56	236.6	0.64	8.3	8.8	13.39	A	2
2246	E 441	+28°2211	15	0		28	33	77.5	4.80	8.6	13.2	07.24	E	2
2247	A 1787	+10°2536	15	39		10	7	355.8	1.54	8.0	11.3	08.25	A	3
2248	A 2166	+18°2716	16	22		18	12	7.0	0.16	8.1	8.1	10.49	A	4
2249	A 2489	+ 0°3050	19	37		- 0	18	190.6	0.33	9.3	9.3	12.35	A	3
2250	Hu 1259	+39°2642	20	12		38	57	179.5	0.15±	9.5	9.8	05.19	Hu	1
								179.9	0.22	..	..	06.47	A	1
2251	A 1788	+15°2567	20	32		15	39	152.6	1.98	9.0	10.8	08.27	A	2
								148.6	2.06	8.9	11.0	12.30	V	1
								154.4	1.91	8.9	10.1	13.34	J	2
								157.6	2.13	9.0	10.0	14.38	Dj	1
2252	J 749	+16°2506	21	15		15	43	289.4	2.48	8.9	9.8	12.30	J	1
								284.0	2.67	8.9	9.8	12.30	V	1
								279.0	2.92	8.9	9.3	14.38	J	1
								280.0	2.60	8.9	9.4	14.38	Dj	1
								284.1	2.45	8.9	9.6	15.81	J	2

2227—In *Lick Obs. Bul.* 171, for 13^h 2^m 45^s read 13^h 2^m 14^s.—J.

2245—Several faint stars near. The nearest is 13"78 from A in 232°6 magnitude 13.5.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2253	Hu 1260	+36°2373	13	21	49	36	13	26.0	0.34	9.5	9.5	05.19	Hu	1
								26.4	0.28	..	..	06.47	A	1
2254	A 1609 AB AB—C	+45°2108	22	20		44	55	353.3	0.40	8.5	8.5	07.54	A	3
								178.6	2.14	..	13.0	07.53	A	2
2255	A 1855	+35°2450	22	31		35	34	295.4	3.06	8.9	10.0	08.45	A	2
2256*	J 436	+ 0°3061	23	45		0	12	341.6	2.52	8.7	9.3	11.39	J	2
								345.7	2.40	8.7	9.3	11.32	V	1
								342.7	2.50	9.1	9.8	14.37	J	2
								343.3	2.70	9.0	9.8	14.37	Dj	2
								340.4	2.35	8.9	10.4	16.32	J	2
2257	A 2490	+ 2°2680	24	12		2	39	95.3	1.19	7.8	11.2	12.35	A	3
								96.1	0.77	7.9	10.8	16.37	J	2
2258	A 1856	+33°2341	24	19		33	0	337.9	0.96	8.3	10.8	08.45	A	2
2259	A 1361	+56°1658	24	23		56	27	36.2	3.38	8.7	14.5	06.32	A	2
2260	A 1362	+56°1661	25	58		56	39	114.6	1.98	7.5	10.7	06.32	A	2
2261	A 1789	+ 8°2721	26	29		7	54	123.2	0.26	9.0	9.0	08.28	A	2
2262	A 1857	+35°2457	26	52		34	55	322.8	0.44	8.1	10.8	08.45	A	2
2263	A 1790	+15°2587	27	39		15	8	182.8	0.95	9.0	12.2	08.30	A	2
2264	A 1791	+14°2630	28	51		14	15	357.5	3.09	9.1	11.5	08.28	A	2
2265	A 1610	+46°1879	29	56		45	51	273.7	0.80	9.1	9.1	07.54	A	3
2266	A 1792	+ 9°2777	30	1		9	12	166.0	0.15	8.8	8.8	08.25	A	3
2267	Luizet	+55°1616	30	33		54	42	..	..	9.5	10.5	..	Luiz	..
2268	A 1611	+ 7°2673	32	45		7	15	138.4	0.56	8.5	8.6	07.44	A	3
								137.2	0.57	8.6	8.6	16.37	J	2
2269	A 1793	+10°2570	33	5		10	7	41.7	3.53	8.7	14.0	08.25	A	3
2270*	E 608	+48°2138	34	38		48	33	271.8	2.57	9.0	9.2	08.29	E	2
								269.6	3.02	9.0	9.3	10.32	E	2
2271	A 1794	+12°2611	35	0		12	5	27.8	0.47	9.5	9.5	08.28	A	2
2272	E 735	+50°2017	35	2		50	35	284.2	3.55	9.5	11.0	09.35	E	2
2273	A 2491	+ 3°2812	38	40		2	59	127.2	0.68	9.1	11.1	12.43	A	2
2274	E 309	+32°2381	40	15		31	58	133.9	1.88	9.2	9.5	06.29	E	3
2275	Hu 1261	+60°1486	41	28		59	46	111.5	1.57	7.0	13.0	05.26	Hu	1
								107.2	1.07	..	11.0	05.92	A	2
2276	A 1612	+ 4°2779	41	30		3	55	317.3	1.04	8.0	11.0	07.44	A	3
2277	A 2063	+16°2555	42	39		16	9	161.7	0.53	9.0	9.2	09.38	A	3
2278	J 437	Anon.	42	50		11	24	20.4	4.02	9.4	11.0	11.37	J	1
								23.0	4.19	9.4	10.8	11.37	V	1
								22.4	4.15	9.4	11.0	14.38	J	1
								21.8	3.92	9.5	11.0	14.38	Dj	1
								25.0	3.71	9.6	11.7	15.26	J	1
2279	A 2492	+ 2°2725	43	42		1	44	32.4	0.62	10.0	10.0	12.43	A	2
2280	A 1613	+45°2134	47	37		44	46	257.3	3.02	9.2	9.2	07.53	A	2
								259.6	3.16	..	..	11.44	Dob	3
2281	E 960	+48°2158	49	45		48	8	267.5	4.43	9.5	10.7	10.39	E	3
2282	A 2586	- 2°3765	53	32		- 2	24	20.3	0.35	9.5	9.8	13.43	A	2

2256—In *M.N.*, vol. lxxi, page 751, for +0°3161 read +0°3061.—Doo.

2270—In the field south of *h* 2667.—E. If this is +48°2138, in *M.N.*, vol. lxxviii, page 524, for 13^h 33^m.0, 48° 45' read 13^h 33^m.8, 48° 39'.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2283	A 2167	+ 2°2752	13	54	17	2	37	80.1	0.21	9.1	9.2	10.42	A	3
2284	A 1614	+ 52°1757		54	38	52	23	181.7	0.29	8.8	9.0	07.46	A	3
2285	J 438	+ 0°3125	58	11	—	0	6	251.7	3.29	8.8	9.5	11.32	J	2
								252.1	3.19	8.7	9.5	11.32	V	2
								250.4	3.12	9.0	9.5	14.38	J	1
								250.6	2.92	9.1	9.5	14.38	Dj	1
								249.8	3.17	9.2	10.5	15.39	J	1
2286	A 2064	+ 18°2816	59	36	18	3	160.8	1.39	9.0	10.5	09.40	A	3	
2287	J 1128 BC A—BC	+ 21°2602	14	0	27	21	8	135.0	1.20	10.0	10.0	15.36	J	1
								191.5	62.28	9.0	..	15.36	J	1
2288	A 1615	+ 43°2375	0	47	43	36	11.7	0.88	9.0	11.0	07.55	A	2	
2289*	A 2168 AB AC	+ 3°2851	1	57	3	37		211.6	2.53	8.9	14.6	10.43	A	2
								112.4	21.63	8.9	13.0	10.44	A	1
2290	A 2169	+ 2°2771	2	2	1	53	142.6	3.85	8.5	13.0	10.43	A	2	
2291	E 1156	+ 45°2152	2	7	45	31	264.9	2.48	9.6	9.6	12.34	E	3	
2292	A 2170	+ 3°2855	2	19	3	37	305.4	1.94	9.4	13.2	10.43	A	2	
2293	Hu 1263	+ 39°2719	2	36	39	11		24.8	0.31	9.5	9.5	05.19	Hu	1
								24.6	0.37	..	..	06.27	A	1
2294	A 2384	+ 25°2731	3	40	25	29	116.6	1.06	9.7	10.7	11.44	A	2	
2295	A 2065	+ 17°2705	4	31	17	6	337.3	1.72	8.5	9.7	09.41	A	3	
2296	A 1363	+ 29°2498	4	53	29	32	225.9	2.07	9.0	14.7	06.02	A	2	
2297	A 1795	+ 5°2852	6	55	4	47	172.8	0.84	8.6	11.0	08.28	A	2	
2298	A 1796	+ 5°2854	7	30	5	22	164.4	3.38	8.8	12.5	08.28	A	2	
2299	A 2587	— 2°3801	7	37	—	2	30	257.5	0.33	9.5	9.5	13.43	A	2
2300	Hu 1264	+ 37°2503	7	45	36	50		2.7	1.20	9.0	10.5	05.37	Hu	1
								3.7	1.23	..	..	06.27	A	1
2301	A 1797	+ 4°2837	8	20	4	15	154.1	0.30	9.1	9.4	08.28	A	2	
2302*	J 1125	+ 28°2299	8	33	27	44	113.5	0.37	8.8	9.5	15.38	J	3	
2303	J 750	+ 27°2344	8	36	26	52		93.0	1.90	9.2	9.7	12.31	J	1
								93.2	1.77	9.2	9.8	12.31	V	1
								94.4	2.21	9.1	9.8	15.32	J	1
2304	A 2066	+ 16°2623	9	10	16	25	219.4	4.92	8.2	13.5	09.42	A	3	
2305	E 737	+ 53°1696	9	58	52	52	301.7	3.78	10.2	10.6	09.34	E	3	
2306	A 2588	— 4°3644	10	19	—	4	37	205.7	0.86	9.5	9.5	13.43	A	2
2307	J 1121	+ 8°2830	10	33	8	6	157.6	3.62	9.2	10.5	15.28	J	1	
2308	Hu 1265	+ 61°1412	10	50	61	23		307.8	0.85	9.0	10.0	05.26	Hu	1
								302.9	0.81	..	..	05.53	A	1
2309	Hu 1266	+ 34°2510	13	3	33	54	10.2	0.16	9.5	9.7	04.53	Hu	3	
								16.1	0.20	..	..	05.60	A	2
2310	A 1616	+ 53°1701	13	14	53	9	105.9	1.00	9.3	9.7	07.35	A	2	
2311	A 2067	+ 18°2859	13	43	17	44	283.9	0.26	8.9	9.0	09.42	A	4	
2312	A 1617	+ 46°1950	13	59	45	52	230.0	0.36	9.0	9.7	07.43	A	3	
2313	Hu 1267	+ 60°1532	16	26	59	56		208.1	0.87	9.1	12.5	05.28	Hu	1
								211.5	0.94	..	11.0	05.53	A	1
2314	A 1618	+ 43°2404	18	39	42	50	160.1	3.57	9.4	9.6	07.52	A	2	

2289—Other faint stars near.—A.

2302—The B.D. gives the magnitude 9.2, but it appears in the finder nearly as bright as B.D. 28°2302 given as 8.5.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2315	J 439	+ 1°2918	14	18	39	1	1	237.0	3.85	9.0	10.0	11.34	J	1
								235.4	3.71	9.1	10.0	11.34	V	1
								237.6	3.36	9.1	10.0	13.90	J	2
								237.9	3.34	9.3	10.2	13.90	Dj	2
								234.5	2.78	9.4	10.5	16.32	J	2
2316	A 2068	+17°2730	18	50		16	55	159.3	3.06	8.7	11.5	09.42	A	3
2317	A 2069	+17°2737	22	57		16	47	229.6	0.24	8.5	8.5	09.42	A	3
								216.8	0.24	8.7	8.7	15.32	J	1
2318	A 1619	+41°2503	23	57		41	27	57.6	1.78	9.1	12.0	07.52	A	2
2319	A 1620 AB AC=h 2725	+55°2686	26	1		54	52	224.9	1.07	8.8	12.3	07.32	A	3
								137.8	22.86	7±	11.7	00.37	E	2
								137.5	23.46	..	12.5	07.32	A	1
2320	Hu 1268	+36°2496	26	15		36	34	294.5	0.30	9.0	9.5	05.38	Hu	1
								292.7	0.37	..	..	06.27	A	1
2321	A 1621	+54°1682	26	24		54	3	182.7	2.83	8.5	13.3	07.32	A	3
2322	A 2226	+3°2900	28	30		3	30	291.3	0.84	9.7	9.7	10.54	A	2
2323	A 2589	-4°3710	29	50		-4	46	218.1	0.72	9.5	9.5	13.43	A	2
2324	J 1122	+6°2909	30	33		6	1	275.2	1.38	9.3	9.8	15.34	J	2
2325	Hu 1269	+12°2715	32	2		12	18	53.0	0.39	9.0	9.5	05.32	Hu	1
								54.2	0.40	..	..	05.52	A	1
2326	A 2227	+2°2844	33	26		2	38	138.4	2.11	6.9	11.0	10.54	A	2
2327*	E 609 AB	+48°2224	34	38		48	4	12.3	4.65	9.0	10.7	08.29	E	2
								15.9	4.17	9.0	10.6	10.42	E	5
								116.9	78.60	9.0	9.0	10.42	E	5
2328	A 1622	+47°2166	37	37		46	53	254.6	1.49	8.0	11.0	07.52	A	2
2329	A 2070	+18°2914	38	14		18	14	206.3	4.18	8.3	13.5	09.39	A	2
2330	A 1623	+53°1728	38	45		52	59	226.6	2.28	8.1	10.7	07.32	A	3
2331	A 1624	+54°1701	41	48		54	40	188.5	0.91	8.8	12.3	07.32	A	3
2332	A 2071	+18°2949	48	43		18	17	261.6	0.77	8.6	9.2	09.40	A	4
								260.6	0.64	8.5	8.9	16.38	J	1
2333	J 1129	Anon.	49	59		13	31	90.4	3.16	10.0	14.0	15.36	J	1
2334*	E 311	+35°2619	50	3		34	46	288.5	3.76	8.8	9.3	06.28	E	2
								289.8	3.80	9.1	10.2	06.54	A	2
2335	J 440	+0°3267	50	22		0	36	35.8	2.36	9.1	9.1	11.41	J	1
								37.0	2.20	9.2	9.2	11.83	V	2
								39.8	2.50	9.0	9.0	13.50	J	3
								39.2	2.44	9.0	9.0	13.90	Dj	2
								41.1	2.46	8.9	8.9	15.28	J	2
								40.2	2.53	8.9	8.9	16.30	J	2
2336	A 2171	+0°3273	51	18		0	29	120.9	0.29	9.4	9.5	10.43	A	3
2337	A 1625	+52°1834	51	35		52	37	299.0	3.24	9.4	9.4	07.31	A	2
								298.5	3.41	..	..	10.52	Dob	3
2338	A 1626	+43°2445	52	8		43	23	41.6	2.30	9.0	13.5	07.52	A	2
2339	A 2172	+3°2957	52	29		3	14	339.1	0.19	8.5	9.1	10.45	A	3
2340	A 1627	+40°2829	52	42		39	57	182.5	0.24	8.5	8.5	07.55	A	3

2327—If this is B.D. +48°2224, in *M.N.*, vol. lxxviii, page 524, for 14^h 33^m.2, 48° 14', read 14^h 33^m.9, 48° 9'.—J.
 2334—Measured by Aitken as A 1364, but first published by Espin.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2341	J 1026	Anon.	14	54	35	4	51	100.0	2.90	9.8	9.8	13.43	J	1
								101.9	3.25	10.0	10.0	15.43	J	1
2342	A 2173	+ 1°3009	54	53		1	18	318.8	0.25	9.6	9.7	10.45	A	3
2343	A 2072	+ 18°2965	55	17		17	51	304.3	0.78	9.6	9.6	09.42	A	3
2344	A 1628	+ 41°2543	55	18		41	25	97.8	4.58	8.1	12.0	07.52	A	2
2345	A 2174	+ 0°3290	55	35		0	5	120.2	0.76	9.8	10.4	10.46	A	2
2346	A 1365	+ 34°2589	56	31		34	29	235.0	1.75	9.0	10.5	06.54	A	2
2347	A 1629	+ 42°2557	58	15		41	52	276.2	1.83	8.7	12.8	07.52	A	3
2348*	E 739	+ 52°1843	59	17		51	48	155.3	2.50	9.2	9.6	09.35	E	2
2349	E 1086	+ 46°2019	59	52		46	13	265.8	2.20	9.7	10.3	11.43	E	2
2350	A 2385	+ 19°2924	15	3	40	18	45	10.1	0.10	7.0	7.0	10.62	A	2
								352.4	0.10	6.7	6.7	11.51	A	1
2351	A 2228	+ 16°2737	3	48		15	59	5.2	3.34	8.8	12.7	10.49	A	2
2352	J 1027	+ 1°3031	4	35		1	10	243.3	2.42	9.0	10.0	13.42	J	1
								237.5	2.41	9.2	10.0	15.41	J	1
2353	J 1028	Anon.	4	36		1	9	331.2	4.75	9.7	10.0	13.42	J	1
								335.9	3.98	10.5	11.0	15.41	J	1
2354*	E 774	+ 51°1979	5	1		51	14	232.5	3.10	9.0	9.2	09.41	E	2
2355	J 441	Anon.	5	44		18	24	156.5	3.15	9.3	9.8	11.40	J	1
								154.7	3.46	9.5	10.0	11.40	V	1
								157.4	3.42	9.5	9.6	14.38	J	1
								158.6	3.19	9.5	9.8	14.38	Dj	1
								156.4	3.64	9.6	9.8	16.37	J	1
2356	J 1029	+ 4°2982	9	34		4	13	242.3	4.85	9.2	9.3	13.40	Dj	1
								242.5	4.91	9.3	9.5	14.84	J	3
2357	J 1030	Anon.	9	41		3	54	62.0	2.85	9.8	10.1	13.40	J	1
								62.0	3.20	9.6	10.1	13.40	Dj	1
								58.9	4.46	10.0	11.0	15.43	J	1
2358	E 624 AB	Anon.	10	10		47	8	229.6	2.30	10.0	10.1	08.39	E	3
								226.4	2.75	10.0	10.4	11.42	E	4
	AC=h 2770							148.4	14±	10.0	11.0	30+	h	..
								129.3	16.57	10.0	10.5	08.38	E	2
								133.9	18.54	10.0	11.5	11.42	E	4
	BC							128.0	18.50	10.4	11.5	11.43	E	3
2359	Hu 1273	+ 36°2586	12	18		36	16	83.9	0.30	9.5	10.0	05.38	Hu	1
								74.6	0.40	..	..	06.56	A	1
2360	A 1366	+ 34°2620	13	2		34	36	78.1	3.72	8.8	10.7	06.57	A	2
2361	Roe 36	- 9°4121	15	4		9	45	254.6	3.34	9.9	10.4	10.44	Roe	3
2362	E 1252	+ 46°2051	15	6		46	29	20.2	1.95	9.5	9.6	13.40	E	3
2363	A 1630	+ 44°2449	16	25		43	47	262.6	0.50	8.9	9.2	07.40	A	3
2364	E 740	+ 54°1739	16	31		53	52	39.2	3.42	8.9	9.4	09.33	E	2
2365	A 2590	- 2°3980	17	9		2	47	331.8	4.00	9.0	12.5	13.43	A	2
2366*	A 1631 AB	+ 46°2054	17	15		46	21	275.7	0.63	9.7	9.8	07.40	A	3
	AB-C=E 75							217.6	4.3±	9.0	9.4	01. .	E	..
								35.6	4.39	9.2	9.3	07.30	A	2

2348—In *M.N.*, vol. lxxix. page 605, for $51^{\circ} 59'$ read $51^{\circ} 53'$, as Espin confirms B.D. + $52^{\circ} 1843$.—J.

2354—In *M.N.*, vol. lxx. page 241, for $15^{\text{h}} 3^{\text{m}} 8$, $51^{\circ} 23'$, read $15^{\text{h}} 4^{\text{m}} 4$, $51^{\circ} 19'$, as Espin confirms B.D. + $51^{\circ} 1979$.—J.

2366—The R.A. is wrongly given as 12^{h} by Burnham, *B.G.C.* 6143, and by Espin in *A.N.* 3784. For AC each observer makes the fainter star at opposite quadrant. Aitken does not mention the error of 3^{h} in R.A.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2367	A 2229	+17°2853	15	17	21	16	58	232.2	1.38	9.0	12.5	10.49	A	3
2368	E 625	+44°2454		18	21	44	36	252.9	1.57	9.3	10.3	08.41	E	2
2369*	A 1367	+36°2601		20	12	36	36	135.1	0.64	9.4	9.5	06.57	A	2
2370	J 442	Anon.		22	11	3	23	86.3	3.85	9.3	11.0	11.34	J	1
								86.8	3.71	9.3	11.2	11.34	V	1
								89.6	3.38	9.5	11.0	14.38	J	1
								87.6	3.42	9.4	10.8	14.38	Dj	1
								90.2	3.98	9.3	10.5	15.43	J	1
2371	A 1632	+46°2064	22	38	46	25	51.4	1.68	8.9	9.5	07.55	A	2	
							51.7	1.97	9.3	10.0	14.09	Fox	3	
2372	A 2073	+18°3022	23	28	18	21	96.0	0.36	9.5	9.5	09.59	A	2	
2373	A 2074	+18°3024	23	43	17	55	274.8	0.30	7.8	8.5	09.59	A	2	
2374	A 2175	+3°3034	24	11	3	8	349.1	0.17	9.0	9.0	10.47	A	4	
2375	Lewis	+46°2068	24	12	46	26	334.9	3.06	9.5	9.8	06.70	L	1	
2376	J 443	+7°2969		24	51	7	36	234.5	4.28	8.9	11.8	11.40	J	1
								237.6	3.90	8.9	11.3	11.40	V	1
								232.6	3.28	8.8	12.0	14.38	J	1
								234.8	3.00	9.0	12.1	14.38	Dj	1
								237.1	3.29	9.0	12.0	15.41	J	1
2377	A 1369	+31°2738	25	32	31	18	141.3	3.90	9.2	10.0	06.44	A	2	
2378	A 1633	+47°2229	26	50	47	8	139.9	0.28	9.1	10.2	07.55	A	2	
2379	Roe 2	+46°2073	27	29	46	35	77.7	3.97	10.0	11.0	09.66	Roe	3	
							80.4	4.55	9.4	9.8	12.07	Fox	3	
2380	A 2075	+16°2796	28	11	16	39	131.1	0.53	9.0	9.8	09.31	A	3	
2381*	A 1634	+41°2611	28	45	41	10	237.0	0.09	5.5	5.5	07.55	A	2	
2382	β— CD AC AB=Σ 1954	+11°2821	30	59	10	48	338.8	4.35	13.5	14.0	11.40	β	3	
							11.5	65.79	3.0	13.5	11.40	β	3	
							198.9	2.92	3.2	4.1	32.35	Dawes	3	
							183.8	3.60	4.0	5.0	10.55	J	1	
2383	A 2076	+19°3000	36	52	18	56	146.1	0.24	8.0	8.0	09.38	A	3	
2384	J 444	— 0°3000	37	44	—	0	33	322.8	2.80	8.7	10.0	11.41	J	1
								319.2	2.51	8.7	10.0	11.41	V	1
								317.8	2.38	8.9	10.0	14.38	J	1
								323.8	2.70	9.0	9.9	14.38	Dj	1
2385	A 2176	+0°3389	37	56	0	43	205.7	0.22	8.2	8.2	10.43	A	3	
2386*	A 2230	+2°2989	40	0	2	46	102.6	3.58	6.1	13.2	10.51	A	3	
2387	A 1635	+40°2915	41	30	39	47	218.4	1.43	9.2	12.7	07.54	A	2	
2388	A 2231	+0°3398	41	55	0	15	24.4	1.93	9.0	12.0	10.50	A	2	
2389	A 1636	+14°2930	42	8	14	17	136.9	2.05	9.0	13.8	07.56	A	3	
2390	A 2077	+19°3014	43	15	19	19	245.0	0.48	9.3	9.6	09.44	A	3	
2391	A 1637	+14°2941	44	36	14	15	255.5	2.15	9.0	14.2	07.56	A	3	
2392*	E 742	+54°1769	44	52	53	52	85.3	3.10	9.0	9.2	09.35	E	2	
							84.0	3.52	8.9	8.9	10.34	J	1	

2369—In *Lick Obs. Bul.* 109, for 15^h 20^m 26^s read 15^h 19^m 26^s.—Doo.

2381—*v*² *Bootis*. The proper motion is 0.04 in 246°.—Auwers.

2386—The Albany A.G. Catalogue gives the bright star an annual proper motion of 0.17 in 213°5.—A.

2392—Independently found in 1910 and identified for A.G. Harvard 4839. It is not B.D. +54°1767 given in *M.N.*, vol. lxix, page 605.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2393	A 1638	+42°2639	15	45	7	42	14	295.9	0.25	9.3	9.5	07.64	A	3
2394	A 1858	+35°2737	47	16		35	3	282.9	0.46	10.0	10.0	08.35	A	2
2395	A 2078	+19°3023	47	20		19	25	153.3	0.91	8.3	9.0	09.44	A	3
2396	A 2079	+16°2840	49	55		16	18	60.5	3.52	7.1	13.5	09.43	A	3
2397	J 1031	+48°2339	50	21		48	24	160±	0.7±	9.5	9.5	10.20	J	e
								151.8	0.46	9.5	9.5	13.30	J	1
2398	A 2080	+17°2929	50	32		17	13	317.0	0.23	8.3	8.4	09.43	A	3
2399	A 1370	+21°2855	54	17		21	7	62.8	0.46	8.9	10.8	06.57	A	2
2400	A 1639 AB	+12°2930	56	30		11	55	337.4	0.25	9.0	11.0	07.63	A	2
	AB—C=Σ 1992							325.4	5.74	8.9	9.2	67.45	De	3
								325.2	5.81	9.0	9.0	07.62	A	1
2401	A 2177	+ 0°3443	56	39		0	35	230.2	2.31	8.5	13.4	10.48	A	2
2402	A 2081	+19°3048	57	19		19	33	309.0	2.28	9.0	12.3	09.55	A	3
2403	J 445	Anon.	57	36		10	35	294.9	3.11	9.7	10.0	11.40	J	1
								296.8	3.20	9.5	9.5	11.40	V	1
								294.0	2.61	9.9	10.0	14.40	J	1
								294.2	2.77	9.6	10.0	14.40	Dj	1
2404	A 1640	+45°2361	58	48		45	43	356.0	0.48	9.0	9.0	07.35	A	3
2405	J 446	Anon.	59	36		10	38	178.0	3.91	9.3	9.5	11.40	J	1
								177.9	3.80	9.5	9.5	11.40	V	1
								179.6	3.33	9.4	9.5	14.40	J	1
								177.8	3.39	9.6	9.6	14.40	Dj	1
2406	A 2591	— 8°4144	16	0	9	— 8	38	4.6	2.60	8.5	13.2	13.45	A	2
2407	A 1641	+41°2662	1	27		40	58	245.1	1.62	8.5	14.5	07.73	A	2
2408	A 2178	+ 3°3124	1	43		3	9	327.4	1.23	9.1	11.2	10.48	A	2
2409	A 2082	+18°3114	2	6		18	46	2.5	3.91	9.0	13.3	09.55	A	3
2410	A 1798	+14°2999	4	3		14	38	111.4	0.27	8.5	9.0	08.30	A	3
2411	A 1799	+15°2964	7	49		15	20	170.9	0.31	8.9	9.0	08.30	A	3
2412	A 2179	+ 0°3469	8	3		0	6	83.1	0.79	8.2	10.5	10.43	A	3
2413	A 2782	+ 9°3164	8	23		9	21	179.5	3.96	8.5	12.5	14.41	A	2
2414*	Σ 2028 rej.	+39°2963	10	23		39	33	146.8	0.49	8.0	8.5	06.68	A	1
								149.0	0.46	..	..	12.48	A	2
2415	A 2083	+16°2910	11	5		16	13	144.2	0.87	9.5	9.5	09.42	A	3
2416*	Doolittle	— 0°3084	11	7		— 0	41	197.4	0.89	8.9	11.0	08.53	Doo	3
2417	A 1642	+47°2317	11	20		46	50	359.0	0.56	8.2	9.3	07.43	A	3
2418	A 2180 BC	+ 1°3190	12	47		1	29	311.3	1.12	11.0	11.5	10.44	A	2
	AB							97.8	48.16	9.0	11.0	10.42	A	1
2419	A 2181	+ 1°3191	12	48		1	24	299.6	0.43	10.0	10.0	10.44	A	2
2420	A 2182	+ 0°3485	12	49		0	49	124.5	1.33	9.1	13.5	10.44	A	2
2421	Hu 1275	+39°2976	15	26		39	8	168.8	2.86	9.0	12.5	05.38	Hu	1
								168.5	2.62	..	..	06.29	A	1
2422	A 2232	+ 2°3081	16	14		2	3	190.4	0.65	9.8	10.1	10.56	A	2
2423	E 628	+52°1959	17	50		51	57	265.7	3.37	8.8	12.0	08.47	E	2

2414—Not in β .G.C. nor in Lewis's Struve. There are no other published measures. According to Porter the proper motion is $0^{\circ}35$ in $318^{\circ}3$.—A.

2416—The B.D. gives the magnitude 9.3.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h	m	s	°	'						
2424	J 399	+24°2997	16	19	48	23	48	48.7	4.75	8.9 11.0	11.08	J	1
								50.2	4.72	8.9 11.0	11.08	V	1
								49.8	4.17	8.8 11.5	14.40	J	1
								50.8	4.17	9.0 11.3	14.40	Dj	1
2425*	Fox 17	Anon.	20	11		64	33	171.9	3.46	9.9 11.7	10.31	Fox	3
2426	Hu 1276	+39°2989	22	4		39	36	167.8	0.53	8.5 13.0	05.38	Hu	1
								168.6	0.53	.. 11.5	06.29	A	1
2427	A 2233	+ 1°3235	22	48		1	11	23.6	2.48	9.3 10.1	10.56	A	2
								20.4	2.46	9.0 9.7	11.50	J	1
2428	A 1859	+12°3016	23	2		12	13	51.6	0.25	8.6 8.8	08.40	A	3
2429	A 2084	+16°2956	25	57		16	46	171.0	0.48	9.1 9.1	09.38	A	3
2430	A 1860	+14°3064	26	16		14	34	85.5	3.12	8.7 10.3	08.40	A	3
2431	A 2783 AB AC	+11°3004	28	1		11	35	299.4	1.04	8.5 12.2	14.43	A	2
								161.8	11.7±	.. 15.0	..	A	..
2432	A 1861	+43°2611	28	6		43	43	172.8	1.40	8.0 14.0	08.54	A	2
2433	A 2234	+ 2°3128	29	0		2	43	130.3	0.97	8.9 13.3	10.55	A	3
2434	A 1862 BC A-BC	+53°1871	30	1		53	9	258.6	0.37	10.0 10.5	08.55	A	2
								113.8	73.66	8.0 ..	08.43	A	1
2435	A 1863	- 5°4328	34	4		5	49	270.0	0.52	9.0 10.0	08.53	A	2
2436	A 1643	+45°2432	35	5		45	19	158.8	0.76	9.2 9.6	07.44	A	2
2437	J 447	+ 6°3274	36	48		5	56	236.8	4.91	8.8 9.9	13.52	J	2
								238.4	5.10	9.0 9.8	11.50	V	1
2438	J 738	Anon.	38	6		22	4	239.2	1.12	9.5 9.5	12.07	J	1
								243.6	1.34	9.5 9.5	12.07	V	1
								242.2	1.70	9.4 9.5	14.40	J	1
								246.8	1.77	9.5 9.5	14.40	Dj	1
								247.5	1.45	9.8 10.0	15.41	J	1
2439	E 632	Anon.	38	46		50	22	102.9	1.75	9.3 10.0	08.47	E	2
2440	J 1124	+40°3051	38	49		40	16	273.0	3.61	8.9 9.5	15.54	J	2
2441	J 448	- 0°3173	39	44		0	23	147.0	2.37	9.1 9.9	11.49	J	1
								147.7	2.18	9.2 10.4	11.49	V	1
								147.0	2.10	8.9 9.7	14.40	J	1
								151.8	2.25	9.4 9.7	14.40	Dj	1
2442	J 93	+ 0°3572	40	6		0	3	121.0	3.40	8.8 13.4	10.42	J	2
2443*	Hu 1277	+13°3207	40	51		13	46	10.1	3.00	8.0 12.5	05.41	Hu	1
								5.8	2.81	.. 13.7	05.52	A	1
2444	J 400	Anon.	41	33		42	11	200.0	4.97	9.5 13.0	11.07	J	1
2445	Lewis	..	41	:		43	39	255.4	4.58	9.5 10.5	06.73	L	1
2446	J 1137	+12°3084	42	16		12	31	304.4	3.16	9.0 9.5	15.59	J	2
2447	A 2784	+ 8°3275	42	56		8	30	92.2	0.28	9.2 10.3	14.57	A	3
2448	A.G—	+24°3053	42	56		24	47	303.7	2.35	9.5 9.7	01.70	A	2
2449	A 1864	+45°2447	43	2		44	55	313.0	0.32	9.4 9.8	08.67	A	3
2450	A 1865	+47°2379	43	55		46	57	300.0	4.58	9.0 12.9	08.66	A	2
2451	E 969	+50°2329	43	59		50	20	235.7	2.60	9.3 9.5	10.50	E	3

2425—The coordinates are in accordance with the note "75^s f. and 34" s. of Σ 2046" given in *Annals of the Dearborn Observatory*, vol. i. page 224, but if this is correct, the declination should then read 64° 38' instead of 64° 33'.—J.

2443—In *Lick Obs. Bul.* 117, for 16^h 39^m 37^s read 16^h 39^m 56^s.—Doo.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs. n.
			h	m	s	°	'			°	"		
2452	E 1089 AB	+48°2436	16	44	17	48	7	141.0	1.98	9.1	9.7	11.53	E 3
	AC							30.1	32.57	9.1	12.2	11.53	E 3
2453	E 970	+52°1996	45	23		52	27	297.0	3.65	9.1	11.3	10.51	E 3
2454*	A 1866 BC	+46°2220	46	53		46	7	311.7	0.25	9.5	9.6	08.67	A 3
	A—BC= β 627							309.4	1.83	5.0	10.5	78.38	β 5
								318.7	1.62	..	9.1	92.24	β 3
								319.7	1.54	5.0	9.0	08.66	A 2
2455	Hu 1278	+15°3067	48	36		15	44	168.4	0.81	9.5	9.5	05.41	Hu 1
								165.5	1.09	..	..	05.52	A 1
2456	A 1867	+46°2226	48	40		46	13	309.7	4.20	8.9	12.7	08.67	A 3
2457	E 971 BC	+51°2143	49	46		51	11	228.9	2.06	10.5	11.7	10.42	E 4
	AB							44.1	41.81	9.4	10.5	10.42	E 4
2458	A 1868	+40°3069	50	23		40	53	303.2	1.74	9.0	9.5	08.40	A 2
2459	Lewis	..	50	:		29	14	162.7	0.69	..	..	08.69	L 1
2460	A 1869	+46°2229	50	35		46	16	213.6	2.31	8.6	14.8	08.70	A 3
2461	Lewis	..	52	:		29	31	143.8	3.70	10.5	11.5	11.69	L 1
2462	A 1870	+52°2008	53	1		52	5	229.1	2.01	8.0	12.2	08.55	A 2
2463	E 972	+51°2152	53	35		51	48	103.2	2.06	9.8	10.0	10.51	E 3
2464	A 1871	+47°2409	55	15		47	6	29.8	2.49	8.4	13.0	08.68	A 2
2465	A 1872	+43°2669	55	20		43	51	84.8	0.68	8.9	10.5	08.40	A 2
2466	A 1873	+47°2412	55	35		46	57	302.4	2.24	8.4	13.8	08.68	A 2
2467*	A 1874 AB	+47°2415	55	41		47	29	49.7	2.93	8.0	11.2	08.68	A 2
								51.7	2.93	..	11.2	09.14	β 2
	AC= Σ 32 App. I.							263.4	114.64	7.0	7.1	34.10	Σ 6
								262.7	113.52	..	..	09.14	β 3
2468	Hu 1279	+13°3277	56	3		13	25	159.6	1.85	9.4	10.0	05.32	Hu 1
								160.6	1.63	..	..	05.52	A 1
2469	A 2235	+1°3358	56	14		1	13	276.4	0.72	9.5	10.0	10.54	A 2
2470	A 2085 BC	+16°3083	57	28		16	42	328.7	1.30	13.7	14.2	09.55	A 2
	AB							351.0	5.62	7.2	13.7	09.55	A 2
2471	A 1875	+43°2679	57	47		43	52	186.3	2.25	8.7	12.2	08.40	A 2
2472	A 1876	+42°2782	58	50		42	17	359.4	3.32	9.0	13.8	08.40	A 2
2473*	J 739	+35°2910	17	0	21	35	6	161.9	2.53	9.1	10.5	12.12	J 1
								162.7	2.49	9.2	10.5	12.12	V 1
								157.4	2.87	9.1	10.8	14.42	J 1
								158.6	2.33	9.2	10.8	14.42	Dj 1
								163.3	3.74	9.4	12.0	15.76	J 1
2474	J 449	+1°3373	1	3		1	53	298.2	1.17	8.8	9.5	11.49	J 1
								299.0	1.25	9.0	9.6	11.49	V 1
								298.2	1.27	8.7	9.3	14.42	J 1
								300.8	1.10	8.9	9.4	14.42	Dj 1
								294.7	0.90	8.8	9.3	15.43	J 1
2475	E 634	+42°2789	1	29		42	18	98.0	1.80	9.4	10.0	08.44	E 2

2454—The bright star has a proper motion of $0^{\circ}073$ in $210^{\circ}07$, and in this the double companion shares. The position angle of the β pair seems to be increasing slowly.—A.

2467—This is the following star of the wide pair Σ 32 App. I. There is also a 14th mag. star about $40''$ preceding AB.—A. In *Lick Obs. Bul.* 144, for Σ 31 App. I. read Σ 32 App. I.—A.

2473—The B.D. gives a declination of $1'$ more for J 740—B.D. $+35^{\circ}2913$ than for J 739—B.D. $+35^{\circ}2910$, but it is apparently not so. I have added $1'$ to J 739.—J.

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No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2476*	Ho 630	..	17	1	53	14	27	148.4	1.20	9.0	9.5	00.57	Ho	1
								204.9	1.20	9.9	10.5	06.93	Doo	3
2477*	J 740	+35°29'13"	1	57		35	6	222.0	2.57	8.8	9.4	12.12	J	1
								221.7	2.45	8.8	9.5	12.12	V	1
								227.0	2.60	8.9	9.4	14.42	J	1
								222.6	2.32	8.7	9.7	14.42	Dj	1
								226.9	2.79	8.9	9.6	15.76	J	2
2478*	β 823	+0°36'33"	2	32		0	45	353.9	1.04	8.2	9.2	81.39	β	4
								18.0	0.91	8.5	9.1	10.54	A	2
2479	A 2237	+0°36'41"	4	41		0	8	60.2	0.94	9.2	10.7	10.61	A	2
2480	J 1130	Anon.	5	14		19	52	341.0	2.61	9.8	9.9	15.56	J	2
2481	A 1644	+47°24'33"	5	35		47	34	213.1	1.93	9.1	10.2	07.42	A	2
2482*	A 2086	+19°32'43"	5	53		19	8	203.8	3.18	9.0	10.2	09.59	A	2
2483	A 1645	+46°22'27"	8	13		46	51	42.4	0.25	9.4	9.6	07.43	A	3
2484	E 1412	+44°26'66"	8	28		44	3	132.4	3.64	9.6	9.7	15.68	E	3
2485	A 2785	+11°31'37"	10	5		11	20	51.0	3.96	8.6	13.7	14.60	A	2
2486	A 2087	+17°31'90"	10	5		17	22	193.0	0.39	9.6	9.6	09.63	A	2
2487	A 2592	-9°45'25"	11	17		-9	43	343.8	0.28	7.4	7.9	13.66	A	2
2488*	A 29..	-0°32'55"	12	30		-0	21	298.3	0.52	4.8	7.8	15.54	A	3
2489*	A 2239	+3°33'76"	12	45		3	5	287.4	2.94	8.8	13.2	10.61	A	2
2490	J 450	Anon.	14	0		7	37	66.2	3.61	9.6	9.8	11.34	J	1
								65.2	3.45	9.5	9.8	11.34	V	1
								67.8	2.97	9.4	10.3	14.42	J	1
								67.2	3.45	9.7	10.3	14.42	Dj	1
2491	J 451	+4°33'92"	15	6		4	16	247.0	4.22	8.9	11.5	11.40	J	1
								249.3	4.00	8.9	11.2	11.40	V	1
								252.4	3.43	9.2	11.0	14.42	J	1
								251.0	3.40	9.5	11.0	14.42	Dj	1
2492	A 2684	-2°43'36"	15	50		-2	27	48.6	0.52	9.5	9.7	13.71	A	3
2493	A 2593	-6°45'81"	16	24		-7	1	137.6	0.19	9.2	9.4	07.00	A	2
2494*	A 28	-8°44'29"	16	25		-8	56	40.1	1.40	8.5	8.5	98.52	Ho	2
								38.0	1.62	8.7	8.8	99.71	A	3
								41.3	1.62	8.8	9.1	06.28	Doo	3
2495*	E 776 BC	+53°19'34"	16	50		53	51	314.9	1.90	10.5	10.7	09.68	E	2
	AB							324.0	1.77	11.0	10.5	10.82	HF	1
	AC							151.4	29.35	8.6	10.5	09.68	E	2
								153.1	27.98	8.0	10.5	10.82	HF	1

2476—Prof. Hough looked up the original records and found no apparent error in his measure. The pair was identified from a chart.—Doo.

2477—Certainly brighter than J.C. 2473, although the B.D. gives both the same magnitude.—J.

2478—Also A 2236. Burnham's declination in β .G.C. has the wrong sign.—A.

2482—In *Lick Obs. Bul.* 171, for 303°8 read 203°8.—A.

2488—41 *Ophiuchi*. The duplicity of this star was first suspected in 1901. Boss gives a proper motion of 0"065 in 204°6. Magnitude 4.8, Harvard Photometry.—A.

2489—In *Lick Obs. Bul.* 188, for +3° 4' read +3° 6'.—J.

2494—This is also Ho 631; but although measured by Hough in 1898, it was not published before 1907, eight years after Aitken.—J.

2495—In *M.N.*, vol. lxx. page 241, for 17^h 16^m.0, 53° 21', read 17^h 16^m.4, 53° 52'. Espin confirms B.D. +53°19'34".—J. It is not quite certain that the measures of 1910 belong to this star. In *M.N.*, vol. lxxi. page 743, Furner gives it as an anonymous star 17^h 17^m, 53° 47', AB: 153°1, 3'86, 8.0-10.5, BC: 144°0, 1'77, 10.5-11.0. The declination is 4' smaller, and there would be two revolutions, or 24'12, to be added to the distance AB. From the original observation I find this probable.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
			h	m	s	°	'						
2496*	J 452	+15°3166						299.2	1.30	8.8 9.6	11.35	J	1
			17	17	10	15	28	300.8	1.50	9.0 10.0	12.49	V	1
								297.3	1.97	8.9 10.2	13.40	J	2
								293.8	2.32	9.0 10.7	14.42	Dj	1
								286.3	2.68	9.3 11.0	15.76	J	1
2497	A 2088	+47°2462	18	22		47	44	27.6	0.28	9.2 9.3	09.71	A	2
2498*	J 1248	+16°3167	19	18		16	32	205.2	3.19	8.7 9.2	11.39	J	1
								203.8	3.30	8.6 9.3	11.39	V	1
								204.9	3.22	8.7 9.3	15.76	J	1
2499	J 1131	Anon.	19	37		36	50	72.1	1.63	9.8 9.8	15.41	J	1
2500	A 2183	+17°3232	19	56		16	59	128.0	1.00	7.5 10.8	10.50	A	2
2501*	Lewis	+36°2862?	20	7:		36	51 :	255.7	1.54	8.7 10.0	05.45	L	1
2502	Hu 1281	+14°3249	21	44		14	2	104.7	1.90	9.5 9.5	05.32	Hu	1
								105.1	1.76	.. ..	05.50	A	1
2503	A 2089	+47°2476	22	43		47	6	347.8	0.60	8.6 9.0	09.71	A	2
2504	A 2243	+ 2°3316	22	50		2	24	300.3	1.79	9.7 9.8	10.49	A	2
2505	J 1032	Anon.	23	27		22	43	340±	3±	9.5 9.6	10.39	J	e
								348.2	3.41	9.5 9.6	13.29	J	1
								346.2	3.35	9.4 9.4	13.29	Dj	1
								349.2	3.86	9.6 9.6	15.32	J	1
2506	A 2184	+16°3188	23	59		16	31	357.9	0.90	7.0 10.5	10.46	A	3
2507	A 2245	+ 2°3323	24	17		2	16	345.4	2.06	9.0 9.5	10.49	A	2
								346.4	1.98	8.5 9.4	11.49	J	1
								346.8	1.95	8.8 9.5	11.49	V	1
2508	A 2246	+ 2°3324	24	31		2	28	121.6	0.83	9.7 9.8	10.49	A	2
2509	A 2247	+ 3°3426	26	52		3	53	167.4	0.18	10.0 10.0	10.55	A	4
2510*	A 2386	+ 2°3337	27	20		2	47	323.6	0.10±	6.5 6.5	11.51	A	2
2511	A 2594	- 9°4565	27	40		- 9	9	299.4	0.94	9.0 12.5	13.66	A	2
2512	J 1033	Anon.	28	38		22	47	250±	4±	9.4 10.5	10.39	J	e
								244.4	4.82	9.5 10.5	13.29	J	1
								242.2	4.83	9.5 10.7	13.29	Dj	1
								153.6	2.90	9.0 9.4	11.47	J	1
2513	J 453	- 1°3354	28	46		- 1	26	156.2	2.68	8.9 9.3	14.42	J	1
								151.6	2.48	8.9 9.2	14.42	Dj	1
								14.0	0.62	9.5 10.2	08.54	A	2
2514	A 1877	+14°3281	30	15		14	49	284.6	2.64	9.0 12.5	08.52	A	2
2515	A 1878	+35°3004	30	21		35	23	261.3	3.78	9.0 10.0	11.47	J	1
2516	J 454	- 1°3361	30	36		- 1	22	248.5	1.71	8.4 12.7	10.51	A	3
2517	A 2248	+ 4°3451	31	22		3	59	120.1	0.31	9.0 10.0	04.40	Hu	1
2518	Hu 1282	+49°2661	31	43		49	45	120.1	0.31	.. ..	05.72	A	1
								120.1	0.31	.. ..	05.72	A	1
2519	A 1879	+13°3404	31	46		13	25	36.2	0.34	7.8 10.2	08.61	A	2
2520	E 468	+30°3021	32	5		30	2	11.5	2.28	9.2 10.0	07.61	E	4

2496—The measures indicate movement.—J.

2498—Noted in A.G. Berl. A 6241, "Com. 9.3, 6"—200°, *sf.*" If this note refers to the right star, the measured distance is much smaller than this estimate—a very unusual circumstance. In 1915, A was noted possibly elongated at 160°.—J.

2501—Probably a wrong identification. On 1915 May 30 this B.D. star appeared single with the 28-inch.—J.

2510—Like A 2385—J.C. 2350, this is an exceedingly difficult object to measure. Precautions were taken by making many examinations of each pair to guard against deception. Both stars are certainly double.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2521	A 2090	+47°2501	17	32	8	46	59	71.0	1.20	8.2	12.2	09.70	A	2
2522	Furner	..	32	:		39	5	53.3	2.24	9.5	10.0	10.82	HF	1
2523	E 636	Anon.	34	5		41	46	124.4	2.38	9.2	9.7	08.52	E	3
2524	A 29..	- 1°3370	34	26		1	19	63.6	0.86	9.5	10.0	15.60	A	1
2525	E 637	+54°1898	34	32		54	28	296.4	3.70	9.2	9.3	08.49	E	2
2526*	Hu 182	-13°4704	35	50		13	16	186.2	0.97	9.0	9.0	98.52	Ho	2
								190.5	1.42	9.5	9.0	00.50	Hu	3
								186.0	1.21	9.0	9.1	06.26	Doo	4
2527	E 1257 AB AC	+45°2574	35	56		45	2	261.1	2.70	9.1	9.5	13.56	E	3
								121.5	52.83	9.1	9.6	13.59	E	2
2528	J 455	+15°3239	36	1		15	57	197.8	2.29	9.1	9.4	11.35	J	1
								200.8	2.21	9.1	9.5	11.92	V	2
								200.2	2.34	9.1	9.3	13.45	J	2
								203.0	2.10	9.1	9.1	14.42	Dj	1
								203.2	2.77	9.4	9.5	15.46	J	2
2529	A 1880	+52°2083	36	25		52	39	114.7	2.57	8.7	10.2	08.48	E	2
								112.7	2.48	8.8	10.8	08.55	A	2
2530	A 2685	- 5°4480	36	31		5	18	171.1	0.68	9.4	9.7	13.71	A	3
2531	A 2091	+16°3251	36	32		16	30	273.0	0.56	8.0	10.0	09.49	A	3
2532	A 2249	+ 1°3484	37	39		1	12	309.5	1.05	9.0	12.8	10.52	A	2
2533	A 1371	+21°3193	38	45		21	5	104.0	0.30	8.5	9.5	06.57	A	2
2534	Hu 1283	+12°3278	39	18		12	17	344.1	0.26	9.0	9.8	05.32	Hu	1
								346.5	0.27	..	..	05.72	A	1
2535	E 638	+54°1902	39	39		54	13	188.2	2.57	9.2	11.0	08.53	E	4
2536*	Hu 1284	+13°3438	39	56		12	59	69.4	1.04	9.0	11.0	05.32	Hu	1
								69.4	0.93	..	..	05.50	A	1
2537	A 1372	+70° 947	40	14		70	22	86.4	0.97	10.0	11.5	05.48	A	2
2538	Hu 1285	+22°3199	40	17		22	38	251.7	0.42	9.4	9.4	05.66	A	2
2539	Hu 1286	+22°3201	41	7		22	38	270.2	3.15	9.6	10.2	05.66	A	2
2540	J 516	- 0°3354	41	19		0	31	240.8	3.47	9.0	9.8	11.57	J	1
								235.0	3.55	9.1	9.8	11.57	V	1
								241.3	3.22	9.1	9.6	15.51	J	1
2541	A 1881	+46°2359	41	50		46	16	206.0	4.72	9.0	12.2	08.70	A	2
2542	Hu 1287	+15°3266	42	2		15	54	77.9	2.20	9.2	9.8	05.41	Hu	1
								76.7	2.08	..	..	05.50	A	1
2543	A 2092	+16°3273	42	10		16	51	336.2	0.77	8.1	11.0	09.49	A	3
2544	A 1882	+44°2761	42	14		44	42	57.6	1.48	8.5	13.2	08.70	A	2
2545	J 456	Anon.	43	1		1	29	101.8	2.63	9.5	9.5	11.48	J	1
								100.6	2.52	9.5	9.5	11.48	V	1
2546	Hu 1288	+15°3270	43	32		15	4	116.2	0.24	8.0	8.5	05.41	Hu	1
								115.4	0.27	..	..	05.72	A	1
2547	E 469 BC AB	+28°2829	43	33		28	1	140.9	4.41	10.0	13.0	07.65	E	3
								267.5	48.12	8.5	10.0	07.66	E	2
2548	A 2185	+ 1°3510	44	1		1	37	188.3	0.63	8.7	10.6	10.46	A	3

2526—Ho 633, but published seven years before by Hussey, who reverses the quadrants.—J.

2536—Two very faint stars near.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.	1900+	Obs.	n.	
			h	m	s	°	'							°
2549*	J 753	+15°3275	17	44	38	15	48	277.6	0.85	9.3 9.3	12.33	J	1	
									271.6	1.62	9.2 9.6	15.42	J	2
2550*	J 754	+24°3259	45	44		24	53	53.6	0.95	9.0 9.4	12.37	J	1	
									50.0	1.45	8.8 9.8	15.32	J	1
									50.1	1.63	15.74	HF	1
2551	A 2186	+ 0°3789	45	52		0	33	32.8	0.23	9.1 9.2	10.46	A	3	
2552	A 2187	+ 2°3407	46	4		2	16	319.3	0.32	8.6 9.1	10.46	A	3	
2553	E 1092	+49°2694	46	22		49	42	21.7	4.15	9.5 9.9	11.51	E	2	
2554*	Fox 22	+15°3286	47	5		15	19	336.9	0.71	9.7 10.1	11.82	Fox	3	
2555	E 974	+50°2469	47	17		50	13	348.6	3.52	9.1 9.3	10.51	E	3	
2556*	Bryant	..	47	:		15	20	282.4	1.40	.. ..	08.71	B	1
2557	A 1883	+45°2613	49	20		45	56	58.5	0.49	9.4 9.6	08.70	A	2	
2558	A 2188	+ 3°3526	50	21		3	29	179.5	0.22	9.6 9.8	10.46	A	3	
2559	A 1884	+34°3078	51	32		34	40	309.9	1.90	9.0 12.8	08.52	A	2	
2560	J 457	Anon.	52	9		8	27	215.3	2.61	9.5 11.0	11.48	J	1	
									218.7	2.93	9.8 11.8	15.72	J	1
2561	A 2189	+ 3°3534	52	16		3	0	325.8	0.31	8.4 8.7	10.43	A	3	
2562	J 458	Anon.	52	25		8	35	121.3	3.37	9.3 11.0	11.48	J	1	
									116.5	3.12	9.3 11.0	11.48	V	1
									122.1	3.50	9.5 11.5	15.72	J	1
2563	A 1885	+53°2000	52	40		53	58	49.2	0.28	9.6 9.8	08.55	A	2	
2564	J 459	Anon.	53	2		18	8	55.7	2.82	9.1 9.9	11.35	J	1	
									53.6	2.83	9.3 10.6	11.92	V	2
									56.6	2.72	9.3 9.9	12.49	J	1
									56.6	3.38	9.5 10.5	15.32	J	1
2565	E 1415	+43°2844	53	30		43	52	120.5	2.27	9.5 12.9	15.68	E	4	
2566	J 517	+ 0°3822	53	37		0	15	283.8	3.90	9.0 11.0	11.57	J	1	
									286.0	4.05	9.0 11.0	11.57	V	1
2567	A.G—	+17°3390	54	6		17	7	195.8	2.32	9.4 9.7	09.44	A	2	
2568	A 1373	+70° 963	54	24		70	10	337.5	2.54	9.4 12.7	05.48	A	2	
2569	Hu 1289	+13°3495	54	59		13	54	96.7	0.56	8.7 12.0	05.41	Hu	1	
									97.5	0.57	05.72	A	1
2570	J 1135 AB AC CD	Anon.	55	29		16	13	171.3	3.98	9.7 13.0	15.42	J	1	
									190.8	26.71	9.7 9.7	15.42	J	1
									28.5	7.54	9.7 14.0	15.42	J	1
2571	J 755	Anon.	56	21		37	16	154.0	1.77	9.3 9.6	12.31	J	1	
									148.7	1.67	9.4 9.6	12.31	V	1
2572	A 1374	+21°3274	56	41		21	54	10.3	0.73	8.6 10.3	06.54	A	3	
2573	A 1375	+21°3276	57	0		21	12	92.5	1.58	9.2 10.2	06.54	A	3	
2574	J 1127	Anon.	57	31		30	13	342.2	3.38	10.5 11.5	15.35	J	1	
2575	E 1260	+45°2640	58	3		45	47	201.1	3.65	9.5 10.6	13.61	E	2	
2576	A 2190	+ 3°3569	58	9		3	2	78.2	3.42	8.9 14.0	10.48	A	2	
2577	J 756	Anon.	58	11		46	11	180.2	2.97	9.5 9.7	12.44	J	1	

2549—North star of a wide pair.—J.

2550—In 1912 the observation was noted: "May be a 15th mag. at $3' \pm 0'' \pm$."—J.

2554—This pair may possibly be Lewis 16 (see note to J. C. 2556). If so, there has been decided change if the early measures were accurate.—Fox.

2556—With Lewis 16.—B. β .G.C. 8201—Lewis 16: $354^{\circ}5, 1^{\circ}26, 10^{\circ}0-10^{\circ}5, 1900.70, L 1$.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2578	E 780	+54°1929	17	58	12	54	16	155.3	2.98	9.2	11.8	09.70	E	3
2579	A 1886	+53°2011		58	17	53	16	340.2	4.52	9.1	10.2	08.69	A	2
								340.3	4.75	8.7	9.2	08.56	E	2
2580	A 2191	+2° 3473	59	25		2	31	199.0	3.24	8.0	13.6	10.48	A	2
2581	A 2257	+3° 3577	18	0	23	3	37	162.5	0.21	9.6	9.8	10.50	A	3
2582	J 757	Anon.		0	31	38	5	323.6	1.85	9.6	10.0	12.35	J	1
2583	E 1416	+44°2813		0	40	44	42	72.1	1.61	9.5	9.7	15.62	E	4
2584*	Lewis	+ 2°3480?		0	40:	2	34:	332.0	3.60	9.5	10.5	09.56	L	1
2585	J 751	Anon.		0	43	16	13	206.5	2.99	9.2	10.5	12.31	J	1
								207.5	3.10	9.3	11.2	12.31	V	1
								204.9	3.38	9.3	11.3	15.72	J	1
2586	J 460	Anon.		0	51	3	31	93.2	1.26	9.5	9.5	11.49	J	1
								92.0	1.39	9.5	9.5	11.49	V	1
								82.7	1.71	9.6	9.6	15.72	J	1
2587	E 781	+53°2019		0	58	53	58	277.3	3.50	9.1	11.4	09.65	E	2
2588*	Lewis	..		1:		39	27:	324.8	0.83	9.5	9.5	09.61	L	1
2589	Lewis	..		1:		39	27:	216.5	1.05	10.0	11.0	09.61	L	1
2590*	J 1200	+ 6°3619		1	21	6	44	210.3	4.21	8.3	12.1	15.81	J	2
2591	J 518	Anon.		1	29	0	51	143.7	4.31	9.4	10.7	11.55	J	2
								142.0	4.51	9.3	10.6	11.55	V	2
								136.9	3.70	9.7	11.6	15.72	J	1
2592	A 2595	- 8°4556		1	40	- 8	7	66.5	2.57	7.2	14.0	13.66	A	2
2593	J 1220	+12°3381		1	52	12	42	128.5	1.65	9.2	9.2	15.82	J	1
2594	A 2093	+16°3358		1	52	16	23	214.4	0.56	9.0	9.4	09.49	A	3
2595	J 1218	Anon.		2	23	38	19	172.9	2.35	10.0	12.0	15.76	J	1
2596	J 758	Anon.		2	35	38	5	130.6	2.00	9.2	9.4	12.35	J	1
								130.1	3.04	9.3	9.7	15.76	J	1
2597	J 1132	Anon.		2	45	20	12	143.2	3.17	10.0	10.5	15.41	J	1
2598*	J 94	+13°3524		3	6	13	57	308.0	3.58	9.2	9.3	93.50	Lpz	1
								306.3	2.80	9.2	9.7	03.44	Cog	3
								309.8	3.64	9.2	9.5	10.46	J	1
								309.8	3.33	9.5	10.0	12.40	Doo	3
								310.5	3.04	9.3	9.3	15.47	J	1
2599	E 641	+54°1937		3	15	54	34	66.7	1.95	9.2	9.4	08.60	E	3
2600	Hu 1290	+62°1595		4	40	62	15	138.4	0.43	8.5	8.8	05.17	Hu	1
								136.9	0.41	..	..	05.71	A	1
2601	E 1157 BC	+46°2428		4	43	46	46	16.2	4.47	9.8	10.5	12.80	E	3
	AB							180.8	25.95	7.8	9.8	12.80	E	3
2602	E 1417 BC	+43°2898		6	40	43	12	276.1	3.24	9.8	13.8	15.75	E	4
	AB							234.6	7.32	8.9	9.8	15.73	E	3
2603	E 1418	+43°2902		6	59	43	18	308.3	3.62	9.2	13.1	15.74	E	2

2584—If this is B.D. +2°3480, as given in *Greenwich Results*, 1909, the coordinates should there read 18^h 0^m, 2° 34' instead of 18^h 1^m, 2° 37'.—J.

2588—This should be 1^m *f.* and 6' *n.* of Σ 2275. The measures and magnitudes agree fairly well with the Struve pair.—J.

2590—A.G. Leipzig II. gives the magnitude 8.6, and the B.D. 8.7.—J.

2598—It was found later, in the Appendix to A.G. Leipzig I., that this pair had been measured in 1893, and by Cogshall in 1903, *A.N.* 4022. In the same publication micrometrical measures made in the same epoch are found for Hu 258, Hu 179, A 1103, and many older pairs.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.		
			h	m	s	°	'			°	"					
2604	J 805	+ 5°3631	18	7	18	5	58	97.2	2.99	9.4	9.5	12.53	J	1		
										97.4	3.16	9.4	9.6	12.53	V	1
										98.9	3.14	9.7	9.9	15.47	J	1
2605	E 345	+ 31°3195		7	55	31	23	19.4	2.45	9.1	9.3	06.64	E	2		
2606	A 2260	+ 1°3620		8	15	1	53	117.3	2.45	8.4	12.2	10.54	A	3		
2607*	E 1419	+ 43°2911		9	39	43	54	274.3	4.87	9.4	10.5	15.64	E	3		
2608	E 472	+ 27°2980		9	46	27	58	8.5	3.08	9.1	9.6	07.66	E	2		
								9.2	2.87	9.3	10.0	12.38	J	1		
2609	E 643	+ 55°2039		11	15	55	55	50.3	3.40	9.0	11.2	08.57	E	2		
2610	A 1376	+ 52°2166		11	30	52	40	38.2	0.28	9.3	9.3	06.75	A	3		
2611	E 645	+ 53°2054		12	5	53	39	89.1	2.75	8.2	12.0	08.56	E	3		
2612	J 1269 AB AC	+ 3°3653		12	9	3	18	104.8	2.30	9.3	12.0	16.50	J	1		
								355.0	6.39	9.3	13.5	16.50	J	1		
2613	J 1270	+ 11°3381		12	33	11	21	40.4	3.32	9.4	9.9	16.50	J	1		
2614	Hu 1291	+ 36°3076		13	30	36	23	337.4	0.43	8.8	9.5	05.40	Hu	1		
								339.2	0.49	..	..	05.59	A	1
2615	Bowyer	..		13 :		20	15 :	344.5	3.32	9.0	10.5	07.54	WB	3		
2616	A 2261	+ 2°3554		13	44	2	56	248.1	2.19	9.0	12.5	10.54	A	3		
2617	J 759	+ 20°3722		13	53	20	23	75.0	1.80	9.2	9.3	12.33	J	1		
								74.1	1.96	9.3	9.3	12.33	V	1		
								82.2	2.39	9.6	9.6	15.52	J	3		
								80.3	1.92	..	..	15.74	HF	1
2618	E 647	+ 50°2561		16	20	50	49	293.4	2.80	9.0	11.3	08.78	E	3		
2619	E 1158	+ 47°2612		17	8	47	22	198.1	4.92	8.0	11.5	12.80	E	3		
2620	E 474	+ 42°3054		17	23	42	56	34.5	3.68	9.2	12.3	07.73	E	3		
2621	Furner	..		17 :		21	12 :	137.5	2.12	10.5	11.0	10.70	HF	1		
2622	J 519	- 14°5014		17	48	- 14	39	150.4	4.36	9.0	9.9	11.65	J	1		
								150.1	4.83	9.0	10.0	11.65	V	1		
								149.9	3.86	9.3	10.3	15.85	J	1		
								68.6	1.68	9.3	9.5	12.32	J	1		
2623	E 347	+ 32°3103		17	54	32	15	66.6	1.75	9.0	9.2	06.62	E	4		
2624	Furner	..	18 :		21	12 :		31.2	2.82	10.0	11.0	10.70	HF	1		
								212.2	1.89	9.4	11.8	12.44	J	1		
								212.8	1.85	9.4	12.0	12.44	V	1		
2625	J 760	Anon.	19	26	31	27		219.7	1.74	9.5	13.0	15.77	J	1		
								138.0	3.77	10.5	11.0	07.69	L	1		
								219.7	1.74	9.5	13.0	15.77	J	1		
2626	Lewis	..		19 :		19	58 :	138.0	3.77	10.5	11.0	07.69	L	1		
2627	E 648	+ 52°2197		20	17	52	20	5.2	4.68	9.0	13.7	08.67	E	4		
2628	Lewis	..		20 :		27	29 :	75.3	0.56	9.0	9.5	07.69	L	1		
2629*	Lewis	..	20 :		27	24 :		131.9	4.34	9.0	10.0	06.73	L	1		
								135.0	4.34	9.8	10.5	07.69	L	1		
2630*	Lewis	..		21 :		27	20 :	318.8	3.56	9.5	10.0	11.71	L	1		
2631	J 752	+ 16°3496		21	32	16	44	274.4	2.33	9.4	9.6	12.31	J	1		
								277.6	2.13	9.4	9.8	12.31	V	1		
								280.1	2.89	9.5	10.5	15.41	J	1		

2607—This star is 1' too far *n.* in Argelander.—E. The correction is applied here.—J.

2629–2630—In 1915 I could not find these pairs. The second star agrees very well with Ho 84, 9^s *pr.* Σ 2315, but the Greenwich original observations give it as a distinct pair.—J.

No.	Name.	B.D.	R.A. 1920.	Decl. 1920.	Angle.	Distance.	Magnitudes.	1900+	Obs.	n.
2632	A.G.—	+26°3245	h m s 18 21 56	° ′ 26 51	° 14·7	″ 3·65	9·1 9·5	03·81	Mil	3
2633	J 462	Anon.	22 8	3 57	351·3	4·03	9·5 9·6	11·48	J	1
					349·9	3·73	9·5 9·6	11·48	V	1
					357·3	3·86	9·4 9·6	15·72	J	1
2634	Hu 1292	+61°1746	22 22	61 37	139·2	0·21	9·0 9·0	05·17	Hu	1
					140·2	0·24	.. ..	05·71	A	1
2635*	Ho 634	+24°3416	23 18	24 22	272·5	2·60	8·1 13·0	98·55	Ho	2
					270·9	3·10	8·2 13·0	06·36	Doo	3
2636*	E 187 AB	+51°2372	23 35	51 35	198·7	2·7±	8·6 8·7	03·76	E	4
					201·5	2·38	8·4 8·5	10·35	E	5
					203·2	2·43	.. ..	11·07	Dob	3
	AC				119·5	85·12	8·4 9·0	10·63	E	3
2637*	J 95 AB	+ 7°3699	24 3	7 6	119·8	1·83	8·8 9·1	10·42	J	2
					123·3	..	.. ..	10·67	Dob	1
					124·9	2·11	.. ..	11·56	Dob	2
					122·3	1·99	8·9 9·2	12·00	J	2
					121·7	1·97	8·9 9·3	12·00	V	2
					125·5	1·60	9·5 10·3	12·43	Doo	3
					120·7	1·99	9·0 9·3	15·47	J	1
	AC				31·0	33·89	9·5 10·7	12·40	Doo	2
2638	J 761	Anon.	24 19	31 33	179·8	2·98	9·6 11·2	12·44	J	1
					177·6	3·11	9·6 11·7	12·44	V	1
					184·9	3·05	9·5 12·0	15·77	J	1
2639	J 521	+ 4°3754	24 24	4 4	303·3	4·99	9·2 9·4	11·54	J	1
					303·9	5·18	9·2 9·4	11·54	V	1
					304·3	4·67	9·3 9·6	15·60	J	2
2640	J 522	— 5°4669	25 4	— 5 3	218·9	4·77	9·3 9·9	11·65	J	1
					217·8	4·89	9·3 10·1	11·65	V	1
					218·2	4·90	9·9 11·8	15·84	J	1
2641	J 762	Anon.	27 25	40 30	251·2	2·99	9·8 11·5	12·39	J	1
					250·8	3·18	9·8 11·8	12·39	V	1
					258·1	4·49	10·0 12·5	15·77	J	1
2642	E 476	+27°3041	27 28	28 1	347·6	2·52	9·5 10·1	07·67	E	3
2643	J 806	+22°3389	27 36	22 18	232·6	2·33	9·4 13·0	12·53	J	1
					232·8	2·55	9·4 15·0	15·84	J	1
2644	J 1149	Anon.	27 42	7 28	201·6	2·54	9·8 9·9	15·78	J	2
2645	J 763	Anon.	27 44	43 22	309·2	1·48	9·6 9·7	12·45	J	1
					308·8	1·38	9·6 9·6	12·45	V	1
					301·7	1·24	9·7 9·7	15·77	J	1
2646	J 1133	Anon.	28 40	13 56	133·8	2·05	10·0 11·5	15·41	J	1
2647	A 2686	— 5°4685	28 45	— 5 20	325·4	1·74	9·4 9·4	13·68	A	2
2648	J 807	+22°3404	29 0	22 18	311·6	2·72	9·5 9·5	12·53	J	1
					311·1	3·86	9·8 9·8	15·51	J	1

2635—In the *Publications of the Flower Observatory*, vol. iii. part iii. page 4, for +34°3416 read +24°3416. The B.D. magnitude is 8·5.—J.

2636—According to the list of proper motions in A.G. Harvard, this star has a P.M. in Decl. of +0°103. If B was stationary the distance between the stars would have been 0·9 at the time of the Harvard observation.—E. The later measures show that both components probably share the movement.—J.

2637—A.G. Leipzig II. 8535 gives the magnitude 8·6. *J.A.*, vol. i. page 57, for A.G. 18535 read 8535.—J.

No.	Name.	R.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2649	J 96	+ 6°3836	18	29	6	6	33	147.2	2.56	9.2	10.1	10.44	J	2
								146.6	2.41	9.1	9.8	11.43	V	1
								146.9	2.50	9.1	9.6	11.43	J	1
								149.2	2.80	9.1	10.2	12.43	Doo	3
								150.1	2.77	9.0	9.5	15.47	J	1
								151.7	3.20	9.0	9.5	15.63	HF	1
2650	J 98	+17°3624	29	36	17	26	147.6	3.00	9.2	11.8	10.42	J	2	
							148.2	3.28	9.4	10.7	12.53	Doo	3	
							148.1	3.50	9.0	10.5	15.42	J	1	
2651	J 463 AB	+22°3407	30	0	22	57	221.5	0.98	9.4	9.4	11.45	J	1	
							220.5	0.97	9.4	9.4	11.45	V	1	
							225.5	1.20	9.3	9.8	15.78	J	1	
							95.3	23.50	9.3	9.6	15.78	J	1	
2652	E 1262	+45°2737	30	13	45	9	257.6	1.55	9.4	9.5	13.64	E	2	
2653	J 1197	Anon.	30	13	12	16	187.9	2.17	10.5	10.5	15.69	J	1	
2654	J 1170	Anon.	30	23	12	15	138.9	4.92	9.5	12.0	15.69	J	1	
2655*	J 97	+ 7°3757	31	22	7	41	113.0	2.75	9.5	9.5	10.42	J	2	
							112.4	3.33	9.5	9.5	16.54	J	1	
2656	Hu 1293	+36°3189	31	46	36	4	81.8	0.91	7.5	14.5	05.40	Hu	1	
2657	A 1377 AB AB—C=Σ 2348	+52°2238	32	8	52	17	269.3	0.15	6.0	6.0	06.42	A	3	
							272.7	25.69	5.9	8.1	32.02	Σ	8	
							271.9	25.60	5.5	8.5	06.57	A	1	
2658	Lewis	..	32	:	10	14	182.8	1.77	9.0	9.0	10.82	L	1	
2659	J 764	Anon.	32	19	40	49	197.4	2.78	9.4	10.5	12.38	J	1	
							209.5	2.31	9.5	11.5	15.77	J	1	
2660	E 1422	+43°3020	32	42	43	10	81.2	4.35	9.5	10.2	15.74	E	3	
2661*	Lewis	Anon.	33	4	11	47	216.0	2.36	9.0	9.5	10.70	L	1	
							218.5	2.27	10.0	10.8	15.69	J	1	
2662	J 799	+19°3718	33	31	19	6	73.2	1.65	9.2	10.0	12.46	J	1	
							77.2	1.88	9.2	10.8	12.46	V	1	
							78.3	2.01	9.3	10.5	15.77	J	1	
2663	J 523	+ 9°3790	33	57	9	42	21.8	3.83	9.3	9.6	11.56	J	1	
							21.8	3.92	9.2	9.5	11.56	V	1	
							24.1	4.08	9.0	9.0	15.51	J	1	
2664	J 1265 AB AC	Anon.	34	15	9	2	121.6	2.24	10.0	12.0	16.50	J	1	
							23.2	11.22	10.0	11.0	16.50	J	1	
2665*	J 100	+ 6°3868	34	16	6	28	105.4	2.90	9.1	12.5	10.44	J	2	
2666	J 1212	+ 8°3782	34	51	8	17	203.9	2.05	9.2	10.8	15.73	J	1	
2667	J 524	-12°5130	35	4	-12	54	308.6	3.80	8.8	9.9	11.65	J	1	
							312.2	3.64	8.9	10.0	11.65	V	1	
							307.8	3.24	8.8	9.7	15.85	J	1	
2668	J 1266	+10°3607	35	16	10	23	31.2	1.71	9.5	9.5	16.50	J	1	

2655—In 1910 this pair was wrongly identified for B.D. +7°3739, which star, like +7°3757, has a brighter B.D. star 40^s *pr.* and 5' *n.*—J.

2661—The pair I measured in 1915 is 2' north and 3^s following B.D. +11°3526 (8.9) This place is given here. It is 1^m greater than the rough place given by Lewis.—J.

2665—In *J.A.*, vol. i. page 58, for +6°3866 read +6°3868.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2669*	J 101	Anon.	18	35	25	6	56	227.4	2.87	9.6	12.0	10.46	J	1
								233.7	3.26	9.9	12.7	13.59	Doo	3
								236.0	3.69	9.5	12.4	16.55	J	1
2670	J 525	Anon.	35	28	29	32	65.2	2.86	9.4	9.4	11.55	J	1	
							66.4	3.10	9.3	9.3	11.55	V	1	
							72.9	3.26	9.2	9.4	15.58	J	1	
							75.8	4.12	9.8	13.0	16.55	J	1	
2671	J 1271	Anon.	35	33	6	59	95.8	4.12	9.8	13.0	16.55	J	1	
2672	Lewis	..	35	:	10	14	:	62.8	2.73	10.0	10.2	10.62	L	1
2673	J 1272	Anon.	35	34	7	0	122.6	2.93	12.0	13.0	16.55	J	1	
2674	Olivier 14	..	35	:	39	7	:	345.6	1.08	9.0	10.0	07.76	O	1
2675	J 102	+ 6°3880	35	44	7	0	40.5	2.23	9.5	13.0	10.46	J	1	
							47.1	2.68	9.5	13.1	13.64	Doo	3	
							50.2	3.38	9.4	13.0	16.55	J	1	
2676*	Bowyer	+ 28°3044	35	44	28	43	253.4	1.40	9.0	9.0	04.52	WB	1	
							251.3	1.21	9.6	10.2	14.93	Fox	3	
							251.3	1.21	9.6	10.2	14.93	Fox	3	
2677	J 1213	+ 8°3790	35	50	8	22	130.9	2.13	9.7	9.7	15.73	J	1	
2678	J 1138	Anon.	35	56	29	56	301.5	2.99	9.8	9.8	15.45	J	1	
2679	E 1159 AB AC	+ 46°2521	36	22	46	56	254.0	3.57	9.1	10.8	12.81	E	3	
							336.1	18.87	9.1	10.3	12.81	E	2	
2680	Lewis	..	36	:	10	14	:	73.8	4.05	10.5	10.5	10.62	L	1
2681	A 1378 AB AB-C	+ 53°2109	36	37	53	49	106.1	0.39	8.5	9.5	06.75	A	3	
							304.7	9.13	..	14.5	06.77	A	1	
2682	E 1160	+ 46°2522	36	42	46	54	1.9	1.86	9.5	11.5	12.82	E	5	
2683	A 1379	+ 52°2257	36	56	52	39	210.8	1.73	9.2	9.5	06.44	A	2	
2684	J 1273	Anon.	37	15	6	40	175.8	1.35	9.7	9.7	16.58	J	1	
2685	J 526	+ 8°3802	37	18	8	35	236.9	2.80	9.0	9.7	11.57	J	1	
							238.3	2.71	9.1	9.6	11.57	V	1	
							239.2	2.62	9.2	10.0	15.62	J	2	
2686*	Olivier 15	..	37	:	40	12	:	283.4	1.91	8.0	9.0	08.76	O	1
								283.4	1.91	8.0	9.0	08.76	O	1
								283.4	1.91	8.0	9.0	08.76	O	1
2687	A 1380	+ 56°2100	37	32	55	55	14.0	0.75	9.3	9.7	06.46	A	3	
2688	Lewis	+ 31°3330	37	51	31	28	163.7	2.97	8.1	10.0	04.74	L	1	
2689	J 1214	Anon.	37	57	8	13	166.3	3.84	9.7	9.7	15.73	J	1	
2690	J 464	Anon.	38	28	3	29	138.7	2.16	9.4	10.5	11.48	J	1	
							138.4	2.00	9.5	10.5	11.48	V	1	
							138.3	2.63	9.7	13.0	15.51	J	1	
2691*	J 1071	Anon.	38	39	14	2	76.3	4.96	12.0	13.5	15.51	J	1	
2692	J 103	+ 13°3709	38	44	13	58	163.4	3.22	8.3	13.0	10.42	J	2	
							164.3	4.82	8.4	11.8	15.51	J	1	
2693	J 527	+ 4°3850	39	26	4	57	38.5	3.40	9.0	9.7	11.54	J	1	
							38.6	3.49	9.1	9.6	11.54	V	1	
							41.7	3.94	9.0	9.5	15.77	J	1	
2694	A 1381	+ 36°3238	39	28	36	11	302.3	0.67	9.3	9.4	06.49	A	3	
2695	J 1189	Anon.	39	33	10	55	16.1	4.82	9.8	9.8	15.59	J	1	

2669—In *J.A.*, vol. i. page 58, for 18^h 34^m 25^s read 18^h 35^m 25^s.—J.

2676—Measured as Fox 25 in *Annals of the Dearborn Observatory*, vol. i. page 225.—J.

2686—If this proves to be B.D. +40°3449 (8.4), the place is 18^h 37^m 23^s, 40° 15'.—J.

2691—This wide pair was measured because of its proximity to J 103.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2696	J 1190	Anon.	18	39	36	10	54	153.5	3.40	11.0	13.0	15.69	J	1
2697	J 528	- 3°4365		39	58	- 3	18	13.5	4.40	9.0	9.0	11.65	J	1
								14.1	4.62	9.1	9.1	11.63	V	1
								18.9	4.55	9.2	9.2	15.77	J	1
2698	A 2388	+ 3°3787	40	0		3	16	55.5	0.27	9.2	9.4	10.58	A	4
2699	J 465	- 11°4737	40	44		- 11	8	33.5	2.40	9.5	9.3	11.40	J	1
								29.3	2.26	9.4	9.4	11.40	V	1
								26.5	2.65	9.2	9.8	15.51	J	1
2700	J 466	Anon.	41	2		19	8	210.8	2.21	9.6	9.8	11.46	J	1
								206.0	1.97	9.6	9.6	12.31	J	1
								205.6	1.97	9.7	9.9	12.31	V	1
								222.6	2.33	9.8	10.2	15.77	J	1
2701	A 2262	+ 1°3770	41	32		1	37	348.5	1.14	9.5	10.1	10.55	A	2
2702	J 467	Anon.	41	41		- 10	25	268.8	1.95	9.7	9.5	11.40	J	1
								274.0	2.12	9.5	9.5	11.40	V	1
								266.9	2.23	9.6	9.8	15.51	J	1
2703	A 1887	- 10°4797	42	18		- 10	13	255.2	3.34	6.1	14.0	08.44	A	2
2704	J 1215	+ 9°3863	42	24		9	56	129.9	1.35	9.5	9.8	15.73	J	1
2705	J 106	- 9°4834	42	41		- 9	44	300±	2±	9.3	9.5	10.30	J	e
								336.0	3.87	9.8	10.1	12.43	Doo	3
								336.3	3.85	9.4	9.5	15.51	J	1
2706	Roe 50 AB AC	+ 39°3520	42	42		40	0	281.0	3.84	9.8	10.7	10.67	Roe	3
								133.6	32.34	9.8	10.0	10.67	Roe	3
2707	E 189	+ 60°1844	42	54		60	34	103.6	4.3±	9.1	11.1	03.88	E	1
2708	A 2687	- 2°4740	42	57		- 2	32	330.3	1.10	9.0	11.2	13.68	A	2
2709	E 1161	+ 47°2688	42	57		47	41	269.5	3.72	9.2	9.4	12.72	E	2
2710	J 1134 AB AC	Anon.	43	40		11	35	258.4	3.74	9.7	9.9	15.56	J	2
								255.6	3.69	9.6	10.0	16.56	J	1
								266.1	6.66	9.7	14.5	15.42	J	1
2711*	E 1425	+ 42°3158	44	12		42	57	231.3	4.53	9.0	9.1	15.78	E	2
2712	A 1888	- 10°4815	44	48		- 10	3	162.8	2.24	8.7	11.1	08.44	A	2
2713	A 2263	+ 0°4026	44	56		0	13	89.8	1.35	8.8	9.1	10.55	A	2
2714	J 1274	Anon.	44	59		7	39	156.4	3.28	10.0	12.0	16.56	J	1
2715	J 808	+ 7°3852	45	13		7	26	347.4	1.02	9.4	9.5	12.53	J	1
								344.3	1.08	9.4	9.4	12.53	V	1
								358.0	1.02	9.5	9.7	16.17	J	2
2716	A 1382	+ 53°2135	45	23		53	50	226.0	4.46	9.0	12.0	06.41	A	2
2717*	J 1208	+ 28°3092	46	0		28	29	332.5	4.02	9.5	10.0	15.71	J	1
2718	J 765	Anon.	46	25		33	19	332.8	2.03	9.3	9.5	12.38	J	1
								335.3	1.27	9.5	9.7	15.72	J	1
2719	J 1226	Anon.	46	30		12	21	250.4	1.60	10.0	13.0	15.84	J	1
2720	J 468	+ 12°3675	46	34		12	22	334.1	1.20	9.5	11.5	11.33	J	1
2721	J 530	+ 8°3864	46	34		8	44	182.9	3.53	8.7	9.9	11.60	J	2
								183.7	3.33	8.8	10.0	11.60	V	2
								184.2	3.35	8.7	9.7	12.76	J	1
								185.3	3.44	8.9	10.0	15.62	J	1

2711—This wide equal pair is observed as a single star in A. G. Bonn. 12308.—J.
2717—This is the north component of B.D. +28°3092.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2722	J 131	+32°3225	18	46	40	32	17	174.0	2.85	9.3	11.5	10.50	J	1
								184.1	2.89	9.6	11.0	15.80	J	1
2723	J 469	Anon.	46	42		12	36	112.0	2.66	9.5	10.0	11.33	J	1
								108.6	3.22	9.9	14.0	15.84	J	1
2724*	J 107 AB	-6°4929	46	50		-6	22	190±	4±	8.4	12.8	10.30	J	e
								189.0	5.69	8.7	11.8	12.45	Doo	3
								192.8	6.03	8.3	12.5	15.51	J	1
	AC							144.3	8.14	8.3	13.6	15.51	J	1
	CD							196.3	3.56	13.6	15.5	15.51	J	1
	AE							89.1	15.50	8.3	13.5	15.51	J	1
	EF							328.1	3.46	13.5	14.5	15.51	J	1
2725	J 108	+13°3779	46	54		13	46	79.0	1.52	9.6	9.6	10.42	J	2
								76.7	1.40	9.6	9.9	12.43	Doo	3
								72.4	1.27	9.3	9.3	12.58	J	1
								77.2	1.42	..	..	15.74	HF	1
2726*	Tarrant BC	+33°3228	47	36		33	7	236.7	4.26	10.5	11.5	86.99	T	3
								236.0	4.2±	11.5	12.0	04.61	E	3
	AB							290.1	13.46	10.0	10.5	86.99	T	3
								295.1	12.9±	9.5	11.5	04.61	E	2
2727*	J 110	+35°3377	48	12		35	18	180±	2±	9.2	9.6	10.30	J	e
								168.8	1.58	9.2	9.8	12.45	J	1
								168.8	1.62	9.5	11.0	13.60	Doo	3
								171.9	1.91	9.3	9.8	15.72	J	1
2728	J 809	Anon.	48	13		20	36	211.4	0.95	9.3	9.3	12.47	J	1
								201.3	1.21	9.6	9.6	15.63	J	1
2729	E 1264	+45°2781	48	26		45	37	116.3	3.70	9.5	10.6	13.62	E	2
2730	E 241	+36°3293	48	46		36	43	69.8	2.03	9.1	10.7	05.71	E	2
2731	A 1889 BC	-11°4795	48	47		-11	27	115.2	0.77	10.0	10.8	08.54	A	2
	AB							32.2	61.2±	7.8	..	08.45	A	1
2732*	J 470	Anon.	49	21		19	14	309.4	3.58	9.5	9.6	11.46	J	1
								309.4	3.34	9.7	9.9	15.91	J	1
2733	A 1890	-13°5138	49	28		-13	54	177.0	3.34	8.7	12.0	08.44	A	2
2734	E 1427	Anon.	49	37		43	17	109.7	4.04	9.5	12.7	15.74	E	3
2735	A 1891	-13°5140	49	39		-13	44	267.1	0.30	8.2	8.2	08.44	A	2
2736	E 788	+51°2441	49	44		51	10	317.4	3.05	8.7	9.7	09.62	E	4
2737	A 1383	+36°3302	50	3		36	8	295.7	1.21	8.6	10.7	06.49	A	3
2738	J 1188	Anon.	50	6		13	28	13.5	1.53	9.5	11.5	15.69	J	1
2739	A 1384	+48°2784	50	30		48	55	39.3	0.58	9.4	9.7	06.80	A	2
2740	J 531	-2°4781	50	37		-2	35	158.6	4.55	9.5	9.8	11.65	J	1
								156.9	4.33	9.4	9.7	11.65	V	1
								158.2	3.68	9.5	9.7	15.84	J	1
2741	J 1267	Anon.	51	2		6	8	238.0	3.74	9.8	10.2	16.58	J	2
2742	J 1275	Anon.	51	2		7	9	199.4	1.63	9.5	10.5	16.56	J	1

2724—This is the principal star of the cluster 11 *Messier*.—J.

2726—Measured by Espin as E 190.—Doo.

2727—In *J.A.*, vol. i. page 59, and *A.N.* 4461, page 346, for 35° 23' read 35° 18'.—J.

2732—In *M.N.*, vol. lxxi. page 753, for 18^h 47^m 21^s, +19° 19' read 18^h 49^m 21^s, +19° 14'.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2743	J 532	Anon.	18	51	11	12	54	9.5	2.89	9.7	11.5	11.56	J	1
								12.6	3.86	9.8	11.8	15.90	J	1
2744	Hu 1294	+32°3249	51	15	32	8	118.5	1.65	9.0	10.5	04.49	Hu	1	
							121.2	1.56	..	..	05.59	A	1
2745	J 1276	Anon.	51	17	8	31	110.0	1.59	11.0	12.5	16.56	J	1	
2746	J 1191	Anon.	51	27	8	6	30.3	4.82	9.8	11.0	15.69	J	1	
2747	A 2192	+3°3836	51	49	3	20	241.4	0.27	8.0	8.0	10.48	A	3	
2748	A 2193	+3°3837	51	51	3	16	153.3	0.46	9.2	9.2	10.48	A	2	
2749*	J 810 BC	+12°3723	52	3	12	48	316.8	1.89	11.5	12.0	04.12	Cog	2	
							312.4	2.93	9.3	9.8	12.54	J	1	
							317.3	2.99	8.8	10.0	12.73	J	1	
							313.6	3.26	8.8	9.3	12.73	Dj	1	
							315.3	3.05	9.3	11.5	15.62	J	1	
							55.4	38.76	8.8	9.0	93.45	Lpz	1	
							55.2	38.43	8.5	11.5	03.91	Cog	3	
							285.9	24.87	8.5	10.0	14.13	Cog	2	
2750	J 471	Anon.	52	11	10	58	291.2	4.62	9.5	12.2	11.36	J	2	
							292.6	4.66	10.0	13.5	15.90	J	1	
2751	J 1277	Anon.	52	13	11	12	58.8	1.40	10.0	10.0	16.56	J	1	
2752	Lewis	..	52	:	36	56.	29.5	4.09	9.0	9.5	08.73	L	1	
2753	A 1385 AB AC	+35°3408	52	35	35	50	281.0	0.45	8.5	10.4	06.50	A	4	
							304.8	20.50	8.5	13.0	06.51	A	1	
2754*	J 472	Anon.	52	44	—	0 40	122.3	4.92	9.7	9.7	11.41	J	1	
							122.7	4.64	9.6	9.7	11.41	V	1	
							121.0	4.64	10.0	10.5	15.85	J	1	
2755	J 1278	Anon.	52	54	15	49	97.6	1.40	10.0	11.5	16.56	J	1	
2756	E 1428 BC AB	+43°3119	53	5	44	4	132.7	2.97	13.5	13.7	15.65	E	3	
							96.0	24.54	8.7	13.5	15.65	E	3	
2757	Lewis	+15°3627	53	17	15	39	33.8	1.15	8.5	9.5	05.68	L	1	
2758	E 650 AB AC	+52°2305	53	57	52	34	329.5	3.22	8.8	12.0	08.75	E	3	
							193.6	26.79	8.8	10.2	08.72	E	2	
2759	Lewis	..	54	:	15	44:	10.8	1.92	10.0	11.0	05.67	L	1	
2760	J 1268	+0°4068	54	15	0	55	183.6	1.42	9.0	13.0	16.50	J	1	
2761	J III	—6°4987	54	30	—	6 55	80±	2±	9.5	11.0	10.30	J	e	
							89.3	4.60	9.6	11.4	13.13	Doo	4	
2762*	Lewis AB AC	..	54	:	15	53:	103.2	1.62	8.9	10.0	05.68	L	1	
							110.3	19.44	8.9	10.0	05.68	L	1	
2763	A 2194	+2°3744	54	34	2	30	320.0	1.34	8.8	11.7	10.47	A	2	
2764	Miller	..	54	44	2	0	110.1	1.08	9.3	9.5	10.47	A	2	

2749—It was found later that this pair had been observed by Cogshall while measuring the wider components of A.G. Leipzig I. 6922 = B.D. +12°3722. The place and identity of the close pair are given here. The B.D. gives the magnitudes 8.6 for A, and 9.3 for B. The magnitude of B and the separation given by Cogshall are very different to my observation, and the identity cannot easily be traced, as I did not observe A.B. The star C may be a variable.—J.

2754—A third star at 0°.—J.

2762—In *M.N.*, vol. lxvi, page 508, and *Greenwich Results*, 1905, this star is identified for B.D. +14°3718, which has a declination of 14° 53'. It cannot be +15°3718 either. At the same time the measures given to Hu 676 do not belong to that star: it is apparently another pair entered here under the number 2759. For this star, from the original entries, I find 1".92, 10.0-11.0.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	"				
2765	J 473	Anon.	18	55	21	11	42	161.0	3.56	9.5	9.6	11.40	J	1	
								160.0	3.58	9.5	9.9	11.40	V	1	
								157.8	3.50	10.0	10.0	15.84	J	1	
2766*	Lewis	..	55	:		44	6	:	37.3	3.07	10.0	11.0	97.41	L	1
2767	Lewis	..	55	:		19	29	:	293.0	2.42	9.5	10.5	07.67	L	1
2768	A.G.—	+46°2592	55	50		47	5		229.0	2.37	8.3	8.4	07.85	E	3
2769*	A.G.—	+12°3742	55	56		12	35		230.0	4.42	8.7	9.0	93.53	Lpz	1
									227.1	4.47	8.8	9.6	03.65	Cog	3
2770*	J 474	+ 2°3750	56	10		2	30		101.5	2.84	9.4	9.6	10.47	A	2
									99.4	2.84	8.8	9.4	11.50	J	1
									104.0	3.26	8.7	9.3	15.84	J	1
2771	Lewis	..	56	:		19	30	:	113.7	2.75	9.5	10.0	10.62	L	1
2772	A 1386	+49°2908	57	9		49	28		35.4	2.00	8.4	12.7	06.80	A	2
2773	J 1279	Anon.	57	32		12	47		160.0	2.45	10.0	10.0	16.57	J	1
2774	A 2688	— 2°4827	57	33		— 2	3		48.4	3.09	9.0	13.2	13.70	A	2
2775	J 1280	Anon.	57	38		22	0		107.6	3.38	9.7	9.7	16.56	J	1
2776	A 1387	+54°2070	57	41		54	44		2.0	0.39	8.7	8.7	06.75	A	3
2777	E 1326	+44°3035	58	0		44	53		229.2	2.46	9.3	10.4	14.75	E	2
2778	J 533 BC	+ 8°3948	58	11		8	39		257.8	3.07	10.0	10.0	11.54	J	1
									262.2	3.14	10.0	11.0	15.84	J	1
									5.8	10.55	9.0	..	11.54	J	1
									6.2	9.77	9.0	11.0	15.84	J	1
									16.8	10.73	9.0	10.0	15.48	J	1
2779	A.G.—	+27°3204	58	19		27	16		340.5	3.76	8.9	11.0	01.49	A	3
2780*	J 475	— 0°3630 Nebula	58	29		— 0	33		243.4	1.67	9.5	9.6	11.41	J	1
									261.5	2.36	9.5	9.6	12.54	J	1
									280.1	3.24	9.7	10.1	15.85	J	2
2781	E 1093	+49°2912	58	34		49	21		309.4	2.87	9.5	9.6	11.65	E	3
2782	Hu 1295	+32°3300	58	36		32	46		283.9	0.24	8.8	10.0	04.49	Hu	1
									275.6	0.24	..	..	05.59	A	1
2783	A 2195	+ 1°3861	58	48		1	40		33.9	1.81	8.2	12.0	10.49	A	2
2784	Hu 1296	+31°3434	58	59		32	3		113.9	0.38	9.0	10.5	04.49	Hu	1
									112.2	0.42	..	..	06.48	A	1
									108.2	0.34	9.5	10.5	10.34	A	2
2785	A 1388	+52°2321	59	11		53	4		260.1	4.92	8.9	13.4	06.75	A	3
2786	E 789	+51°2480	59	12		51	14		327.5	3.80	9.2	11.7	09.61	E	2
2787*	J 476	Anon.	59	37		— 0	32		115.2	4.22	9.5	9.7	11.41	J	1
									115.3	4.21	9.6	9.8	11.41	V	1
									113.4	3.88	9.8	9.6	15.85	J	1

2766—In *B.G.C.*, part ii. page 816. It should be about 1' f. and 1' s. of Σ 3130 : 263°, 2' .7, 7.4—11.1.—J.

2769—In the Appendix to A.G. Leipzig I. It is not noted double in the A.G. Catalogue itself.—J.

2770—Aitken's measures were published in 1915 in *Lick Obs.*, vol. xii.—J.

2780—On the second night with the 28-inch in 1915, I realised that the hazy appearance of this object was not due to the definition and that it is not stellar. Very likely the measures are only of different patches in a very small nebula, and the change in distance can be accounted for by the greater light grasp of the larger instrument. On referring to Dreyer's General Catalogue, I found that it is known as a nebulous star under the number 6741. It is also in *Strassburg Publications*, vol. iv., and D'Engelhard, *Observations astronomiques*, vol. iii. Pickering detected its gaseous nature with a direct-vision spectroscope (*The Observatory*, vol. v. page 295). D'Engelhard on two nights found it undistinguishable from a star, and it is only a star in *Algiers Astrographic Catalogue* and chart. With the Thompson 26-inch Melotte secured a photograph which shows it unmistakably as an extremely small elongated nebula. See *The Observatory* of December 1915. There are several faint stars near.—J.

2787—In 1915 I noted the fainter star in the opposite quadrant.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2788	E 480	+27°3218	18	59	43	27	35	304.2	2.45	9.1	10.1	07.64	E	2
2789	E 1430	Anon.		59	50	42	22	102.7	1.41	9.5	11.0	15.82	E	2
2790	J 811	Anon.		59	54	27	49	234.6	2.43	9.5	11.0	12.53	J	1
								240.0	2.59	9.8	12.5	15.84	J	1
2791	J 534	+12°3783	19	0	5	12	26	3.9	4.59	9.3	9.4	11.64	J	1
								4.8	4.46	9.4	9.4	11.64	V	1
								6.5	4.10	9.5	9.5	15.69	J	1
2792	J 766 AB	+37°3320	0	12		37	22	359.4	2.92	9.5	9.9	12.39	J	1
	AC							363.3	3.10	9.8	10.8	15.75	J	1
								180±	..	9.5	11.0	12.39	J	e
								177.5	18.09	9.8	12.5	15.75	J	1
2793	A 2689	-4°4680	0	13		-4	32	67.3	0.78	9.0	11.7	13.70	A	2
2794	J 478	+12°3794	1	18		12	55	339.8	1.79	9.3	9.5	11.34	J	1
								341.1	1.79	9.5	9.4	11.34	V	1
								339.2	1.27	9.5	9.4	15.84	J	1
2795	J 1209	Anon.	1	31		33	59	152.9	4.82	9.5	10.0	15.71	J	1
2796*	Hu 940	+33°3318	2	44		33	45	196.5	0.41	8.5	8.5	98.56	Ho	1
								191.3	0.54	8.7	9.0	04.47	Hu	2
								187.8	0.47	8.6	9.0	06.36	Doo	4
2797	J 1142	Anon.	3	14		18	47	284.3	0.96	9.6	9.7	15.46	J	1
2798	A 1389	+55°2146	3	23		55	46	251.4	0.25	9.5	9.5	06.76	A	2
2799	Lewis	..	3:			22	53:	296.4	3.73	9.5	10.0	07.67	L	1
								291.7	4.03	..	..	07.72	WB	1
2800	J 767 AB	Anon.	3	35		37	43	0.6	2.58	9.5	11.0	12.39	J	1
	AC							8.1	3.05	9.7	14.0	15.75	J	1
								180±	..	9.5	12.0	12.39	J	e
								177.7	8.20	9.7	13.0	15.75	J	1
2801	J 812	+9°3989	4	1		9	20	118.6	2.37	9.3	9.6	12.54	J	1
								116.6	2.20	9.4	9.7	12.54	V	1
								121.6	1.93	9.2	9.7	15.84	J	1
2802	J 813	+9°3990	4	14		9	25	7.8	0.85	9.5	9.5	12.54	J	1
								4.0	0.88	9.5	9.5	12.54	V	1
								6.4	1.10	9.4	9.8	15.62	J	2
2803*	Lewis	..	4:			22	28:	69.6	3.74	9.0	9.0	10.56	L	1
2804	J 1205	Anon.	4	16		27	21	316.2	3.13	10.0	10.2	15.71	J	1
2805	J 1281	Anon.	4	32		2	11	332.2	2.09	10.2	11.2	16.57	J	1
2806	J 479	Anon.	4	40		1	6	21.8	3.05	9.5	11.0	11.40	J	1
								21.2	3.40	9.5	11.2	11.40	V	1
								27.0	3.83	9.5	11.0	15.85	J	1
2807	Lewis AB	..	4:			26	35:	76.0	3.15	9.5	10.0	07.67	L	1
	AC							188.0	13.27	9.5	10.5	07.67	L	1
2808	E 1094	+49°2934	4	47		49	59	117.2	4.57	9.4	12.0	11.66	E	2
2809	J 1118	Anon.	4	58		22	6	96.2	3.99	9.7	12.0	15.79	J	1
2810	Hu 1297	+13°3919	5	19		13	37	199.4	1.94	9.2	11.0	05.32	Hu	1
								196.8	1.95	..	..	05.49	A	1

2796—This is also Hough 635, but it was published by Hussey three years before. In the *Flower Observatory*, vol. iii. part iii. pages 4 and 99, for 19^h 1^m 5^s read 19^h 1^m 15^s.—J.

2803—Same place as Σ 2457: 200°, 10°I, 7.2-8.7.—J.

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17

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2811*	Ho 636	..	19	5	24	19	5	f.	0.4±	8.0	8.0	89.76	Ho	1
2812	Lewis	..		5	:	27	34	87.5	2.95	9.0	9.5	07.67	L	1
2813*	Lewis	..		5	:	27	34	181.0	4.89	9.0	10.0	07.69	L	1
								172.5	4.50	9.0	9.5	07.72	WB	1
2814*	Lewis	..		5	:	27	34	78.5	3.08	9.0	10.0	07.67	L	1
2815	J 480	Anon.		5	51	15	3	295.5	4.71	9.5	9.6	11.33	J	1
								293.6	4.60	9.6	9.7	11.33	V	1
								293.2	3.90	9.8	10.0	15.84	J	1
2816	A 1390	+48°2835		5	57	48	57	263.4	4.40	7.7	12.5	06.80	A	2
2817	J 1300	Anon.		6	3	17	55	283.4	1.21	9.6	11.1	16.60	J	2
2818	Lewis	..		6	:	30	38	309.1	4.67	10.5	10.5	08.69	L	1
2819	J 1282	+2°3807		6	31	2	10	109.6	1.54	9.6	10.6	16.57	J	1
2820	Hu 1298 AB	+15°3715		6	35	15	59	19.8	0.22	9.3	9.3	05.32	Hu	1
								23.4	0.20	..	..	05.72	A	1
	AB—C							265.0	2.71	..	15.0	05.32	Hu	1
								264.3	2.89	..	13.5	05.72	A	1
2821	J 1301	+20°4063		6	35	20	20	139.8	1.97	9.7	11.0	16.60	J	2
2822	E 481	+27°3261		6	58	27	43	136.0	4.32	9.0	12.7	07.65	E	3
2823	J 481 AB	+19°3936		7	19	20	5	234.5	4.91	9.5	10.0	13.50	J	2
	AC							31.9	12.06	9.4	11.0	11.46	J	1
								22.5	11.94	9.5	11.5	15.55	J	1
2824	J 1302	Anon.		7	51	11	27	167.2	2.68	9.8	11.5	16.60	J	2
2825	J 482	Anon.		7	55	—12	43	295.3	2.57	9.5	9.7	11.46	J	1
2826*	E 790	+51°2518		8	0	51	16	106.8	4.14	8.5	11.3	09.65	E	4
2827*	A.G.—	+26°3471		8	5	26	57	322.8	3.13	10.1	9.4	03.89	How	3
								325.4	3.11	8.9	9.8	15.91	J	3
2828	J 1263 BC	+29°3506		8	24	29	45	72.0	4.97	12.0	13.0	16.49	J	1
	AB							254.4	34.25	7.5	12.0	16.49	J	1
2829	J 1206	Anon.		8	31	27	4	333.4	2.57	10.5	10.8	16.49	J	1
2830	A 1391	+54°2095		8	53	54	21	60.3	0.32	8.5	9.2	06.75	A	3
2831	J 535	—8°4895		9	15	—8	33	313.9	4.36	8.9	10.0	11.65	J	1
								319.1	4.05	9.0	10.1	11.65	V	1
2832	J 1150	+20°4081		9	54	21	3	249.5	1.50	9.1	10.6	15.55	J	1
2833	J 768	Anon.		9	56	29	38	350.4	2.47	10.5	12.2	12.38	J	1
2834	E 1162	Anon.		10	5	47	4	91.0	2.37	9.6	10.5	12.78	E	3
2835	J 814	Anon.		10	20	24	14	230.6	1.20	9.8	10.0	12.48	J	1
								232.4	1.15	9.8	10.0	12.48	V	1
2836	J 1035	+0°4149		10	21	0	45	78.2	3.12	8.9	10.0	13.77	J	1
								79.8	3.30	8.9	10.2	13.77	Dj	1
								75.0	4.17	8.9	10.5	15.89	J	2
2837	E 482	+25°3756		10	28	25	38	167.4	4.27	8.9	11.2	07.61	E	2
2838	J 1036	Anon.		10	45	0	51	346.1	1.16	9.7	9.9	13.75	J	2
								344.0	1.00	9.8	9.8	13.75	Dj	1

2811—This pair could not be found by Hough himself in 1891, nor by Aitken and Doolittle in 1906. The place is exactly that of Ho 442: $94^{\circ} 2'$, $10^{\circ} 0' - 10.5'$. It is 1^m *pr.* and $30'$ *n.* of Σ 2460, B.D. $+19^{\circ} 3920$, 199° , $9^{\circ} 1'$, $9^{\circ} 0' - 9.2'$.—J.

2813—The same measure of Bowyer is given in *Greenwich Results* of 1907 and 1908 with the two different dates. I have taken the first.—J.

2814—This seems identical to J.C. 2812, but they are given by Lewis as two distinct pairs observed on the same night.—J.

2826—If this is B.D. $+51^{\circ} 2518$ (9.0), in *M.N.*, vol. lxx, page 242, for $19^h 7.0$, $51^{\circ} 12'$, read $19^h 7.5$, $51^{\circ} 14'$.—J.

2827—Measured as an A.G. pair by Howard, who reversed the quadrant.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
2839	J 536	Anon.	19	10	51	—	8	32	262.5	4.79	9.4	14.0	11.65	J	1
2840	J 1284	Anon.	10	51		13	33		221.0	3.50	9.8	10.5	16.57	J	2
2841	A.G.—	+28°3276	11	27		28	45		77.6	4.15	9.0	9.4	01.60	A	3
									78.8	4.58	9.8	9.1	03.91	How	3
2842*	Fox 26 AB	+54°2105	11	29		54	59		128.7	2.05	9.4	12.3	09.85	Fox	3
	AC								345.2	17.25	9.4	11.0	09.04	Fox	2
2843	J 1174	+17°3902	11	37		18	2		293.6	2.93	9.3	9.9	15.67	J	2
									300.6	2.95	..	..	15.74	HF	1
2844*	J 483 AB	Anon.	11	43		15	14		216.0	2.35	9.4	10.0	11.34	J	1
									213.8	2.23	9.5	10.0	11.34	V	1
	AC								213.2	2.62	9.3	10.2	16.60	J	1
									161.5	26±	9.4	14.5	11.34	J	1
									164.0	18.05	9.4	14.0	16.60	J	1
2845	J 537	Anon.	11	43		14	39		196.5	4.15	9.5	9.7	11.57	J	1
									194.2	4.13	9.6	9.8	11.57	V	1
									206.0	4.92	9.4	9.9	15.84	J	1
2846	J 538	Anon.	11	45		22	36		49.6	4.20	9.5	9.5	11.55	J	1
									48.0	4.20	9.5	9.5	11.55	V	1
									55.0	4.68	9.8	9.8	15.84	J	1
2847	J 1303	Anon.	12	8		16	45		207.6	4.20	9.8	10.3	16.60	J	1
2848	E 981	+55°2169	12	16		55	15		90.3	3.17	9.0	11.2	10.61	E	2
2849	J 1198	Anon.	12	45		10	51		356.7	3.02	9.7	10.0	15.69	J	1
2850	J 484	Anon.	13	12		0	14		271.5	4.76	9.6	9.7	11.41	J	1
									273.5	4.70	9.5	9.5	11.41	V	1
2851	J 114	— 0°3690	13	14		—	0	34	204.4	3.98	9.5	11.0	10.46	J	1
									204.1	4.97	9.4	11.3	13.80	Doo	3
2852	A 2267 AB	+ 0°4160	13	19		1	6		165.5	0.38	9.3	10.3	10.62	A	2
	AB—C								145.6	14.00	9.0	13.5	10.56	A	1
	AB—D								121.0	14.95	9.0	13.5	10.56	A	1
2853	A 2268	+ 3°3966	13	45		3	9		249.6	0.66	8.9	9.4	10.62	A	2
2854	A 1392	+54°2113	14	9		54	49		93.0	0.20	7.8	8.1	06.51	A	3
2855	J 1037	+ 0°4171	14	48		0	35		276.1	1.96	9.1	12.3	13.74	J	2
2856	J 485	+15°4112	15	26		5	26		77.4	1.18	9.3	9.9	11.50	J	1
									77.0	1.30	9.4	9.8	15.87	J	1
2857	A 1646	+15°3768	15	34		15	31		205.5	4.00	9.5	9.7	07.50	A	2
									207.9	4.23	..	..	11.57	Dob	4
2858	Hu 1299	+33°3407	15	52		33	26		337.1	0.35	9.2	10.5	04.49	Hu	1
									337.0	0.37	..	..	05.59	A	1
2859	A 2269	+ 3°3976	15	55		4	4		38.4	0.28	9.4	9.8	10.58	A	3
2860	J 1175	Anon.	16	1		15	26		112.3	4.46	9.5	9.8	15.67	J	1
2861	J 1283	Anon.	16	5		2	33		297.0	2.93	11.0	11.5	16.57	J	1
2862	J 1038	Anon.	16	8		0	38		337.5	2.41	9.4	10.2	13.74	J	2
2863	A 2270	+ 3°3979	16	21		3	39		56.1	4.37	8.9	13.5	10.58	A	3
2864	J 1186	Anon.	16	23		11	39		10.0	2.65	9.7	9.9	15.68	J	1
2865	A 1393	+53°2223	16	48		53	49		239.7	0.64	7.7	9.3	06.39	A	3

2842—The B.D. and the A.G. give the magnitude 8.9.—J.
 8 44—In *M.N.*, vol. lxxi. page 753, for 22"3 read 2"23.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs. n.	
			h	m	s	°	'			°	"			
2866*	J 769	Anon.	19	17	7	29	4	203.0	2.99	9.6	9.8	12.40	J	1
								203.2	3.28	9.5	9.8	12.40	V	1
								207.5	3.68	9.7	9.9	15.75	J	1
2867	Hu 1300	+33°3421	17	15	34	2	172.2	0.84	8.3	9.5	04.49	Hu	1	
							171.2	0.81	..	..	05.59	A	1
2868	J 115 AB	Anon.	17	34	—	1	30	20±	2±	9.6	10.0	10.30	J	e
								2.1	3.66	9.9	11.3	12.87	Doo	3
2869	J 116	— 1°3722	17	37	—	1	32	47.1	7.03	9.9	12.1	12.87	Doo	3
								80±	2±	9.4	9.6	10.30	J	e
2870*	E 352	+34°3504	17	49	34	18	135.0	3.59	3.59	9.4	10.3	12.99	Doo	5
								4.84	8.8	12.0	04.49	Hu	1	
								4.54	..	..	05.59	A	1
2871*	Ho 637	+19°3987	17	53	19	38	133.0	4.67	8.9	10.0	06.81	E	1	
							24.8	1.04	9.0	11.7	00.44	Ho	3,2	
2872	A 1394	+53°2228	18	17	53	24	23.9	1.12	9.1	11.4	06.34	Doo	4	
							176.0	1.41	8.6	12.5	06.39	A	3	
2873	J 539	Anon.	18	30	—	1	28	3.3	3.26	9.4	11.0	11.65	J	1
								7.0	3.44	9.3	10.5	11.65	V	1
2874	J 770	Anon.	18	54	28	58	16.2	2.32	9.4	9.8	12.40	J	1	
							14.5	2.95	9.4	10.0	12.40	V	1	
2875	J 1285	— 0°3729	19	13	—	0	26	16.5	3.64	9.7	10.8	15.75	J	1
								330.0	3.56	9.6	9.8	16.57	J	1
2876	E 982	+52°2399	19	25	52	41	85.8	2.98	9.3	10.0	10.57	E	3	
2877	A 1395	+55°2189	19	40	55	34	249.1	1.03	8.4	12.7	06.51	A	3	
2878	J 1192	Anon.	19	44	18	47	155.3	3.74	9.5	12.0	15.69	J	1	
2879	J 822	Anon.	19	45	14	51	354.8	2.50	9.5	9.7	12.76	J	1	
							356.6	2.23	9.4	9.8	12.76	Dj	1	
							353.8	1.88	9.6	9.9	15.87	J	1	
2880	Fox 27	+36°3529	20	7	37	6	176.8	4.07	8.5	12.5	10.86	Fox	3	
2881	E 983 AB	+52°2407	20	22	52	36	211.0	3.35	9.6	10.2	10.54	E	3	
							46.8	22.60	9.6	10.0	10.54	E	3	
2882	J 148	Anon.	20	22	4	2	165.8	3.87	9.5	12.0	10.67	J	1	
2883	E 194	+64°1346	20	28	64	22	216.3	4.4±	8.8	9.4	03.68	E	3	
2884	A 2196 BC	+31°3577	20	42	31	9	233.5	0.60	10.8	11.2	10.38	A	2	
							68.5	5.37	8.9	10.3	10.38	A	2	
2885	J 1304	+11°3830	21	0	11	27	66.6	1.42	9.3	10.3	16.59	J	1	
2886*	E 1163 AB	Anon.	21	9	47	28	119.6	2.46	9.6	11.2	12.79	E	2	
							190±	8±	9.6	14.0	12.79	E	2	
							233.1	26.30	9.6	10.0	12.79	E	2	
2887	J 1305	+13°4009	21	24	13	36	169.8	1.39	9.3	10.8	16.59	J	1	
2888	A 2271	+ 3°4012	21	30	3	15	269.6	1.78	8.8	14.0	10.52	A	2	
2889	J 1306	Anon.	21	57	13	39	107.4	1.21	9.7	9.7	16.59	J	1	
2890	J 823	+15°3810	22	20	15	41	71.4	2.17	9.1	9.6	12.72	J	1	
							76.7	2.47	9.3	10.5	15.63	J	1	

2866—A 13th mag. star at position $40^\circ \pm$.—J.

2870—This is also Hu 1301, but it was published six months before by Espin.—J

2871—B.D. +19°3991 (8.0) is 13^s.f. and 1' n.—J.

2886—The comes C is too faint to measure.—E.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
2891	A 1647 AB	+15°3811	19	22	22	15	23	32.6	1.26	8.0	12.5	07.50	A	4
	AC							85.0	10.80	8.0	14.0	07.49	A	1
	AD							143.0	12.35	8.0	14.5	07.49	A	1
2892*	E 1432 BC	+43°3236	22	40		43	29	267.7	4.12	13.1	13.5	15.72	E	2
	AB							175.5	31.00	8.7	13.1	15.72	E	2
2893	J 1199	Anon.	22	42		9	55	101.3	3.47	10.0	11.0	15.69	J	1
2894	E 1433	+43°3239	23	3		44	3	194.3	1.82	9.2	10.5	15.67	E	4
2895*	A 2786	+20°4141	23	10		20	59	94.0	0.29	9.2	10.4	14.57	A	3
2896	A 1648	+15°3816	23	24		15	56	0.5	0.80	9.3	9.3	07.50	A	3
2897	A 2272	+3°4027	23	45		3	48	193.6	3.42	8.2	14.2	10.52	A	2
2898	J 1157	+39°3765	23	50		39	24	158.3	3.64	9.6	9.6	15.61	J	1
2899	A 2596	-4°4815	24	21		-3	55	248.0	0.27	9.4	9.6	13.67	A	2
2900	E 353	+33°3457	24	21		33	9	296.4	3.36	8.6	10.2	06.75	E	3
								298.3	3.38	9.0	11.0	07.56	A	1
2901	A 1649	+12°3917	24	32		12	22	6.4	2.10	8.8	14.0	07.54	A	2
2902*	J 771	Anon.	24	33		16	10	95.4	2.87	9.5	9.7	12.40	J	1
								97.6	3.03	9.5	9.6	12.40	V	1
								93.4	2.83	9.3	9.3	12.72	J	1
								96.4	3.21	9.9	9.9	15.87	J	1
2903	A 1650	+15°3827	24	45		16	7	52.9	0.18	9.5	9.5	07.52	A	4
2904	Hu 1302	+36°3565	24	49		36	16	248.4	0.40	9.0	9.5	05.40	Hu	1
								248.5	0.50	..	..	05.90	A	1
2905*	A.G.—	+29°3608	25	0		29	31	227.4	2.19	8.5	11.7	01.74	A	3
								227.9	2.13	8.7	10.3	03.95	Mil	3
2906	J 1264 AB	Anon.	25	4		22	55	297.0	4.02	10.5	10.5	16.49	J	1
								40.6	10.49	10.5	13.8	16.49	J	1
2907*	J 1108	-6°5164	25	18		-6	12	39.6	2.91	8.9	9.0	12.76	J	1
2908	A 1651	+14°3931	25	19		15	4	258.1	0.41	8.4	9.6	07.54	A	3
2909	A 2197 AB	+2°3899	25	28		2	55	240.5	2.53	8.0	13.0	10.49	A	3
								29.8	31.37	7.8	9.7	30.40	Σ	3
								28.8	31.31	8.0	10.0	10.46	A	1
2910	A 2273	+1°4015	25	37		1	41	134.4	2.01	9.1	11.0	10.52	A	2
2911	A 1652	+15°3833	25	40		16	5	131.6	1.63	8.6	12.2	07.50	A	3
								131.6	1.77	8.8	11.8	12.40	J	1
2912	Hu 1303 AB	+36°3574	25	47		37	1	312.5	0.80	7.6	9.0	05.40	Hu	1
								311.1	0.83	..	..	05.59	A	1
								69.8	4.52	7.6	14.0	05.59	A	1
2913	J 1307	+19°4038	25	48		19	40	159.0	3.99	9.3	10.8	16.59	J	1
2914*	A 1653	+12°3929	25	52		12	14	302.1	0.22	7.7	8.9	07.57	A	3
2915	A.G.—	+17°3984	25	55		17	49	240.3	4.24	9.2	9.5	15.42	J	1
2916	A 2274	+2°3902	26	7		2	9	250.8	3.30	8.9	11.5	10.52	A	2

2892—Star, 13.5, at 293°7, 26"9.—E.

2895—In the 520-power field with and following Σ 2523.—A. Σ 2523: 150°, 6"3, 7.3-7.4.—J.

2902—A 13th mag. star in position 270°.—J.

2905—In *Lick Obs.*, vol. xii, page 140, for 19^h 23^m 27^s +29° 27' read 19^h 24^m 14^s +29° 29'.—J.

2907—Although the separation is relatively small, the components of this pair were observed separately in A.G. Wien-Ottakring.—J.

2914—A.G. Leipzig I. gives the magnitude 8.1, and the B.D. 7.5.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
2917	J 1221	Anon.	19	26	13	22	28	192.5	2.77	9.3	11.8	15.83	J	1
								199.8	3.05	9.4	11.5	16.49	J	1
2918	J 137	+18°4099	26	29		18	15	14.4	4.15	9.0	11.5	10.53	J	1
								14.5	4.29	9.1	11.6	12.62	J	2
								16.6	4.50	9.2	10.8	12.67	V	1
2919	J 1308	Anon.	26	35		19	37	202.0	1.57	10.0	10.0	16.59	J	1
2920	J 1181	Anon.	26	52		7	40	103.7	1.54	10.0	12.0	15.68	J	1
2921*	Doolittle	..	26	52		24	31	322.0	0.93	10.0	11.0	04.65	Doo	1
2922	J 540	+ 9°4125	26	54		9	18	122.6	3.12	9.3	9.3	11.55	J	1
								123.7	3.43	9.3	9.4	12.15	V	2
								122.0	3.10	9.3	9.5	12.75	J	1
								122.0	3.35	9.3	9.6	12.75	Dj	1
2923*	A 1654	+14°3950	27	18		14	13	203.8	1.43	9.0	14.2	07.58	A	3
2924	A 1396	+54°2159	27	25		54	38	293.3	1.69	8.5	11.2	06.51	A	3
2925	J 772	Anon.	27	38		11	3	189.2	1.67	11.2	11.5	12.40	J	1
2926	J 1309	Anon.	27	44		19	40	241.4	1.21	11.0	13.8	16.59	J	1
2927	E 1097	+49°3025	28	3		49	22	226.4	1.12	9.4	9.6	11.66	E	4
2928*	Lewis	..	28	13		17	53	141.0	4.54	10.0	11.0	95.72	L	1
2929	E 485	+27°3419	28	29		27	58	342.4	2.37	9.2	10.5	07.66	E	2
2930	J 1310	+19°4053	28	44		19	38	246.6	4.50	8.9	12.8	16.59	J	1
2931	J 486	+15°3853	28	49		15	40	167.5	3.32	9.4	9.5	11.34	J	1
								166.6	3.18	9.3	9.4	11.34	V	1
2932	A 1398	+53°2254	29	6		53	51	56.8	1.40	8.5	10.7	06.51	A	3
								59.1	1.39	8.5	10.0	11.22	Fox	3
2933	J 1286	Anon.	29	11		6	13	273.8	2.79	11.0	12.0	16.58	J	1
2934	A 1397	+38°3639	29	15		38	38	93.6	1.85	9.4	9.4	06.52	A	2
2935	1335 BC	+66°1211	29	44		66	20	24.2	2.15	10.5	13.0	04.53	β	3
	AB=2546 rej.							11.8	8.33	8.3	10.5	04.53	β	3
2936	J 1287	Anon.	29	56		5	38	211.0	3.56	11.0	11.5	16.58	J	1
2937	J 149	+17°3999	29	56		18	3	120.0	1.78	8.7	10.5	10.72	J	1
								118.8	2.08	8.7	10.7	11.09	V	2
								121.0	1.85	8.8	11.0	12.58	J	1
								120.9	2.39	8.8	10.5	15.66	J	2
2938	E 196	+32°3467	30	0		33	6	48.7	4.5±	9.0	12.0	04.69	E	1
2939	J 487	Anon.	30	10		7	56	183.9	3.79	9.5	11.8	11.39	J	1
2940	J 1207	+35°3674	30	23		36	3	71.0	1.25	9.1	11.2	15.72	J	2
2941	E 1164	+46°2718	30	33		46	49	281.2	4.67	9.3	12.5	12.86	E	3
2942	E 487	+27°3431	30	38		27	13	336.4	3.87	9.1	11.5	07.71	E	2
2943	A 1399	+54°2173	30	47		54	23	79.9	1.35	9.1	10.0	06.51	A	3
								79.2	1.49	9.4	10.0	11.91	Fox	3
2944*	E 1327	+44°3174	30	56		44	27	51.6	2.36	9.3	9.4	14.84	E	3
2945	J 1239	Anon.	31	29		25	7	242.2	4.17	9.4	12.8	15.87	J	1
2946	J 1077	+17°4014	31	34		18	8	16.1	1.97	9.2	11.5	15.46	J	1

2921—This pair is 1^m 29^s f., and 30" n. of 6 *Vulpeculae*.—Doo. 6 and 8 *Vulpeculae*= Σ 42, App. I.: 28°, 406", 4.4-5.7.—J.

2923—The bright star is reddish.—A.

2928—From the data in *Greenwich Results* 1895, this pair should be 15^s f., and 16' n. of Σ 2536: 75°. 1".8, 8.0-11.0.—J.

2944—In *M.N.*, vol. lxxv. page 204, for 44° 27' read 44° 24'.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+ Obs.	n.	
			h	m	s	°	'			°	'			
2947	E 488	+27°3434	19	31	44	27	18	50.5	2.12	9.1	9.2	07.71	E	2
2948	J 1176	Anon.	31	51		18	46	103.3	3.02	10.0	10.5	15.67	J	1
2949	J 1311	Anon.	32	1		7	17	200.8	1.11	11.0	12.0	16.64	J	2
2950	J 1144	Anon.	32	16		14	56	181.3	3.14	9.4	9.8	15.69	J	1
2951	J 1171	Anon.	32	20		11	3	167.3	4.40	9.4	13.0	15.67	J	1
2952*	A.G—	+29°3656	32	24		29	34	107.5	2.72	9.0	10.1	02.60	A	4
								119.4	3.35	10.0	9.5	03.91	How	3
								107.2	3.00	..	..	10.38	A	1
2953	A 2787	+23°3705	32	24		23	24	110.7	3.67	9.2	10.7	14.57	A	3
2954	J 24	+20°4196	32	27		20	38	260.6	2.04	9.2	11.2	09.92	J	2
								252.6	2.38	9.2	10.0	12.58	J	1
								256.1	2.55	9.3	10.9	13.61	Doo	3
								260.3	2.35	9.0	10.5	15.62	J	1
2955	Hu 1304	+65°1367	32	32		65	51	267.3	0.86	8.3	8.8	04.90	Hu	1
								265.5	0.69	..	..	05.93	A	1
2956	A.G—	+35°3699	32	45		36	4	332.4	2.99	9.0	9.4	04.65	E	3
								328.3	2.71	8.9	9.2	15.72	J	1
2957	A 1400	+39°3831	32	53		39	51	289.7	0.31	8.0	10.0	06.53	A	3
2958	E 655 BC AB	+54°2182	33	5		55	0	57.7	2.95	10.2	11.7	08.68	E	5
								128.9	67.07	9.1	10.2	08.64	E	3
2959	J 171	Anon.	33	6		9	0	249.8	3.07	9.5	9.6	10.77	J	1
								251.8	3.07	9.5	9.6	11.62	V	2
								252.8	3.17	9.4	9.6	12.61	J	2
								252.6	3.22	9.5	9.8	12.76	Dj	1
								255.9	3.23	9.7	10.0	16.12	J	2
2960	Doolittle CD AC AB	+24°3803	33	9		24	49	261.4	1.63	10.4	11.3	04.62	Doo	3
								167.2	43.75	8.7	10.4	04.62	Doo	3
								145.6	24.69	8.7	11.3	04.62	Doo	3
2961	E 1434	+43°3296	33	13		43	10	212.9	3.16	9.5	10.6	15.69	E	3
2962	A 1655	+14°3975	33	16		14	19	63.5	1.44	9.0	9.4	07.58	A	2
2963	J 1182	Anon.	33	20		11	45	146.5	3.08	9.5	11.8	15.68	J	1
2964	J 824	Anon.	33	25		10	24	143.4	2.98	9.5	10.0	12.74	J	1
								142.6	2.97	9.8	10.0	12.74	V	1
								139.5	2.42	10.0	11.8	16.72	J	1
2965	J 773	Anon.	33	27		19	43	20.2	2.18	9.6	10.8	12.40	J	1
								18.4	2.30	9.4	9.7	12.40	V	1
								21.5	2.09	9.8	11.0	15.82	J	1
2966	J 800	+41°3411	33	41		41	28	178.0	1.18	9.0	10.5	12.46	J	2
								178.2	1.40	9.1	10.5	12.46	V	1
								174.7	1.39	9.2	11.5	15.82	J	1
2967	E 490 BC Aa AB	+43°3305	34	4		43	16	166.8	3.50	9.0	10.2	07.74	E	2
								229.7	16.38	8.9	12.0	07.76	E	3
								223.8	61.70	8.9	9.0	07.74	E	2
2968*	J 801	Anon.	34	5		9	5	72.8	0.95	9.2	9.3	12.46	J	1
								74.2	1.13	9.4	9.5	12.46	V	1
								73.5	1.27	9.9	9.6	15.68	J	1

2952—Howard reverses the quadrant.—J.

2968—In 1915 the fainter star was noted in the opposite quadrant.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
2969	J 120	- 1°3794	19	34	13	-	1	28	90°±	2±	9.0	9.2	10.30	J	e
									90.5	2.06	9.0	9.5	11.61	J	1
									88.6	2.40	9.0	9.5	11.61	V	1
									91.2	1.91	8.7	10.1	13.81	Doo	3
									95.5	2.38	9.0	9.8	16.72	J	1
2970	A 1656	+15°3884	34	20	16	4	108.5	0.27	9.0	10.0	07.62	A	3		
2971	E 656 CD AC AB=h 1427	Anon.	35	3	46	7	246.2	2.75	11.2	11.5	08.84	E	2		
									293.1	39.13	10.0	11.2	08.84	E	2
									286.5	8.27	10.0	10.4	08.84	E	2
2972	E 493	+43°3311	35	10	43	17	316.0	4.20	9.3	9.5	07.76	E	3		
2973	J 488	+ 1°4058	35	12	2	8	320.7	1.72	8.9	12.0	11.41	J	1		
									321.1	2.00	8.9	12.2	11.41	V	1
									323.5	2.20	9.1	12.5	16.72	J	1
									213.0	3.64	9.2	10.0	11.54	J	1
2974	J 541	Anon.	35	16	15	16	218.5	3.31	9.2	10.2	12.00	V	2		
									219.2	3.13	9.3	10.0	12.44	J	1
									220.5	3.38	9.5	10.5	16.30	J	2
									174.2	3.10	10.8	10.8	16.63	J	2
2975	J 1312	Anon.	35	22	7	19	174.2	3.10	10.8	10.8	16.63	J	2		
2976*	J 774	Anon.	35	22	15	16	28.6	2.47	9.5	10.0	12.44	J	1		
									27.6	2.30	9.4	10.5	12.44	V	1
									209.1	0.68	9.5	9.5	15.46	J	1
2977	J 1139 AB AB-C	+24°3823	35	23	25	6	104.5	32.44	9.2	10.0	15.46	J	1		
									344.7	3.20	9.6	10.0	13.58	E	3
2978	E 1266	+46°2743	35	46	46	24	344.7	3.20	9.6	10.0	13.58	E	3		
2979	J 775	+33°3542	36	7	33	54	96.0	1.85	9.2	10.0	12.40	J	1		
									93.1	2.05	9.3	10.2	12.40	V	1
									93.3	1.71	9.4	11.5	15.82	J	1
2980	Lewis	..	36	:	23	45	268.7	3.73	10.0	10.5	09.68	L	1		
2981	E 1165	+47°2884	36	31	47	57	297.2	4.52	9.6	9.7	12.77	E	2		
2982*	Fox 29 BC AB	+41°3438	36	51	41	27	83.5	1.22	10.8	11.5	15.63	Fox	3		
									47.2	42.56	10.0	10.8	15.63	Fox	3
2983	A 2788	+22°3761	36	54	22	39	327.4	1.13	9.2	10.1	14.57	A	2		
									311.3	0.80	9.1	10.0	15.83	J	1
2984	J 776 AB AC	Anon.	37	1	30	25	47.6	2.90	9.3	9.5	12.38	J	1		
									45.6	2.93	9.4	9.5	12.38	V	1
									49.9	3.50	9.4	9.7	15.82	J	1
									30.0	27.78	9.3	12.5	12.38	J	1
									30.5	..	9.4	12.0	15.82	J	1
2985	J 1136	Anon.	37	17	13	27	105.3	2.80	9.6	11.6	15.44	J	2		
2986	A 1401	+53°2283	37	20	53	26	178.3	3.52	9.0	11.2	06.73	A	2		
2987	Hu 1305	+15°3906	37	29	15	22	84.3	0.30	9.0	10.5	05.32	Hu	1		
									83.7	0.32	..	..	05.72	A	1
2988	J 1288	Anon.	37	39	4	30	340.2	2.77	10.5	10.7	16.58	J	1		
2989	J 815	Anon.	37	54	32	48	271.6	2.77	9.6	10.6	12.48	J	1		
2990	A 1657	+13°4107	37	55	13	40	59.4	4.58	8.7	13.0	07.48	A	2		
2991	A 2789	+22°3769	38	5	23	8	284.2	0.74	9.1	10.5	14.57	A	2		

2976—I could not find this pair on one night in 1915. It is possibly an observation of J 541 with the wrong quadrant.—J
2982.—There are faint stars nearer to A.—Fox.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs. n.	
			h	m	s	°	'			°	"			
2992	E 198	+64°1369	19	38	6	64	46	313.7	2.7 ±	8.8	9.4	03.68	E	3
								313.3	3.29	..	..	09.66	Storey	2
2993	A 1403	+55°2239	38	19		55	34	187.1	0.22	8.9	9.1	06.45	A	3
2994	J 1183 AB AC	+ 8°4187	38	20		9	8	324.1	2.78	9.1	12.0	15.68	J	1
								58.7	17.61	9.1	9.8	15.68	J	1
2995	A 1402	+38°3709	38	30		38	40	215.2	3.02	9.2	9.7	06.51	A	2
2996	J 1313	+ 7°4189	38	49		7	15	151.8	3.88	9.6	9.6	16.63	J	2
2997*	β— CD AC AB=h 895	+ 0°4284	38	50		1	3	124.2	4.59	9.1	13.7	01.47	β	2
								15 ±	18 ±	9.0	10.0	20 +	h	..
								16.8	28.53	8.7	9.1	01.47	β	3
								220 ±	7 ±	9.0	15.0	20 +	h	..
								207.7	14.18	8.7	10.5	01.47	β	3
2998	J 1289	+ 2°3971	39	7		2	41	206.8	0.87	9.3	9.5	16.58	J	1
2999	J 1290	Anon.	39	13		4	37	213.8	2.51	10.0	10.3	16.58	J	1
3000	J 777	Anon.	39	28		33	25	180.8	2.12	9.5	12.5	12.44	J	1
								180.2	2.18	9.5	12.5	12.44	V	1
3001	J 489	Anon.	39	43		2	27	97.0	3.07	9.4	10.0	11.41	J	1
								97.9	2.74	9.5	11.5	11.41	V	1
								96.9	2.35	9.6	10.5	16.72	J	1
3002	J 490 AB AC	Anon.	39	45		23	7	107.1	2.98	9.2	13.0	11.52	J	1
								51.1	3.94	9.2	13.0	11.52	J	1
3003	J 140	Anon.	40	12		15	22	236.6	2.48	9.5	12.0	10.54	J	1
								230.5	3.02	9.0	12.0	15.68	J	1
3004	J 1034	+27°3488	40	13		27	37	99.4	2.35	8.9	12.6	09.95	J	3
3005*	E 657	+52°2489	40	14		53	8	113.1	2.70	9.4	11.0	08.56	E	2
3006*	J 816	Anon.	40	16		20	58	330.8	2.97	9.5	11.6	12.48	J	1
								335.6	3.00	9.5	12.0	12.48	V	1
3007*	J 778 AB AC	Anon.	40	35		33	28	342.2	2.30	9.2	12.5	12.43	J	1
								348.7	2.89	9.3	15.0	15.62	J	1
								288.0	2.88	9.2	9.7	12.43	J	1
								284.2	3.30	9.3	10.2	15.76	J	2
3008	A 2389	+ 3°4133	40	35		3	38	126.3	1.06	8.9	11.2	10.64	A	2
3009	E 1328	+43°3337	40	49		44	8	88.1	2.51	9.6	13.5	14.83	E	2
3010*	J 1240 BC AB	+28°3456	41	11		28	52	352.8	2.78	10.5	10.5	15.90	J	1
								102.0	65.73	9.5	10.5	15.90	J	1
3011	J 1185	+18°4223	41	30		18	50	100.5	4.98	8.9	9.8	15.68	J	1
3012	J 1216	Anon.	41	30		17	38	241.5	3.71	9.5	14.0	15.73	J	1
3013	J 491	Anon.	41	37		23	46	70.7	4.30	9.5	10.5	11.52	J	1
								68.0	4.11	9.5	10.6	11.52	V	1
								69.7	4.14	9.5	11.5	15.69	J	1
3014	J 492 AB AC	+23°3758	41	42		23	47	292.8	4.95	9.4	9.9	11.52	J	1
								295.0	4.61	9.4	9.8	11.52	V	1
								297.3	4.14	9.3	10.0	15.69	J	1
								275.3	9.06	9.3	15.0	15.69	J	1

2997—B.D. +0°4284 is for the star C.—β.

3005—The *pr.* star of two.—E.

3006—I could not find this pair on one night in 1916. For this pair, as for J.C. 2976, had I the original observations left in the library at Lille, the error could soon be traced by referring to the comparison stars used.—J.

3007—The faint companion B was extremely difficult with the 28-inch and was only visible on one night.—J.

3010—Other faint stars near. A 12th mag. in position of BC.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	"				
3015	J 817	+20°4260	19	41	46	20	12	119.8	2.25	9.4	10.0	12.51	J	1	
									114.1	2.13	9.4	10.5	12.51	V	1
									113.3	1.97	9.5	11.2	16.72	J	1
3016	J 1193	Anon.	41	56		23	50	266.3	4.99	10.0	11.0	15.69	J	1	
3017	A 2597	- 3°4702	41	57		- 3	35	269.2	0.22	9.5	9.5	13.67	A	2	
3018*	J 825	+14°4028	41	58		14	59	105.8	1.34	10.0	10.2	12.76	J	1	
								104.2	1.80	10.1	10.4	12.76	Dj	1	
								107.0	1.35	10.5	10.5	15.86	J	1	
3019	J 1314	Anon.	42	8		7	16	183.4	4.26	11.2	11.2	16.65	J	1	
3020	J 826	Anon.	42	8		13	9	350.6	2.37	9.4	10.0	12.73	J	1	
								349.4	2.38	9.4	9.9	12.73	V	1	
								346.1	2.37	9.3	9.9	15.54	J	1	
3021	J 1315	Anon.	42	35		7	10	285.6	1.53	9.6	11.8	16.63	J	2	
3022	E 1098	Anon.	42	47		48	37	165.9	3.82	9.3	9.8	11.66	E	3	
3023*	J 150	Anon.	42	48		10	12	187.2	1.48	9.5	9.5	10.74	J	1	
								192.6	1.33	9.3	9.7	12.60	J	1	
								188.5	1.55	9.4	9.6	12.60	V	1	
3024	A 1404 AB AB-C AB-D	+39°3905	43	9		39	42	322.1	0.21	7.5	8.2	06.53	A	3	
								272.6	19.70	..	13.0	06.51	A	1	
								79.2	21.90	..	12.0	06.51	A	1	
3025	J 493	+ 9°4260	43	49		9	43	117.4	4.96	8.7	14.0	11.39	J	1	
3026	J 1201	Anon.	44	3		16	54	115.9	4.64	8.9	13.0	16.72	J	1	
								77.9	2.41	9.8	9.8	15.69	J	1	
3027*	J 827	Anon.	44	4		18	24	34.6	2.03	9.6	11.5	12.77	J	1	
3028	J 494	Anon.	44	9		11	3	39.9	2.20	9.5	12.0	15.68	J	1	
								150.5	3.27	9.6	10.0	11.43	J	1	
								149.5	2.97	9.5	10.5	11.43	V	1	
3029	J 1187	+17°4096	44	16		17	54	152.9	3.17	10.0	11.2	16.72	J	1	
								196.1	1.05	9.3	9.6	15.68	J	1	
								188.6	1.17	9.5	9.8	16.72	J	1	
3030	A 2390	+ 3°4153	44	30		3	14	285.4	2.20	8.4	13.6	10.64	A	2	
3031*	E 795 AB AC	Anon.	44	39		50	39	319.4	3.98	9.4	10.1	09.61	E	2	
								51.8	14.45	9.4	14.0	09.61	E	1	
3032	J 1316	Anon.	44	56		7	12	206.8	2.17	10.5	10.5	16.65	J	1	
3033	A 1405	+38°3761	44	56		38	21	220.9	0.33	9.1	9.7	06.52	A	3	
3034	J 495	Anon.	44	59		3	4	28.0	4.49	9.5	11.5	11.41	J	1	
3035	A 1658	+14°4048	44	59		14	52	161.0	0.23	7.8	8.1	07.51	A	4	
3036*	β -	+34°3722	45	29		35	0	..	1 \pm	..	..	..	β	e
3037	Lewis	..	45	:		33	33	198.0	3.62	9.2	9.7	08.73	L	1	
3038	J 779	Anon.	45	33		33	27	283.0	2.99	9.4	11.3	12.40	J	1	
								282.8	3.20	9.3	11.6	12.40	V	1	

3018—At the place of B.D. +14°4028, although it appears too faint to be in the B.D.—J.

3023—A.G. Leipzig I. 7461 (9.3), not in the B.D.—J.

3027—In the field with δ *Sagittae*, which is 4' s. and 15" pr.—J.

3031—Another *comes* mag. 13.5, more distant in the same direction as C.—E.

3036—In β .G.C., part ii. page 863: "The 9.5 star B.D. 34°3722 is a wide double, and the *f.* star of the two is a close pair with a distance of about 1". It is 38" pr. and 5.5 s. of O Σ 387."— β . O Σ 387: 315°3, 0°58, 7.2-8.2, 1914.74 W.B. 2.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3039*	A. G—	+14°4051	19	45	33	14	16	153·1	4·20	9·0	8·9	03·77	Mil	1
								153·3	3·23	9·2	9·3	07·53	A	2
3040	Fox 31	+ 6°4323	45	45		7	6	13·7	4·73	8·6	12·8	14·85	Fox	3
3041	A 1659	+12°4095	45	51		12	29	327·7	0·38	9·9	9·9	07·55	A	3
3042*	J 152	+ 7°4247	46	9		7	29	165·1	2·43	9·0	11·7	10·72	J	1
								167·0	2·70	9·0	11·7	10·72	V	1
								167·0	3·01	9·0	10·5	11·80	J	1
								167·3	2·80	9·0	10·0	16·72	J	1
3043	J 1107 CD AB=Hu 349 AC	+16°4023	46	21		16	49	195·9	2·23	12·5	13·2	15·46	J	1
								237·1	2·40	8·4	12·8	01·55	Hu	3
								236·5	2·51	8·3	12·5	15·46	J	1
								30·0	57·77	8·3	12·5	15·46	J	1
3044	J 496	Anon.	46	21		23	12	262·6	4·27	9·3	10·0	11·43	J	1
								263·6	4·28	9·1	9·9	11·43	V	1
								263·1	3·52	9·4	10·2	16·72	J	1
3045	J 141	+17°4117	46	57		17	14	45·2	3·98	9·5	9·5	10·52	J	1
								42·4	4·22	9·4	9·5	12·58	J	1
								40·7	3·71	9·7	9·7	16·72	J	1
3046	J 780	Anon.	46	57		31	18	94·8	2·15	9·5	9·5	12·39	J	1
								93·0	2·18	9·5	9·5	12·39	V	1
3047	J 1068	Anon.	46	59		33	2	19·2	2·87	9·8	10·4	14·96	J	1
3048	J 1172	Anon.	47	19		7	49	101·1	2·17	9·8	9·8	15·67	J	1
3049	J 497	Anon.	48	2		0	39	132·5	3·31	9·4	12·0	11·41	J	1
3050*	J 828	Anon.	48	2		0	28	195·0	1·55	9·6	9·6	12·77	J	1
								193·3	1·51	10·0	10·0	16·72	J	1
3051*	E 242	+36°3730	48	5		36	30	22·1	2·22	9·5	10·0	05·85	E	3
3052	A 1406	+38°3784	48	8		38	58	269·3	1·05	8·9	11·5	06·52	A	3
3053	J 1160 AB AC	Anon.	48	12		34	22	307·5	3·32	9·7	9·7	15·61	J	1
								230·9	8·06	9·7	14·5	15·61	J	1
3054	J 125	+41°3514	48	16		41	28	225±	2±	9·4	9·6	10·30	J	e
								204·4	1·62	8·8	9·0	12·45	J	1
								213·4	1·80	8·8	9·2	13·62	Doo	2
3055	J 1317	Anon.	48	18		17	13	63·7	3·04	11·4	11·8	16·72	J	1
3056	J 1161	Anon.	48	19		34	22	334·7	3·62	11·0	14·3	15·61	J	1
3057	J 1259 AB AC	Anon.	48	19		33	20	81·3	3·20	9·4	13·0	15·79	J	1
								254·9	7·08	9·4	12·0	15·79	J	1
3058	J 829	Anon.	48	20		17	11	275·8	1·99	9·6	10·0	12·72	J	1
								283·3	1·89	10·2	11·5	16·72	J	1
3059	J 172	+ 9°4296	48	30		9	21	291·4	4·43	9·2	12·2	10·77	J	1
								286·4	4·53	9·3	12·6	10·77	V	1
3060	J 1227	Anon.	48	31		27	20	0·0	4·99	9·0	12·0	15·84	J	1
3061	Lewis	..	48 :			22	30 :	273·8	0·85	7·5	10·0	10·77	L	1

3039—In *Lick Obs.*, vol. xii. page 142, for A.G. Leipzig II. 7496–97, read A.G. Leipzig I. 7496–97. The fainter star is given in the opposite quadrant by Miller.—J.

3042—In *J.A.* and *A.N.*, for 19^h 49^m 9^s read 19^h 46^m 9^s.—J.

3050—In the field with Σ 2589 : 297°, 5", 8·0–8·4, which is 2' s. and 25^s f.—J.

3051—In *M.N.*, vol. lxi. page 146, for 19^h 46^m·4 read 19^h 47^m·4, as Espin confirms B.D. +36°3730.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3062*	J 151	Anon.	19	49	3	18	37	192.2	3.00	9.5	11.0	10.52	J	1
								191.7	3.86	9.7	10.0	11.45	J	1
								190.8	3.23	9.4	11.0	12.77	J	1
								195.1	3.29	9.8	10.5	16.72	J	1
3063	A 1660	+14°4078	49	11	14	13	219.7	0.54	9.3	9.4	07.55	A	3	
3064	Lewis	..	49	:	22	32	321.2	1.06	9.0	9.5	10.77	L	1	
3065*	Roe 20	Anon.	49	40	36	11	154.5	4.32	9.5	9.5	08.87	Roe	3	
3066	J 542	Anon.	49	41	24	28	181.9	3.43	9.5	11.5	11.59	J	2	
							186.0	3.78	9.5	11.5	11.57	V	1	
3067	J 1217	Anon.	50	4	18	35	199.5	3.35	9.5	11.5	15.73	J	1	
3068*	J 25	+29°3790	50	9	29	10	1.8	0.59	9.4	9.4	09.94	J	2	
							2.5	0.90	9.3	9.5	12.58	J	1	
							2.1	0.94	9.5	10.4	13.64	Doo	4	
							3.0	1.66	9.2	9.5	15.76	J	2	
							1.8	1.68	9.5	9.7	16.58	J	2	
3069	J 1291	Anon.	50	19	2	31	332.2	2.41	9.8	10.2	16.58	J	1	
3070	J 1177	Anon.	50	24	18	45	260.3	1.20	9.6	10.0	15.70	J	2	
3071	J 498	Anon.	50	24	19	45	91.2	1.62	9.1	9.7	11.43	J	1	
							91.1	1.87	9.0	10.0	11.43	V	1	
							94.8	1.66	9.4	10.4	16.72	J	1	
3072	E 494 AB	+27°3549	50	28	27	52	190.1	3.65	8.9	10.2	07.73	E	2	
							198.4	3.78	8.9	10.8	15.84	J	1	
							309.0	16.35	8.9	12.0	07.74	E	1	
							311.2	16.88	8.9	13.0	15.84	J	1	
3073	J 830	+17°4140	50	39	17	31	194.8	3.06	9.0	9.4	12.74	J	2	
							194.8	2.85	9.0	9.6	12.73	Dj	1	
							196.0	3.53	..	..	15.74	HF	1
3074*	Bowyer	..	50	:	22	14	261.8	3.12	10.5	10.5	07.66	WB	1	
3075	A.G.—	+29°3795	51	12	29	49	260.2	2.83	10.5	11.1	10.77	L	1	
							200.9	2.02	8.1	10.8	02.69	A	2	
3076	J 1145	+18°4300	51	22	18	57	307.1	1.66	9.1	11.5	15.54	J	1	
3077	J 543	Anon.	51	26	5	26	9.2	4.03	9.6	9.6	11.59	J	1	
							9.1	4.03	9.6	9.7	11.59	V	1	
3078	J 1202	Anon.	51	29	12	24	96.7	3.92	9.5	10.5	15.69	J	1	
3079	A 1661	+14°4092	51	30	15	5	194.4	2.80	8.7	14.0	07.54	A	2	
3080	J 1184	Anon.	51	40	8	28	346.1	1.93	9.8	9.8	15.68	J	1	
3081	J 601	+10°4093	51	44	10	22	252.4	4.11	9.0	9.7	11.80	J	1	
							251.6	3.99	9.2	9.8	11.80	V	1	
							253.5	3.62	9.4	9.8	16.73	J	1	
3082	J 1156	+24°3929	52	4	24	36	225.3	2.77	9.5	9.6	15.54	J	1	
3083	J 781 AB	Anon.	52	6	29	58	306.8	2.68	9.3	9.3	12.39	J	1	
							303.7	3.08	9.4	9.4	16.73	J	1	
							95.3	4.90	9.4	15.0	16.73	J	1	
3084	E 200	+34°3791	52	12	34	22	229.0	4.5±	10.0	10.0	04.75	E	2	

3062—This is not A.G. Berlin A 7756 given in *J.A.*, vol. i. page 86, and *A.N.* 4461, but a fainter star close by.—J.

3065—2.2 s. and 19.3 f. B.D. 36°3744 (6.3).—Roe.

3068 Apparently some change in distance. In *A.J.*, Nos. 679–680, Doolittle writes: "J's first distance probably an error. Fixed."—J.

3074—Lewis's declination is 10' smaller than that given in 1907.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3085	J 153	+11°4054	19	52	23	11	38	0.0	1.36	9.6	9.6	10.74	J	1
								5.4	1.48	9.1	9.4	12.71	J	1
								3.0	12.71	Dj	1
								3.4	1.36	9.4	9.6	15.86	J	1
3086	E 797	+50°2919	52	28	50	24	154.0	3.96	9.3	12.0	09.60	E	4	
3087	Lewis	..	52	:	21	17	77.9	2.60	9.5	10.0	04.51	L	1	
3088	J 499	Anon.	52	30	17	55	221.0	2.11	9.7	11.8	11.39	J	1	
3089*	A 2790	+20°4341	52	31	20	26	123.2	3.78	9.0	14.1	14.59	A	2	
3090	Hu 1306	+35°3866	52	48	35	51	182.6	0.50	9.3	9.6	05.65	A	2	
3091	A 2391 AB AB-C = Σ 2601	+ 1°4145	52	48	1	42	22.2	0.17	9.2	9.5	10.70	A	3	
							166.1	6.59	8.2	10.0	31.05	Σ	2	
							161.9	6.78	8.5	10.0	10.65	A	1	
3092	A 1407	+38°3818	53	16	38	32	150.8	1.02	9.3	9.4	06.52	A	2	
3093	J 782	+31°3851	53	25	31	43	72.8	1.75	9.2	9.3	12.40	J	1	
							70.0	2.07	9.4	9.4	12.40	V	1	
							67.9	2.23	9.4	9.4	15.79	J	1	
3094	A 2690	- 4°4978	53	30	-4	3	211.3	1.22	9.0	11.8	13.71	A	2	
3095*	A 1408	+37°3685	53	31	37	37	182.8	1.48	9.0	12.2	06.57	A	3	
3096	J 500	Anon.	53	36	24	25	294.3	3.85	9.5	9.9	11.52	J	2	
							295.0	3.65	9.5	9.8	11.52	V	2	
							290.1	3.28	9.6	9.9	16.73	J	1	
							163.2	3.13	8.9	14.4	10.69	A	3	
3097	A 2392	+ 2°4044	53	40	2	46	163.2	3.13	8.9	14.4	10.69	A	3	
3098	A 1662	+13°4215	53	47	13	55	208.1	0.24	8.8	8.8	07.57	A	3	
3099	A 1663	+15°3998	53	54	15	11	225.5	0.95	9.0	9.2	07.54	A	2	
							227.3	1.21	8.5	8.8	15.69	J	1	
3100	E 985	+53°2325	54	1	54	6	285.2	2.80	9.5	12.0	10.68	E	3	
3101	J 818 AB AB-C	+ 8°4287	54	37	8	39	17.8	0.77	9.3	9.3	12.47	J	1	
							23.7	0.59	9.6	9.6	16.75	J	2	
							186.2	22.93	..	9.3	12.47	J	1	
							188.0	23.55	..	9.5	16.75	J	2	
3102	Bowyer	..	54	:	21	49	128.0	1.95	8.5	11.0	06.68	WB	2	
3103	J 783	+40°3956	54	46	40	21	10.4	2.97	9.1	9.4	12.44	J	1	
3104	J 1069	Anon.	54	48	39	1	247.2	2.71	9.8	10.5	14.87	J	1	
3105	A.G-AB AC AB-C	+21°3994	54	49	21	55	276.9	1.25	9.0	10.4	04.54	L	2	
							277.7	1.50	..	..	04.64	WB	2
							276.7	1.65	9.0	10.4	06.64	WB	3	
							275.7	1.32	9.0	10.4	07.66	WB	3	
							277.8	1.33	..	..	07.93	HF	1
							269.8	0.93	8.8	9.0	12.51	J	1	
							275.6	0.97	8.9	9.2	12.51	V	1	
							251.6	13.40	..	..	04.57	L	1
							244.7	13.62	9.0	10.5	04.63	WB	1	
							246.8	13.22	..	10.5	06.69	WB	2	
							246.0	13.33	9.0	10.5	07.71	WB	2	
							241.7	13.30	..	..	07.93	HF	1
							245.4	12.40	8.8	12.0	12.51	J	1	
244.2	12.58	8.9	12.5	12.51	V	1								

3089—The 9.2 star B.D. +20°4344, which follows about 20^s and 7' n., is also double: 106° 5' 4" 9.2-14.0. The Berlin Catalogue has the note, "Dupl. 3"-4" mag. pr. com. 9.2." I found no evidence of such a pair.—A.

3095—In *Lick. Obs. Bul.* 109, for +57°3685 read +37°3685.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3106	A 2791	+21°3995	19	54	53	22	5	160.5	0.54	9.0	12.0	14.59	A	2
3107	Lewis	+21°3996		55	6	21	49	295.5	2.58	9.0	10.0	04.57	L	2
								300.5	2.19	..	..	06.66	WB	2
								298.9	1.94	9.0	9.5	07.69	WB	3
3108*	Bowyer	..	55	:		21	48	308.0	1.63	9.0	10.0	06.66	WB	1
3109	A 1409	+38°3839	55	7		38	27	33.9	0.49	8.4	10.0	06.53	A	3
3110*	E 495 BC	+28°3543	55	9		28	46	310.5	4.11	11.0	11.8	07.66	E	3
	AB							245.5	39.87	8.0	11.0	07.69	E	2
3111	J 1070	Anon.	55	29		38	17	77.2	3.59	9.6	9.6	14.96	J	1
3112	A 1410	+52°2581	55	33		52	38	198.7	1.23	9.1	9.9	06.39	A	3
3113	Hu 1307	+65°1418	55	37		66	4	38.1	0.84	8.4	9.5	04.90	Hu	1
								35.9	0.93	..	..	05.93	A	1
3114	E 1436	+43°3435	55	58		43	29	180.4	2.99	9.5	10.9	15.69	E	2
3115	J 831	+9°4358	56	6		9	54	276.2	2.98	9.3	9.9	12.76	J	1
								274.8	3.18	9.1	9.6	12.76	Dj	1
								272.9	3.23	9.4	10.3	15.67	J	1
3116	A 2393	+3°4222	56	6		3	25	256.9	0.29	9.4	10.0	10.70	A	3
3117	J 1140 AB	+19°4234	56	10		19	34	285.1	1.93	9.3	10.5	15.46	J	1
	AC							336.1	22.19	9.3	12.8	15.46	J	1
3118	J 1203	Anon.	56	18		16	24	356.5	2.46	9.8	12.0	15.69	J	1
3119	J 501	Anon.	56	19		12	48	89.1	3.07	9.6	9.7	11.40	J	1
								87.9	2.83	9.5	9.7	11.40	V	1
								88.3	2.63	9.7	9.9	16.73	J	1
3120	Ho 638	Anon.	56	22		17	23	290.8	2.15	8.8	11.8	99.08	Ho	3
								289.5	1.93	9.2	11.2	06.36	Do0	3
								289.9	2.34	9.1	10.2	12.70	J	1
3121	J 1204 BC	Anon.	56	28		16	23	261.3	2.41	12.0	13.0	15.69	J	1
	AB							235.1	41.05	9.3	12.0	15.69	J	1
3122	J 1158	+35°3904	56	31		35	34	164.3	1.54	9.0	11.0	15.61	J	1
3123	J 1159	Anon.	56	34		35	33	116.1	1.81	12.0	12.5	15.61	J	1
3124	A 1664	+12°4187	56	47		13	4	72.8	0.66	9.1	9.8	07.61	A	3
3125	Hu 1308	+33°3683	57	5		34	10	1.9	0.54	8.5	9.0	05.65	A	2
3126	A 2275	+0°4385	57	9		1	7	63.1	0.40	9.0	9.6	10.68	A	2
3127	J 502	+17°4192	57	20		18	1	59.3	3.89	9.4	9.5	11.34	J	1
								63.1	3.50	9.3	9.5	11.34	V	1
								62.7	3.16	9.6	9.8	16.73	J	1
3128	A 1665	+15°4018	57	20		15	48	103.3	4.06	8.6	14.5	07.63	A	3
3129	J 173	Anon.	57	27		9	37	50.4	4.93	9.2	12.5	10.77	J	2
								51.2	5.03	9.2	12.7	10.77	V	2
3130	J 154	Anon.	57	35		-4	8	60.4	3.32	9.5	10.1	10.68	J	1
3131	J 544	-1°3882	57	35		-1	33	354.9	3.78	9.2	10.0	11.78	J	1
								352.5	3.83	9.2	9.9	11.78	V	1
3132	J 784	Anon.	57	44		19	3	157.6	2.10	9.7	9.9	12.44	J	1
								159.2	1.92	9.6	9.6	12.44	V	1
3133	A 2276	+0°4389	57	45		0	57	59.8	3.29	8.9	13.0	10.68	A	2

3108—May be identical with preceding number, or possibly with J.C. 3105.—W.B.

3110—In *M.N.*, vol. lxviii, page 207, this is identified for B.D. +28°3553, which would make the place here $19^{\text{h}} 56^{\text{m}} 26^{\text{s}} 28' 51''$; but this star is only of mag. 9.5, and the coordinates published point to B.D. +28°3543 (8.0), which I have adopted here.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3134	E 201	+59°2160	19	58	6	59	32	145.0	4.1 ±	9.0	11.5	03.64	E	1
3135	J 1292 AB	Anon.		58	19	4	58	90.7	3.51	9.8	10.5	16.58	J	2
	AC							62.7	24.13	9.8	9.8	16.58	J	2
3136	J 1293	Anon.		58	29	7	14	188.3	1.13	11.0	11.3	16.58	J	2
3137	J 1294	Anon.		58	44	5	48	24.1	2.49	10.0	11.0	16.58	J	2
3138	E 243	+34°3844		58	57	35	8	294.7	4.78	9.0	10.2	05.71	E	3
3139	J 174	Anon.		58	56	9	48	172.2	3.78	9.6	12.8	10.77	J	1
3140	A 1411 AB	+38°3871		59	7	38	26	203.6	1.09	8.5	12.2	06.52	A	3
	AC							207.6	10.23	8.5	13.0	06.51	A	1
	AD							117.8	22.90	8.5	13.5	06.51	A	1
3141	A 1666	+14°4155		59	36	14	50	48.3	0.45	9.0	9.8	07.63	A	3
3142	J 1222	+22°3902		59	58	22	29	75.1	1.41	9.6	9.6	15.83	J	1
3143	A.G—	+57°2114	20	0	2	57	52	357.6	4.12	9.0	10.0	04.50	A	1
3144	A 2277	+ 3°4237		0	22	4	11	357.3	1.85	8.7	11.2	10.68	A	2
3145	A 1412	+37°3741		0	28	38	1	215.9	0.72	8.8	11.5	06.57	A	2
3146	J 602	Anon.		0	35	10	23	330.6	4.20	9.2	12.0	11.79	J	1
								329.6	4.08	9.3	11.8	11.79	V	1
3147	E 496	+28°3594		0	37	28	46	279.2	2.22	8.9	10.0	07.69	E	2
3148	J 819	Anon.		0	44	19	39	131.8	1.88	9.7	10.5	12.47	J	1
3149	J 545	+ 9°4382		0	52	9	35	356.5	4.58	9.5	11.5	11.61	J	1
								355.1	4.63	9.4	11.2	11.61	V	1
3150	β— BC	+ 0°4411		1	16	0	14	185.3	4.84	7.5	13.2	01.47	β	3
	AB=h 2927							135.0	20 ±	7 ±	13 ±	30 +	h	..
								126.9	..	7.0	12.5	79.46	Cin	1
								125.0	24.34	7.5	12.0	01.47	β	3
3151	E 1437	+42°3575		1	17	43	8	267.3	4.15	9.5	12.0	15.86	E	3
3152	A 1413	+36°3854		1	36	36	27	138.4	2.21	9.1	9.9	06.57	A	3
								140.0	2.25	9.2	10.5	10.47	J	1
3153	J 603	+ 4°4339		1	41	4	20	126.5	2.88	9.3	9.4	11.79	J	1
								125.9	2.65	9.4	9.5	11.79	V	1
								131.9	2.68	9.6	9.6	15.76	J	1
3154	J 546	+ 7°4361		1	52	7	34	294.4	2.21	9.0	9.5	11.61	J	1
								290.0	2.33	9.0	9.4	11.61	V	1
								290.1	2.17	9.3	9.8	15.76	J	1
3155	J 503	Anon.		2	4	11	30	297.5	4.45	9.5	9.6	11.33	J	1
								296.8	4.38	9.5	9.6	11.88	V	2
								296.4	4.40	9.5	9.7	12.40	J	1
								293.5	3.88	9.6	9.8	15.76	J	1
3156	J 134	+10°4169		2	8	10	21	89.4	4.66	9.2	11.0	10.50	J	1
								91.8	5.75	9.2	11.8	12.67	J	1
								91.6	5.62	9.2	11.5	12.67	V	1
3157	J 504	Anon.		2	18	24	28	183.1	4.30	9.5	9.5	11.43	J	1
								182.4	4.19	9.5	9.5	11.43	V	1
3158	A 1414	+37°3760		2	39	37	32	22.3	0.21	9.5	10.2	06.49	A	3
3159	A 1667	+15°4043		2	45	16	1	264.9	3.92	8.0	14.8	07.63	A	3
3160*	A 2278 AB	+ 1°4203		2	47	1	42	222.9	0.72	9.6	9.8	10.68	A	2
	AC							220.3	0.53	9.8	10.2	11.18	Fox	2
								3.5	29.24	9.7	10.0	10.66	Fox	3

3160—Measured as Fox 32 in *Annals of the Dearborn Observatory*, vol. i. page 226.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3161	J 1072	+38°3902	20	2	54	38	51	256.0	3.62	9.5	11.0	14.96	J	1
3162	J 1233	Anon.		2	57	19	43	215.6	4.62	9.5	13.0	15.84	J	1
3163	E 798 BC AB	+50°2977		3	14	50	17	326.7	2.97	9.7	9.9	09.61	E	2
3164*	J 832	Anon.		3	50	16	27	87.8	2.49	9.7	9.7	12.76	J	1
								92.6	2.66	9.5	9.5	12.76	V	1
								83.3	3.10	9.7	9.7	15.76	J	1
3165	A 1415	+36°3876		3	58	37	4	233.6	3.74	8.8	14.0	06.49	A	2
3166	E 360	Anon.		4	16	30	52	78.2	2.74	9.8	9.9	06.66	E	2
3167	J 547	Anon.		4	29	6	15	86.1	4.47	9.2	12.0	11.64	J	1
3168	A 1416	+38°3913		4	41	38	23	89.1	4.20	9.3	12.0	11.64	V	1
								42.0	4.70	7.9	10.8	06.57	A	2
3169	J 1168	+20°4441		4	43	20	51	190.5	0.78	9.1	9.8	15.60	J	2
3170	E 361	+30°3908		4	46	30	27	113.5	4.82	9.0	11.0	06.68	E	2
3171	J 1162	Anon.		5	0	35	51	119.5	4.62	9.0	12.0	15.87	J	1
								17.5	3.58	9.8	9.9	15.61	J	1
3172	J 833	+16°4167		6	1	17	11	110.6	3.70	9.2	11.0	12.73	J	1
3173	A 1417	+52°2635		6	36	53	6	105.7	4.16	8.9	11.8	15.67	J	1
								167.0	0.62	8.0	10.5	06.39	A	3
3174*	J 1163	Anon.		6	50	33	9	286.3	2.67	11.5	13.0	15.61	J	1
3175	Fox 33	+25°4127		6	51	25	22	100.3	1.12	9.1	10.5	12.59	Fox	3
3176	J 505	Anon.		6	53	9	51	44.5	2.48	9.5	13.0	11.45	J	1
3177	J 506	Anon.		7	10	18	13	42.7	4.46	9.5	14.0	15.77	J	1
								307.2	3.47	9.5	9.6	11.33	J	1
3178	A 29..	- 7°5204		7	34	- 7	45	305.8	3.31	9.6	9.7	11.33	V	1
								82.7	1.75	9.0	13.5	15.64	A	1
3179	Roe 41	+42°3619		7	44	43	1	339.1	4.44	9.8	10.2	10.52	Roe	3
3180	E 986	+51°2784		7	49	52	7	287.3	3.30	9.4	9.5	10.77	E	2
3181	J 548	Anon.		7	53	- 0	46	161.3	3.93	9.5	12.0	11.63	J	1
3182*	J 136	+10°4200		7	56	11	1	259.8	1.30	9.3	9.4	10.53	J	1
								260.1	1.34	9.2	9.3	11.48	V	2
								264.4	1.42	9.1	9.5	12.40	J	1
3183	E 1099	+48°3053		8	12	49	9	179.6	4.62	9.0	10.0	10.68	E	2
3184	A 1418	+38°3940		8	44	38	38	326.6	2.98	7.5	11.7	06.57	A	2
3185	J 1164 AB AC	Anon.		8	48	35	36	90.1	3.23	10.5	10.5	15.61	J	1
3186	J 127	Anon.		8	59	34	55	248.3	6.69	10.5	15.0	15.61	J	1
								0±	1±	9.8	9.8	10.30	J	e
								2.3	2.59	10.1	10.3	13.61	Doo	3
3187*	A.G.—	+28°3664		9	4	29	8	7.1	3.56	9.8	9.9	15.61	J	1
								304.6	3.95	8.8	9.3	03.95	Mil	4
3188*	J 549	+10°4210		9	9	10	14	303.4	3.95	8.8	9.4	15.81	J	1
								297.8	4.82	9.0	12.3	10.77	J	1
								298.8	4.30	9.2	12.8	10.77	V	1
								298.2	4.72	9.0	12.0	11.64	J	1
								300.5	4.67	9.1	12.0	11.64	V	1

3164—A star of mag. 7.0 B.D. is at 3' s. and 2^s f.—J.

3174—Faint pair 20^s f. B.G.C. 9958—h 1485; 5°07', 278.5, 8.8—9.2.—J.

3182—In *J.A.*, vol. i. page 77, and *A.N.*, 4461, page 346, for 19^h 7^m 56^s read 20^h 7^m 56^s.—J.

3187—Noted "Double south following" in A.G. Cambridge.—J.

3188—Also J 176. The same B.D. number was given for both pairs, but for J 176 in *J.A.*, vol. i. page 88, for 21^h 9^m 9^s read 20^h 9^m 9^s.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n
			h	m	s	°	'			°	'			
3189	J 1166	Anon.	20	9	15	37	56	102.5	3.29	9.9	11.0	15.61	J	1
3190	J 1295	Anon.		9	15	8	2	275.0	3.29	9.6	9.6	16.59	J	1
3191	J 550	Anon.		9	29	4	25	133.4	4.94	9.2	9.6	11.76	J	1
								134.5	4.90	9.3	9.7	11.76	V	1
3192	J 1194	+21°4102		9	38	21	30	118.7	3.80	9.3	12.8	15.69	J	1
3193	E 501	+45°3093		9	39	45	22	125.3	1.32	9.1	10.2	07.72	E	2
3194*	J 551 BC	- 1°3925		9	52	- 1	7	65.0	0.43	9.6	9.8	11.64	J	1
								56.3	0.45	9.6	9.6	11.64	V	1
								44.8	0.30	9.6	9.9	16.76	J	2
	A-BC = β -							80.4	64.07	7.1	8.5	01.55	β	2
								81.9	64.34	7.1	9.6	07.55	β	3
								82.3	64.38	..	..	08.59	β	4
								82.6	64.46	..	..	11.43	β	3
								83.5	64.73	8.0	9.4	16.76	J	1
	BC-D = β -							66.3	25.62	9.6	11.0	08.60	β	3
								66.5	25.33	..	..	11.45	β	3
3195	A 1668	+12°4261		9	55	12	47	338.9	1.32	9.0	11.5	07.64	A	2
3196	J 834	+21°4106		10	6	21	30	279.0	1.98	9.3	10.0	12.67	J	1
3197*	β -	..		10	26	11	47	169.5	3.41	10.2	11.7	05.36	β	1
3198	J 1296	Anon.		10	42	11	2	236.4	2.23	10.0	10.5	16.59	J	1
3199*	Lewis	..		10	:	23	57	297.9	1.60	7.5	12.0	08.90	L	1
3200*	Fox 34	+49°3229		10	55	49	33	183.4	4.91	9.2	11.0	10.45	Fox	3
3201	A 1419	+36°3950		11	5	36	52	25.9	0.54	9.0	11.0	06.49	A	3
3202	J 552	+ 8°4386		11	5	8	20	274.6	3.90	9.2	9.5	11.60	J	1
								275.1	3.81	9.3	9.5	11.60	V	1
								279.4	3.32	9.4	9.7	16.59	J	1
3203*	J 1165	Anon.		11	9	24	39	121.5	2.35	9.4	11.0	15.67	J	1
3204*	J 604	+11°4188		11	18	11	28	231.4	0.53	8.9	9.1	11.80	J	1
								230.0	0.55	8.8	9.1	11.80	V	1
								226.6	0.67	..	..	15.78	HF	1
3205	A 1420	+36°3954		11	21	36	41	80.0	0.45	9.5	9.5	06.49	A	3
3206	J 1230	Anon.		11	26	38	8	200.6	2.77	9.3	9.9	15.84	J	1
3207	E 244 CD	+34°3934		11	26	35	10	306.0	4.74	12.0	13.2	05.69	E	2
	BC							14.1	5.00	11.5	12.0	05.69	E	2
	AB							129.6	40.75	7.5	11.5	05.69	E	2
3208	J 1167	Anon.		11	29	38	7	158.9	2.45	9.5	11.0	15.61	J	1

3194—The identity of J 551 with the B component of the Burnham pair β .G.C. 10007 $\frac{1}{2}$ was first pointed out by Doolittle. The duplicity of the close pair was overlooked by Burnham who made a special study of the wide pair with the 40-inch of Yerkes, see *Measures of Proper Motion Stars*, page 253. On many nights in 1916 I failed to see the close pair and doubted the observation made with the 14-inch of Lille, but on the last two nights the star was just separated with the 28-inch. It is certainly double.

The principal star is Lalande 38760. It has a proper motion of 0".26 in 340°, Burnham, Radcliffe, Paris, Porter. This does not seem to be shared by the close pair. I observe the bright star a little reddish and it may be variable. In A.G. Nicolazew 5098 the magnitude is given as 8.8.—J.

3197—Found by Burnham in the immediate vicinity of the place of *h* 1494, which he could not find. The place of *h* 1494 is given here.—J.

3199—This pair should be 2' s. of Σ 2653 : 270°, 2"5, 7.0-10.0, if it is not simply a poor observation of the Struve pair.—J.

3200—There is a star (13.0) 22" *np.*—Fox.

3203—3' n. of Σ 402 ; 34°5, 15"28, 7.7-10.0.—J.

3204—The B.D. mag. is only 9.3, but it appears much brighter than B.D. +11°4190, also given as 9.3. In *M.N.*, vol. lxxii, page 162, for 11° 18' read 11° 28'.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3209	Lewis	..	20	11	:	24	1 :	191.0	4.12	10.0	10.5	08.56	L	1
3210	E 799 AB	+47°3051		11	44	47	29	9.8	2.45	9.2	9.3	09.72	E	3
	CD							74.0	3.72	9.6	14.0	09.72	E	3
	AC							224.4	32.22	9.2	9.6	09.63	E	2
3211	Fox 35	+26°3841	11	53		26	29	245.6	1.88	9.3	11.0	12.59	Fox	3
3212	A 1421	+38°3968	11	54		38	12	12.6	1.63	9.0	10.7	06.57	A	2
3213	J 1234	Anon.	11	54		9	43	39.2	4.27	9.8	12.3	15.90	J	2
3214*	J 135	Anon.	11	54		9	47	324.0	2.75	9.5	9.5	10.50	J	1
								323.4	3.25	9.3	9.4	10.77	J	2
								324.2	3.02	9.3	9.4	10.77	V	2
								324.0	2.93	9.3	9.4	12.74	J	1
								319.4	3.53	9.6	9.8	15.90	J	2
3215	A 1422	+54°2313	12	11		54	29	348.4	2.29	8.8	13.5	06.78	A	2
3216	J 507	Anon.	12	12		18	34	53.3	4.53	9.5	10.7	11.34	J	1
								53.8	4.60	9.5	10.9	11.34	V	1
								59.5	4.79	10.0	12.5	15.73	J	1
3217	J 508	Anon.	12	25		18	35	150.4	2.95	9.5	9.7	11.34	J	1
								149.6	2.70	9.5	9.8	11.90	V	2
								150.2	2.57	9.4	9.7	12.48	J	1
								143.8	2.31	9.6	10.6	15.70	J	2
3218	J 1148	Anon.	12	44		38	55	264.5	2.71	9.2	10.8	15.61	J	1
3219	A 2095 AB	+43°3543	12	59		43	24	325.8	0.18	8.2	8.2	09.82	A	2
	AC=Σ 2659							317.9	2.89	8.2	10.0	31.98	Σ	4
								316.2	2.94	7.5	10.0	09.81	A	1
								313.9	3.13	..	..	14.88	Fox	3
	AD							252.6	20.23	8.2	10.0	31.98	Σ	1
								252.9	20.72	7.5	9.5	09.84	A	1
								252.5	20.66	..	10.0	14.88	Fox	3
	DE=Fox 39							133.8	1.26	10.0	12.8	15.65	Fox	3
	DF							59.9	4.94	9.5	14.0	09.84	A	1
								56.3	5.73	10.0	13.0	15.64	Fox	2
3220*	J 1109 AB	+17°4277	13	1		17	46	326.3	2.95	9.7	9.7	15.46	J	1
	AC							41.5	18.21	9.7	13.0	15.46	J	1
3221	Roe 42	+42°3657	13	10		42	43	90.7	4.95	9.9	10.3	10.52	Roe	3
3222*	A 2279	+1°4248	13	21		1	13	300.7	4.55	8.9	11.3	10.50	Fox	3
								300.3	4.15	8.5	11.7	10.65	A	2
3223	J 785 AB	Anon.	13	22		33	50	21.0	2.18	9.4	9.7	12.34	J	1
								23.6	2.03	9.4	9.6	12.34	V	1
								30.5	2.03	9.5	9.8	15.72	J	1
	AC							12.9	10.00	9.4	9.7	12.39	J	1
								15.3	10.20	9.4	9.5	12.39	V	1
								14.3	9.77	9.5	10.0	15.72	J	1
3224*	Roe 78	+37°3859	13	31		37	24	154.0	3.82	..	..	13.68	Roe	3

3214—The measures of 1910.77 were by mistake attributed to a new pair called J 175.—J.

3220—The identity of this pair with B.D. +17°4277 is doubtful.—J.

3222—The measure by Fox was published in 1916.—J.

3224—No magnitudes are given. The B.D. magnitude is 9.2.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
3225*	E 1439	Anon.	20	13	41	43	24	29.0	1.60	9.6	9.8	15.64	Fox	3	
									24.8	1.54	9.6	9.8	15.78	E	2
3226	A 1423	+36°3987	14	2		37	10	128.4	4.56	8.1	11.8	06.49	A	2	
3227	A 1669	+14°4251	14	10		14	54	245.7	3.06	9.0	11.2	07.64	A	2	
3228	J 1169	Anon.	14	17		31	45	3.5	3.35	9.8	10.0	15.61	J	1	
3229	J 553	Anon.	14	26		15	39	15.7	3.67	9.4	10.5	11.63	J	1	
								15.0	3.78	9.5	10.8	11.63	V	1	
								18.5	3.92	9.2	10.5	15.47	J	1	
3230	Storey	..	14	:		57	3 :	101.7	3.61	11.0	12.0	09.67	Storey	3	
3231	A 1670	+14°4255	14	29		14	57	202.2	0.23	8.7	9.1	07.65	A	2	
3232*	A 1671	+12°4283	14	51		13	3	226.7	1.98	9.5	9.5	07.64	A	2	
								230.2	1.76	9.2	9.2	10.76	J	1	
								234.7	1.74	9.2	9.6	11.39	J	1	
								231.4	1.99	9.2	9.4	11.39	V	1	
								233.3	2.14	..	..	11.65	Dob	4
3233	J 835	Anon.	14	58		18	49	46.8	2.99	9.8	10.5	12.68	J	1	
								41.6	2.95	9.5	10.5	12.68	V	1	
3234	J 1147	+35°4058	15	0		35	37	109.9	3.34	9.5	9.9	15.61	J	1	
3235	E 1440	+42°3676	15	0		43	4	260.0	2.60	9.2	10.2	15.84	E	2	
3236	J 554	Anon.	15	27		21	15	210.5	3.94	9.5	10.0	11.55	J	1	
								214.3	4.11	9.4	10.2	11.55	V	1	
								215.0	5.01	9.7	10.5	15.84	J	1	
								158.7	2.97	9.5	9.8	15.77	J	1	
3237	J 1247	+16°4223	15	29		17	8	158.7	2.97	9.5	9.8	15.77	J	1	
3238	A 1424	+39°4127	15	30		39	35	50.1	0.96	8.9	12.3	06.55	A	3	
3239	A 1672 BC	+13°4356	15	38		14	7	266.5	0.24	9.5	10.8	07.66	A	3	
								A-BC=Σ 2665	17.2	3.14	6.5	9.2	29.79	Σ	3
								17.0	3.27	7.0	9.2	07.64	A	1	
3240	J 836	Anon.	15	47		19	39	233.6	2.99	9.7	10.0	12.77	J	1	
								233.8	2.90	9.5	9.8	12.77	Dj	1	
								240.4	4.47	9.8	10.5	15.84	J	1	
3241	A 1425 AB	+37°3879	15	55		38	2	296.7	0.15	8.1	8.1	06.51	A	3	
								AB-C	311.0	8.78	7.5	13.5	06.50	A	1
3242	A 1673	+14°4260	15	58		15	7	49.0	0.84	8.9	10.2	07.66	A	3	
3243	J 837	+11°4221	16	2		11	50	290.7	1.13	9.1	9.7	12.79	J	2	
								288.7	1.18	9.0	9.2	12.79	V	2	
3244	J 555	Anon.	16	17		1	2	272.1	1.87	9.4	9.7	11.78	J	1	
								274.2	1.91	9.5	9.8	11.78	V	1	
3245	Lewis	..	16	:		29	0 :	96.0	0.50	9.4	9.6	08.76	L	1	
3246	A 1426	+37°3890	16	42		38	5	258.9	3.31	8.8	14.3	06.51	A	3	
3247	J 1195	+24°4092	16	50		24	46	100.9	4.14	9.0	13.5	15.69	J	1	
3248	J 1173	+13°4364	17	6		13	6	82.9	3.62	9.2	12.5	15.67	J	1	
3249	E 503	Anon.	17	8		47	52	353.1	4.57	9.2	9.5	07.73	E	3	
3250	J 838	Anon.	17	10		10	12	230.6	2.88	9.6	9.6	12.76	J	1	
								232.0	3.11	9.7	9.7	12.76	Dj	1	

3225—Measured as Fox 40 in *Annals of the Dearborn Observatory*, vol. i. page 227, but first published by Espin.—J.
 3232.—Aitken and Doberck originally measured the angle in the opposite quadrant.—J.

No.	Name.	R.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3251	A 1427 AB	+38°4021	20	17	21	39	9	111.9	0.25	7.0	9.0	06.55	A	3
	AB—C=Σ 2668							293.6	3.30	7.0	9.2	31.14	Σ	3
								289.7	3.13	..	..	68.44	De	4
								286.3	3.26	7.0	9.0	06.54	A	2
3252	A 2280	+ 0°4487	17	26		0	19	37.6	0.40	8.4	10.5	10.64	A	2
3253	E 800 CD	+50°3058	17	44		51	1	150.3	2.25	10.0	12.0	09.66	E	2
	AC							103.6	40.27	8.3	10.0	09.66	E	2
	AB							314.6	28.25	8.3	8.8	09.66	E	2
	AE							96.8	112.65	8.3	8.2	09.66	E	2
3254*	E 988	+51°2850	19	27		51	59	13.7	3.95	8.1	11.8	10.84	E	3
3255	J 556	Anon.	19	43		4	49	187.2	2.67	9.4	9.4	11.71	J	2
								186.0	2.78	9.3	9.3	11.76	V	1
3256	E 362 BC	+30°4008	19	49		30	20	268.2	4.48	11.0	13.2	06.67	E	2
	AB							229.4	9.18	8.7	11.0	06.67	E	2
3257	J 839	Anon.	19	57		17	56	351.6	2.38	9.2	9.2	12.72	J	1
								354.2	2.23	..	..	12.72	Dj	1
								353.8	1.51	9.6	9.6	15.84	J	1
3258*	E 363	+30°4009	20	0		30	46	280.4	3.05	9.3	9.3	06.71	E	3
3259	E 989	+52°2689	20	5		52	21	269.8	4.33	9.5	11.0	10.79	E	3
3260	J 786	Anon.	20	12		33	36	92.4	2.70	9.5	9.7	12.39	J	1
								94.8	2.60	..	..	12.39	V	1
								90.0	3.27	10.0	10.0	15.84	J	1
								81.5	4.98	9.1	12.0	15.84	J	1
3261	J 1231	Anon.	20	12		33	23	158.8	1.75	9.4	12.0	12.44	J	1
3262	J 787	Anon.	20	16		40	31	337.6	4.14	9.2	11.2	13.65	A	2
3263	A 2598	- 5°5261	20	24		- 5	9	287.4	2.28	9.2	9.4	11.62	J	2
3264	J 557	+24°4113	20	32		24	49	287.4	2.20	9.2	9.3	11.63	V	1
								286.9	2.30	9.4	9.6	15.78	J	1
								20±	1±	9.5	9.5	10.30	J	e
								36.7	3.14	9.3	9.8	15.78	J	1
3266	J 840	Anon.	21	2		11	9	46.4	2.98	9.5	10.5	12.74	J	1
3267	E 1330	Anon.	21	4		44	27	310.1	3.75	9.4	11.2	14.83	E	2
3268	J 820	Anon.	21	9		24	14	330.4	2.67	9.6	10.0	12.47	J	1
3269*	J 841 AB	+12°4320	21	11		12	54	229.7	0.72	9.0	9.8	12.54	J	2
	AC							83.4	8.60	9.0	9.4	12.58	J	1
3270*	J 842	+14°4286	21	13		14	34	185.0	2.97	9.1	11.2	12.67	J	1
								178.4	2.87	9.3	12.0	12.67	V	1
3271	E 1331	+44°3456	21	17		44	41	76.8	1.30	9.3	9.5	14.76	E	2
3272	J 558	Anon.	21	30		26	3	184.4	4.60	9.5	12.5	11.64	J	1
3273	A 1428	+52°2698	21	38		52	16	216.8	0.26	8.1	9.0	06.39	A	3
3274	J 509	Anon.	22	2		27	11	265.2	4.32	9.8	10.0	11.41	J	1
3275*	β — BC	+26°3898	22	21		26	26	356.3	2.32	9.6	12.5	10.36	β	2
	AB							72.7	75.65	8.2	9.6	10.37	β	3

3254—In *M.N.*, vol. lxxi. page 221, for +51°2550 read +51°2850.—J.

3258—In *M.N.*, vol. lxxvii. page 195, for +30°4018 read +30°4009. The R.A. given in *M.N.* was $1\text{m}\frac{1}{2}$ too great for the first number. This is confirmed by Espin.—J.

3269—9' s. and 35^s pr. is Hu 1198 : 33°, 0'6, 8.4-9.2.—J.

3270—In the field 2' n. and 8^s pr. is Σ 2680 : 289°, 16'5, 8.3-8.5.—J.

3275—+26°3898 is for B. *Proper motion stars.*—β.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3276	J 155 BC AB	+ 1°4289	20	22	38	1	39	167.0	2.73	9.4	12.0	10.74	J	1
									347.0	49.98	7.7	9.4	10.74	J	1
3277	Fox 36	Anon.	22	45		37	29	326.8	2.72	9.9	10.4	11.76	Fox	3
3278	J 559	Anon.	23	16		9	32	216.9	2.57	9.6	9.6	11.60	J	1
								214.9	2.70	9.6	9.6	11.60	V	1
								217.0	2.91	9.6	9.8	16.59	J	1
3279	J 560	Anon.	23	24		0	49	185.5	3.83	9.4	9.8	11.59	J	1
								184.9	4.02	9.4	9.7	11.59	V	1
3280	A 1429	+54°2349	23	38		54	53	196.8	0.71	8.0	9.0	06.73	A	2
3281	J 1297	Anon.	23	41		7	29	16.8	1.60	9.6	9.6	16.59	J	1
3282	A 1674 AB CD AC	+14°4303	23	49		14	38	12.0	0.84	8.9	12.3	07.71	A	3
								174.0	1.01	12.2	13.2	07.71	A	3
								294.5	8.35	8.9	12.2	07.70	A	2
3283	J 788	+32°3825	24	1		33	7	341.8	2.92	9.2	10.5	12.38	J	1
3284	J 1241	+12°4343	24	13		12	28	177.0	1.27	9.0	11.0	15.90	J	1
3285	J 1298	Anon.	24	15		7	45	259.8	2.81	9.5	11.0	16.59	J	1
3286	E 802	+48°3129	24	38		48	53	236.9	4.55	9.4	11.0	09.81	E	3
3287	J 1299	Anon.	25	0		7	45	176.8	4.14	9.5	10.4	16.59	J	1
3288	E 206	+37°3949	25	50		37	54	127.1	4.1±	8.9	9.3	04.79	E	2
								122.1	3.34	9.1	9.5	15.62	J	1
								239.4	3.31	8.8	12.6	11.40	J	1
3289	J 510	+16°4280	26	8		16	58	242.1	3.48	8.9	13.0	11.40	V	1
								210.9	3.76	7.5	8.3	04.83	E	6
								200.7	11.65	9.0	10.7	04.90	E	2
3290	A.G— AB CD AC	+37°3950	26	13		37	12	99.9	87.97	..	..	04.90	E	2
								97.2	1.35	9.5	9.5	12.40	J	1
								98.4	1.70	9.5	9.5	12.40	V	1
3291	J 789	Anon.	26	32		34	32	97.2	1.35	9.5	9.5	12.40	J	1
3292*	J 1243	Anon.	25	46		11	38	123.2	2.22	10.5	10.5	12.67	J	1
								121.8	1.97	11.0	11.0	15.90	J	1
3293*	A.G—	+13°4416	26	51		13	48	283.5	4.72	9.0	11.5	03.75	Mil	3
								284.2	4.62	9.0	10.8	07.72	A	2
3294	J 561	Anon.	26	52		1	55	180.0	4.35	9.3	10.0	11.59	J	1
								181.5	4.52	9.4	10.0	11.59	V	1
								138.6	2.99	9.6	9.8	12.63	J	1
3295	J 843	Anon.	27	0		32	29	260±	2±	9.3	10.0	10.30	J	e
3296	J 130	+41°3778	27	9		41	31	265.4	2.67	8.9	9.3	12.44	J	1
								265.3	2.39	9.1	9.5	13.59	Doo	3
								160.3	4.76	9.4	9.5	05.79	E	2
3297*	E 245	+39°4215	27	14		39	51	152.3	2.43	9.8	11.0	12.72	J	1
3298	J 844	Anon.	27	17		20	37	149.6	1.95	9.0	9.9	11.60	J	1
3299	J 562	+12°4360	27	20		12	31	144.6	2.21	9.0	10.2	11.60	V	1
								13.0	1.92	9.8	10.0	07.78	E	2
3300	E 505	Anon.	27	20		30	13	327.4	0.16	7.0	7.0	07.58	A	3
3301*	A 1675	+15°4181	27	24		15	32	314.5	0.18	7.5	7.5	15.65	J	1

3292—Measured in 1912 for J.C. 3307. The discordance of the measure made me look for this pair.—J.

3293—Measured as a double star in A.G. Leipzig I. 7959, page 211, but not in β .G.C. The Leipzig observation is: $281^{\circ}4, 5^{\prime}49, 9^{\circ}0-10^{\circ}5, 1895^{\circ}73$.—J.

3297—In *M.N.*, vol. lxvi, page 146, for $+39^{\circ}5215$ read $+39^{\circ}4215$. This is confirmed by Espin.—J.

3301—This pair has an annual proper motion of $0^{\circ}068$ in 297.4.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
3302	J 563 BC AB=Roe 14	Anon.	20	27	25	16	34	192.3	4.97	10.5	12.0	11.60	J	1	
									259.0	7.01	10.0	10.0	09.67	Roe	2
									262.3	7.37	9.6	10.5	11.60	J	1
3303	A 1430	+38°4121	27	26		38	17	135.0	3.05	8.4	13.3	06.63	A	3	
3304	E 1441	+44°3492	27	34		44	23	127.9	2.22	9.2	9.4	15.67	E	2	
3305	J 564	+21°4245	27	41		22	10	306.1	1.63	8.9	11.6	11.63	J	3	
								303.4	2.04	9.0	12.0	11.77	V	1	
3306	J 1196	Anon.	27	44		41	21	15.5	3.75	9.5	10.5	15.69	J	1	
3307*	J 3	Anon.	27	46		11	34	137.3	1.37	10.0	10.0	09.34	J	2	
								134.6	1.26	10.2	11.0	13.81	Doo	4	
								130.8	1.27	9.8	9.8	15.90	J	1	
3308	E 1442	+44°3493	27	46		44	18	265.6	2.30	9.5	13.2	15.67	E	2	
3309	A 1676	+14°4331	27	52		14	26	87.8	3.51	8.4	13.7	07.53	A	2	
3310	J 1113	Anon.	27	57		33	16	50.2	2.59	9.7	13.0	15.93	J	1	
3311	E 1100	+49°3299	28	4		49	58	281.6	2.30	9.5	9.6	10.62	E	2	
3312	A 1677	+14°4335	28	24		14	55	170.4	0.97	7.8	10.8	07.58	A	3	
3313*	A 2281	+3°4359	28	26		4	10	63.8	1.62	9.0	12.2	10.63	A	3	
3314*	Bowyer	..	28	:		13	39	139.6	0.52	9.0	9.5	05.73	WB	1	
3315	E 1443	+43°3634	28	40		43	47	290.6	2.73	9.1	10.7	15.75	E	2	
3316	E 1101	Anon.	28	42		50	6	241.4	1.67	9.5	9.7	11.64	E	3	
3317*	J 1	+11°4302	29	5		11	28	37.6	0.89	9.2	9.5	09.68	J	2	
								33.0	1.23	9.0	9.2	10.81	J	2	
								34.4	1.24	9.0	9.3	10.81	V	2	
								34.6	1.21	9.0	9.4	12.69	J	2	
								34.3	1.02	8.8	9.6	13.81	Doo	4	
								39.2	1.21	8.8	9.2	15.90	J	1	
3318	A 1678	+54°2369	29	7		55	3	352.0	2.11	8.9	11.0	07.36	A	2	
3319	A 2792	+22°4099	29	35		23	7	320.0	0.32	9.0	10.7	14.61	A	2	
3320	E 365 CD AB AC	+31°4125	29	47		31	8	288.2	2.52	12.0	12.1	06.81	E	3	
								262.1	25.72	7.7	11.5	06.73	E	2	
								318.9	33.68	..	..	06.81	E	3
3321	A 2282	+4°4485	30	2		4	17	167.7	0.38	9.6	10.1	10.64	A	2	
3322	Fox 37	+12°4380	30	14		13	9	55.1	1.34	9.4	9.8	13.62	Fox	3	
3323	J 190 AB AC	+32°3863	30	33		32	55	336.9	2.43	8.9	11.2	10.80	J	3	
								101.8	5.68	8.9	13.0	10.80	J	2	
3324	J 142	+11°4313	30	37		11	21	240.8	4.35	9.4	11.5	10.53	J	1	
3325	A 1431	+38°4148	30	44		38	18	35.8	0.75	8.2	9.3	06.63	A	3	
3326	J 4	Anon.	30	50		47	35	355.5	1.76	9.9	9.9	09.88	J	2	
								354.6	2.70	9.4	9.4	12.67	J	1	
								355.9	2.60	9.6	9.6	12.67	V	1	
								358.3	1.96	9.7	9.9	13.59	Doo	3	
3327	J 790	Anon.	31	15		18	40	97.4	2.38	9.5	10.0	12.44	J	1	
								94.6	2.29	9.5	9.6	12.44	V	1	

3307—An 11.5 mag. star is 40" distant nearly in the direction of B.—Doo.

3313—Sp. of two stars, same brightness.—A.

3314—North of β 670: 39°, 0'6, 8.5-8.9.—W.B.

3317—In *A.N.* 4406, for 337°6 read 37°6; this is rightly given in *J.A.*, vol. i. page 7.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3328	J 565	+28°3797	20	31	17	28	57	192·6	3·78	9·3	11·0	11·64	J	1
									195·2	3·62	9·4	11·0	11·64	V	1
3329	J 1143	+34°4084		31	17	34	56	268·1	3·98	9·5	10·2	15·79	J	1
3330	J 566	+15°4204		31	25	15	16	118·7	4·52	8·7	10·0	11·64	J	1
									123·5	4·30	8·9	10·0	11·64	V	1
3331	E 804 BC AB	Anon.		31	36	45	3	122·5	2·41	9·6	10·7	09·89	E	3
									116·3	31·80	9·5	9·6	09·89	E	2
3332	J 791 AB AC	Anon.		31	53	34	2	149·8	2·70	9·4	10·4	11·39	J	1
								150·8	2·43	9·6	10·4	11·39	V	1
								229·2	15·33	9·4	9·4	11·39	J	1
								231·2	15·57	9·4	9·4	11·39	V	1
3333	J 792	Anon.		32	2	34	15	331·4	2·99	9·5	9·7	12·38	J	1
3334	E 666	Anon.		32	16	48	13	316·0	3·25	10·1	10·7	08·78	E	3
3335	J 793	+34°4092		32	25	34	41	63·8	2·53	9·8	9·8	12·38	J	1
									69·8	3·10	9·8	9·8	15·43	J	2
3336*	Lewis AB AC	..		32	:	27	59	111·9	3·97	9·0	10·0	03·61	L	1
									198·3	9·53	9·0	10·5	03·61	L	1
3337	E 990	+50°3135		32	32	50	52	299·4	2·42	9·5	9·5	10·87	E	2
3338	J 567	- 1°4011		32	38	- 1	19	318·0	1·76	9·5	11·5	11·63	J	1
3339	A 1679	+14°4359		32	52	14	20	278·8	2·98	8·5	13·6	07·55	A	2
3340	J 1178	+21°4282		32	53	21	56	323·1	3·56	9·0	10·8	15·67	J	1
3341	A 2793	+23°4074		33	0	23	25	221·6	0·76	9·5	9·6	14·61	A	2
3342	A 1680	+12°4397		33	26	12	33	295·8	3·52	8·3	11·8	07·56	A	2
								293·2	3·81	8·5	10·5	11·64	J	1
								295·5	3·46	8·5	11·0	11·64	V	1
								351·9	4·83	9·5	9·7	11·64	J	1
3343	J 568	Anon.		33	33	31	39	350·1	4·90	9·5	9·8	11·64	V	1
3344	E 991 CD AB AC	+54°2382		33	37	54	19	126·7	2·46	9·5	11·9	10·62	E	4
								296·8	16·27	8·6	9·6	10·61	E	2
								104·0	63·62	8·6	9·5	10·61	E	2
3345*	Biesbroeck AB AC=h1556 AD	+55°2439		34	24	55	40	165·0	4·76	9·9	11·6	11·70	Bies	3
								250·0	4±	10·0	11·0	28+	h	..
								226·4	8·17	9·9	11·5	11·70	Bies	3
					102·6	27·25	9·9	11·4	11·72	Bies	2			
3346	J 1073	Anon.		34	37	11	1	119·2	4·42	9·7	14·0	15·90	J	1
3347	J 569	Anon.		34	37	1	39	318·7	3·05	9·0	9·7	11·59	J	1
								316·8	3·28	9·0	9·6	11·59	V	1
3348	J 1242	Anon.		34	42	11	3	83·3	4·50	9·6	11·0	15·90	J	1
3349	A 1681	+53°2447		35	27	53	34	213·2	3·48	8·3	11·0	07·31	A	2
3350	Lewis	..		35	:	28	52	90·5	2·77	10·0	10·0	10·56	L	1
3351	J 570	+25°4311		35	38	26	7	95·3	4·92	9·3	12·0	11·64	J	1
									96·8	4·75	9·3	11·8	11·64	V	1
3352*	J 912	Anon.		35	52	12	52	168·4	2·02	10·0	10·0	12·83	J	1
									169·4	2·09	12·83	Dj	1
3353	A 2283	+ 0°4565		35	58	1	1	347·8	1·96	8·8	12·8	10·64	A	2

3336—It appears from the original observations that the R.A. given in *Greenwich Results*, 1903, is 4^m too large.—J.

3345—It seems that Herschel's measure refers to A.C., *Brussels Obs.*, vol. xiii.—Bies.

3352—A star of B.D. 8·5, same Decl. and 12^s f.—J.

No.	Name.	P.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3354	J 1238	Anon.	20	35	58	30	46	19.6	3.38	9.6	10.5	15.85	J	1
3355	A 2284	+ 0°4566		36	12	0	24	285.3	4.30	8.8	13.7	10.64	A	2
3356	Fox 38	Anon.		36	14	56	12	295.6	4.79	10.7	11.5	12.82	Fox	3
3357	J 156	+ 3°4394		36	20	3	32	22.5	1.77	9.1	9.1	10.70	J	2
								19.8	1.66	9.1	9.2	10.70	V	2
3358	Lewis	..		36	:	49	55	87.1	4.32	8.5	10.0	03.50	L	1
3359	A 2794	+23°4094		36	33	23	47	160.2	1.54	8.3	12.2	14.61	A	2
3360	A 1432	+36°4170		36	35	36	41	120.5	0.43	9.3	9.5	06.78	A	2
3361	A 2795	+21°4318		37	2	21	38	218.7	0.18	7.8	8.0	14.58	A	3
								212.0	0.15	7.3	7.3	15.65	J	1
3362	J 191	Anon.		37	13	17	21	63.1	3.59	9.3	9.6	10.83	J	2
								59.8	3.66	9.3	9.6	10.83	V	2
								65.7	4.34	9.5	9.8	15.77	J	1
3363	E 993	+54°2392		37	19	54	32	109.9	2.02	9.5	9.5	10.71	E	3
3364	J 511	Anon.		37	38	25	3	359.5	1.09	9.6	9.7	11.45	J	1
3365	E 508 AB	+28°3847		37	45	29	8	230.1	2.25	8.6	10.0	07.78	E	2
	AC							221.9	18.07	8.6	10.0	07.78	E	2
3366	J 192	Anon.		37	46	10	41	104.1	4.94	9.4	13.1	10.78	J	2
								103.6	4.95	9.5	13.0	10.79	V	1
3367	E 807	+48°3185		37	57	48	38	155.4	3.27	8.7	11.1	09.74	E	4
3368	J 512	Anon.		37	57	24	45	89.9	1.38	9.5	9.8	11.43	J	1
								90.7	1.67	9.5	9.8	11.43	V	1
3369	A 1682	+53°2459		38	2	54	10	48.6	1.09	9.0	10.7	07.34	A	3
3370	J 571	Anon.		38	19	7	7	253.1	3.75	9.4	11.0	11.78	J	1
								255.1	3.90	9.4	10.7	11.78	V	1
3371	Dobereck	..		38	:	63	9	87.8	2.72	9.0	10.0	13.75	Dob	2
3372	J 193	+17°4383		38	23	18	4	86.1	4.88	8.4	11.8	10.82	J	1
								83.8	5.28	8.3	10.8	10.83	J	1
								86.7	5.10	8.4	11.9	10.83	V	2
3373	E 808	+47°3166		38	33	48	11	155.4	3.45	9.2	10.6	09.64	E	3
3374	E 809	Anon.		38	49	47	43	91.0	2.60	9.4	10.2	09.63	E	2
3375	A 1433	+39°4283		39	4	39	57	25.3	0.74	9.0	11.0	06.61	A	2
3376	J 513	+27°3839		39	33	27	16	161.9	3.81	8.9	11.5	11.45	J	1
3377	J 845	Anon.		39	40	16	54	216.0	2.90	10.6	10.8	12.73	J	1
								214.2	2.75	10.8	11.0	12.73	V	1
3378	E 1446	+42°3839		40	4	42	53	130.9	4.46	8.8	11.6	15.85	E	2
3379	A 1683	+52°2783		40	25	52	20	31.6	0.19	8.2	9.2	07.79	A	2
3380	E 1447	+42°3846		40	52	43	0	309.6	2.27	9.2	10.5	15.84	E	2
3381	E 366	+30°4159		41	12	31	6	122.7	3.29	9.1	13.0	06.69	E	2
3382	J 1179	Anon.		41	18	20	23	144.1	4.12	10.0	11.0	15.67	J	1
3383	A.G—	+27°3850		41	27	28	7	18.6	2.66	9.0	9.4	02.78	A	2
								20.9	2.73	9.0	10.5	03.99	Mil	2
3384	A 2285	+ 3°4419		41	42	4	12	202.2	3.82	9.0	14.0	10.58	A	2
3385	E 1448	+43°3703		42	3	43	14	137.5	2.24	9.1	9.5	15.73	E	4
3386	A 1684	+55°2461		42	10	55	53	143.0	1.66	8.0	14.0	07.36	A	2
3387	J 1074	Anon.		42	11	25	33	294.2	1.89	9.8	9.8	14.84	J	1
3388	J 514	Anon.		42	37	22	5	146.5	2.24	9.6	9.7	11.45	J	1

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3389	A 2796	+23°4151	20	43	36	23	37	309.4	1.51	9.0	12.0	14.62	A	2
3390	J 1210	+36°4240		44	8	37	12	238.1	2.89	9.0	13.0	15.71	J	1
3391	E 368	+30°4180		44	42	30	42	357.9	2.88	9.5	9.6	06.64	E	2
3392	A 1434	+38°4235		44	59	39	0	256.6	2.30	6.7	13.7	06.61	A	3
3393	E 997	+53°2490		45	6	53	49	271.2	2.82	9.5	11.8	10.74	E	3
3394*	J 1237 BC AB	Anon.		45	21	39	45	336.4	3.88	10.0	12.6	15.85	J	1
								336.4	21.77	9.4	10.0	15.85	J	1
3395	E 669	+46°3054		45	30	46	35	70.2	4.58	9.2	10.4	08.80	E	3
3396	J 194 AB	+10°4385		45	32	11	7	39.9	0.75	8.7	8.7	10.81	J	2
								40.7	0.86	8.8	8.8	10.81	V	2
								34.2	0.60	8.8	8.8	12.74	J	1
								29.8	0.81	8.8	8.8	15.54	J	2
								32.5	0.89	8.9	8.9	16.81	J	2
	AB—C							90.9	25.27	..	12.0	10.81	J	2
								91.4	25.24	..	12.1	10.81	V	2
								91.0	24.07	..	13.0	16.83	J	1
3397	E 998	+50°3205		45	48	50	37	167.4	3.55	9.4	9.7	10.90	E	3
3398	J 1141 AB	+19°4531		47	6	19	41	75.7	4.98	9.3	9.4	15.46	J	1
								76.2	5.07	9.4	9.4	16.83	J	1
	AC							237.1	4.96	9.3	14.0	15.46	J	1
								234.4	5.20	9.4	14.5	16.83	J	1
3399	J 195	+18°4632		47	15	18	50	15.6	3.27	9.5	9.5	10.83	J	1
								18.0	3.10	9.5	9.5	10.83	V	1
								20.0	3.20	9.8	9.8	16.80	J	1
3400*	E 671	+46°3069		47	25	46	17	92.6	1.82	9.2	10.0	08.77	E	4
3401	E 672	+47°3195		47	32	47	15	162.5	4.05	9.2	9.3	08.92	E	2
3402	A 2286 AB AB—C	+ 1°4383		48	5	1	47	127.4	0.34	9.2	9.4	10.58	A	2
								29.5	0.94	8.6	10.2	10.58	A	2
3403	J 572	+ 4°4565		48	41	5	9	143.5	3.64	8.9	10.0	11.61	J	2
								141.9	3.39	8.8	10.5	11.61	V	2
								134.4	2.89	8.9	10.5	16.80	J	1
3404	E 250	+36°4287		48	58	36	27	87.6	4.26	9.2	12.5	05.86	E	3
3405	J 605	Anon.		49	2	17	10	284.3	3.20	9.5	10.1	11.86	J	1
								287.1	2.85	9.5	10.0	11.86	V	1
								281.2	2.88	9.9	11.5	16.80	J	1
3406	A 1435	+36°4292		49	29	36	36	341.3	0.38	8.6	8.9	06.55	A	3
3407	Lewis			49 :		29	2 :	155.1	3.42	9.5	10.5	09.85	L	1
								148.6	3.58	9.5	10.5	11.80	WB	1
3408	E 811	+48°3230		49	31	49	4	138.1	1.97	9.1	9.3	09.86	E	2
								149.1	1.59	..	..	11.76	Dob 4,1	
3409	J 573	Anon.		49	40	19	3	180.0	3.89	9.5	9.9	11.63	J	1
								180.6	3.84	9.4	10.0	11.63	V	1
								184.2	3.68	9.9	11.0	16.81	J	2
3410	J 846	+13°4563		50	19	13	44	159.6	2.97	9.1	9.5	12.76	J	1
								160.6	3.20	9.2	9.7	12.76	Dj	1
								155.6	3.08	9.4	9.8	16.80	J	1

3394—Noted that BC is exactly in the position of AB.—J.

3400—In a low-powered field s. of β 250.—E. β 250 : 6°5, 19"5, 7'2—10.0.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3411	J 1075	+36°4304	20	50	41	36	43	297.5	1.57	9.4	9.4	14.95	J	1
									302.8	1.00	9.4	9.4	16.83	J	1
3412	E 371	+30°4227		50	47	31	5	132.7	3.67	9.0	9.3	06.66	E	3
3413	E 673	Anon.		51	11	46	11	81.6	4.37	9.5	9.7	08.85	E	2
3414	J 1318	+8°4567		51	29	8	17	140.8	0.48	8.9	9.8	16.82	J	2
3415	J 157	+8°4570		51	56	8	16	171.1	3.79	9.5	9.5	10.73	J	2
3416	J 606	Anon.	52	13	20	8		174.0	3.12	9.7	9.7	16.82	J	2
								184.4	2.64	9.5	9.7	11.82	J	1
								184.0	2.43	9.7	9.9	11.82	V	1
								185.2	2.65	10.3	10.3	16.80	J	1
3417	A 2797	+20°4775		52	55	21	0	264.0	0.27	9.1	10.0	14.58	A	3
3418	E 372	+31°4272		52	58	31	39	144.2	2.97	9.1	9.4	06.74	E	4
3419*	J 607	+17°4467		53	25	17	42	295.9	2.24	9.4	11.0	11.84	J	1
3420	E 675 BC AB	+44°3637	53	26	44	28		294.0	1.76	9.5	12.8	16.81	J	1
								107.2	3.70	9.6	11.0	08.75	E	2
3421*	A 175 AB AC	+23°4190	53	29	23	22		272.3	99.63	9.5	9.6	08.85	E	3
								288.5	2.06	8.0	12.0	98.72	Ho	1
								291.9	1.78	8.0	13.5	00.65	A	3
								291.9	2.22	8.0	12.3	06.48	Doo	3
								210.2	16.70	8.0	11.0	00.26	Ho	2
								209.8	16.73	8.0	13.0	00.66	A	2
3422	A 1436	+38°4292	53	33	38	40		209.7	16.55	8.0	10.6	06.48	Doo	3
								42.4	0.47	9.5	9.6	06.54	A	3
3423	J 794	+28°3943		53	47	29	3	139.2	2.45	9.2	9.4	12.44	J	1
								137.6	2.99	9.3	9.3	12.63	J	1
								133.0	2.91	9.5	9.7	16.81	J	1
3424	A 1685	+13°4585		53	54	13	44	74.4	0.53	9.1	10.0	07.60	A	2
3425	E 814	+47°3233		53	58	47	35	356.5	4.52	8.7	12.1	09.65	E	4
3426	A 1437	+52°2836		54	1	52	30	326.4	0.73	9.0	12.2	06.48	A	3
3427*	E 1450	+42°3919		54	21	43	0	160.3	4.67	8.5	12.5	15.94	E	2
3428	E 999	+50°3235		54	51	50	45	261.9	3.38	9.3	10.2	10.95	E	3
3429	J 795 AB AC	+35°4338	54	52	35	25		220.0	2.45	9.2	9.8	12.38	J	1
								226.4	2.75	9.3	9.8	16.83	J	1
								303.2	10.83	9.2	11.8	12.38	J	1
								301.0	11.66	9.3	11.0	16.83	J	1
								82.4	0.96	10.0	10.0	14.96	J	1
3430	J 1076	Anon.		54	53	36	55	75.8	1.41	9.6	9.8	16.84	J	1
3431	J 796	Anon.		54	53	35	28	197.2	2.99	9.2	11.8	12.38	J	1
								196.0	3.46	9.3	10.2	16.83	J	1
3432	J 913	Anon.		55	20	11	10	120.8	2.73	9.2	10.9	12.80	J	1
								117.8	2.68	9.2	11.0	12.80	Dj	1
								126.9	2.68	9.4	10.5	15.46	J	1
3433	E 373	Anon.		55	29	30	1	147.4	2.49	9.8	11.5	06.69	E	2
3434	J 608	Anon.		55	37	10	54	99.4	4.84	9.2	11.5	11.80	J	1
								105.6	5.09	9.5	12.0	16.80	J	1

3419—In *M.N.*, vol. lxxii, page 162, for +17°4267 read +17°4467.—Doo.

3421—Also Ho 639, but first published by Aitken.—J.

3427—Star, 10.0, at 317°3, 26°.—E.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3435*	A 1686	+55°2495	20	56	3	55	21	283.6	1.76	7.9	13.0	07.39	A	3
3436	J 847	+29°4266		56	9	30	0	130.0	1.73	9.3	9.6	12.61	J	1
								127.6	1.39	9.6	10.5	16.80	J	1
3437*	J 1151	+35°4345		56	24	35	40	323.2	4.28	9.2	11.9	15.61	J	1
								329.2	3.82	9.4	11.5	16.82	J	1
3438	J 1219	+35°4348		56	57	36	8	169.0	3.32	8.7	11.5	15.95	J	1
								171.2	2.94	8.9	10.4	16.84	J	1
3439	E 1166	Anon.		56	58	46	40	115.8	1.75	9.3	9.7	12.70	E	3
3440	A 1438	+39°4408		57	55	39	40	224.1	0.25	8.5	8.5	06.54	A	3
3441	E 1271	+44°3672		58	9	45	9	30.7	2.95	9.4	10.1	13.69	E	2
3442*	J 158	+9°4701		58	15	9	57	167.0	3.78	9.3	11.5	10.73	J	1
								169.6	4.18	9.5	11.8	16.81	J	1
3443	A 1687	+13°4599		58	17	14	5	181.6	0.62	9.9	10.0	07.65	A	3
3444	A 1688	+13°4600		58	24	14	8	75.9	0.24	8.9	9.0	07.65	A	3
3445	A 1439 AB	+53°2535		59	16	54	3	249.8	4.14	9.0	12.8	06.53	A	2
	AC							344.0	15.70	9.0	13.0	06.59	A	1
3446	A 1689	+14°4519		59	22	14	16	338.8	2.26	9.5	9.5	07.60	A	2
								342.6	2.15	9.0	9.0	12.83	J	1
3447	J 1223 AB	Anon.		59	25	26	52	290.3	3.59	9.4	11.5	15.83	J	1
	AC							291.6	3.98	0.5	10.8	16.84	J	1
								140±	20±	9.4	15.5	15.83	J	1
								133.2	20.74	9.5	14.5	16.84	J	1
3448*	E 374 BC	+31°4319		59	27	31	26	230.4	4.5±	11.0	13.6	06.81	E	3
	AB							137.1	24.78	8.2	11.0	06.75	E	2
3449	J 284	Anon.		59	29	16	34	234.7	2.20	9.5	11.1	10.86	J	2
								234.0	2.63	9.5	11.8	10.85	V	1
								231.8	2.57	9.5	12.0	11.64	J	1
								233.4	2.38	9.6	12.8	16.81	J	1
3450	J 1078	+35°4369		59	40	35	34	98.2	2.35	8.7	9.4	14.96	J	1
								108.6	2.50	8.9	9.4	16.84	J	1
3451	J 1180	Anon.	21	0	5	27	11	271.7	3.27	9.5	10.9	16.76	J	2
3452	E 1000	+50°3254		0	18	50	21	53.3	4.40	9.5	12.0	10.94	E	2
3453	E 1001	+54°2465		0	48	55	0	34.8	4.95	9.0	9.5	10.69	E	3
3454	A 1690 BC	+12°4541		1	12	12	24	124.4	0.55	9.7	10.2	07.61	A	2
	A-BC=Σ 2750							281.5	15.93	7.8	9.3	29.51	Σ	3
								280.2	16.33	8.5	..	07.58	A	1
3455	J 1153	Anon.		1	35	35	25	334.9	4.26	10.0	11.8	15.61	J	1
3456	E 1168	+45°3391		1	51	45	21	114.7	1.62	9.4	10.2	12.88	E	4
3457	J 797	Anon.		1	55	17	30	214.6	2.50	9.5	11.0	12.44	J	1
								213.0	2.69	10.0	11.5	16.81	J	1
3458	A 2691	+38°4340		2	40	39	10	219.3	2.50	9.1	12.8	13.38	A	2
3459	A 2798	+22°4302		2	44	22	32	137.3	1.52	9.0	12.0	14.62	A	2

3435—This is not A.G. Hells-Got. 11795 given in *Lick. Obs. Bul.* 125, but apparently 11796. The first is not a R.D. star.—J.

3437—Hu 764: 187°, 0"3, 7.5-8.7 is 43^s pr.—J.

3442—In *β.G.C.*, B.D. +9°4701 is given to *h* 1603: 119°, 12"±, 10-11.—J.

3448—The B.D. magnitude is only 9.2.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3460	E 816	+47°3283	21	2	51	47	39	34.0	2.60	9.3	9.3	09.83	E	3
								35.9	2.53	9.3	9.3	15.69	J	1
3461	A 1691	+53°2549	3	36		54	3	308.5	0.83	8.6	12.7	07.35	A	3
3462	J 1319	+29°4307	3	38		29	42	197.2	2.52	9.3	12.9	16.76	J	2
3463	J 1079	+36°4411	3	31		36	56	177.4	2.77	9.5	9.8	14.95	J	1
3464	E 1452	+42°3978	4	11		43	3	17.4	1.96	9.1	10.5	15.75	E	2
3465	J 159	+ 9°4730	4	42		9	20	242.6	3.59	9.3	10.3	10.68	J	2
								244.5	4.05	8.8	11.0	11.78	J	1
								242.1	3.79	9.1	10.5	11.78	V	1
								240.8	3.35	9.3	10.8	16.82	J	2
3466	J 574	+19°4628	4	49		20	5	47.4	2.93	9.2	9.8	11.61	J	1
								47.7	2.88	9.1	9.6	11.61	V	1
								44.3	3.26	9.2	10.3	15.75	J	1
3467	E 818 BC AB	+48°3289	4	56		48	32	80.8	2.35	11.2	12.0	09.62	E	2
3468	J 848	+ 3°4508	5	8		4	9	42.7	47.67	8.2	11.2	09.62	E	2
								150.2	1.95	9.0	11.8	12.76	J	1
								154.2	2.18	9.1	12.0	12.76	Dj	1
								143.8	2.24	9.2	11.5	16.81	J	1
3469	E 375	+30°4335	5	27		30	43	221.9	4.40	9.0	9.5	06.64	E	2
3470	A 2287	+ 0°4678	6	58		0	42	99.5	0.23	9.8	10.0	10.56	A	3
3471*	E 252	+36°4442	7	1		37	6	172.5	2.93	9.5	10.5	05.38	Hu	1
								174.9	2.80	..	..	05.59	A	1
								170.2	3.49	8.7	9.5	05.75	E	2
3472*	β — BC AB= h 1618	+43°3824	7	8		43	40	132.6	2.89	11.5	12.0	02.24	β	3
								172.0	15 \pm	9 $\frac{1}{2}$	14.0	28+	h	..
								167.4	21.70	8.2	11.0	79.57	β	1
								170.6	20.64	8.3	..	02.24	β	3
3473	Hu 1310	+37°4204	7	27		37	18	22.7	2.29	9.0	11.0	05.38	Hu	1
								21.9	2.52	..	..	05.59	A	1
								21.2	2.68	9.1	9.6	12.38	J	1
3474	E 253	+37°4207	7	33		37	18	22.3	3.46	8.9	9.6	05.75	E	2
3475	E 254	+37°4210	7	49		38	10	330.3	2.39	8.8	9.1	05.75	E	2
3476*	E 1454	Anon.	7	50		43	25	284.8	2.88	10.0	10.0	15.69	E	2
3477	E 255	+39°4473	7	55		40	13	33.0	4.89	8.9	11.7	05.84	E	3
3478	E 207	+37°4213	8	0		38	1	244.3	2.5 \pm	9.5	9.6	04.95	E	1
3479	Fox 41 BC A—BC= h 1623	+36°4461	8	16		37	0	129.2	0.82	10.6	11.0	12.26	Fox	2
								150.9	15.73	9.8	..	15.73	Fox	5
3480	J 1235	Anon.	8	22		30	18	184.8	2.35	9.8	10.3	15.85	J	1
3481	J 576	+ 7°4642	8	28		7	25	231.8	2.63	9.0	9.5	11.59	J	1
								230.0	2.46	9.2	9.5	11.59	V	1
								231.9	2.41	9.6	9.6	15.75	J	1
3482	β —	+ 9°4743	9	14		10	8	195.6	0.79	9.5	9.6	05.53	β	1
3483	E 1272	+45°3443	9	16		45	29	53.7	3.10	9.3	9.6	13.77	E	3

3471—Measured by Hussey and Aitken as Hu 1309 in *Lick. Obs. Bul.* 117, but published a year before by Espin.—J.

3472—This and Σ 2773 form a wide pair. There is a minute star between them.— β . Σ 2773: AB 116°, 3".3, 8.2-9.0; AC 63°, 22", 8.2-12.8.—J.

3476—Forms a distant *comes* to B.D. +43°3830, at P 114°.—E.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3484	J 577	+17°4523	21	9	16	17	42	25.2	2.29	9.0	10.0	11.64	J	1
								23.6	2.27	9.0	10.3	11.64	V	1
								22.4	2.65	9.3	10.5	16.81	J	1
3485*	J 177	Anon.	9	22	10	21	16.0	1.08	9.6	9.6	10.77	J	1	
							16.4	1.05	9.6	9.6	10.77	V	1	
3486	J 609	Anon.	9	30	14	43	250.0	3.19	9.4	11.5	11.80	J	1	
							247.6	2.63	9.8	13.0	12.80	J	1	
							255.0	2.63	9.8	12.5	16.82	J	1	
3487*	E 1273 BC AB	+45°3446	9	39	45	31	73.2	4.77	13.1	13.6	13.76	E	2	
							9.0	38.20	8.6	13.0	13.77	E	4	
3488	E 256	+39°4481	9	47	40	13	280.5	4.34	9.5	9.7	05.84	E	3	
3489*	E 208	+36°4469	10	9	37	14	143.0	3.7±	8.8	10.7	04.82	E	2	
							143.8	3.82	9.0	12.5	05.38	Hu	1	
							144.6	3.57	..	11.0	05.59	A	1	
							144.7	3.85	9.2	10.9	12.00	Fox	3	
3490	J 849	+12°4575	10	11	12	54	162.0	1.98	8.7	11.0	12.77	J	1	
							157.8	2.23	8.7	10.3	12.77	Dj	1	
							154.6	2.23	8.8	10.2	16.81	J	1	
							109.8	1.39	9.5	9.6	14.75	E	6	
3491	E 1333	+43°3851	10	40	44	13	201.7	4.70	9.5	10.1	09.81	E	4	
3492	E 819	+48°3318	11	26	49	10	22.5	3.29	9.5	10.7	11.83	J	1	
3493	J 610	Anon.	11	32	43	9	22.8	2.95	9.5	10.8	11.83	V	1	
							112.8	2.09	9.1	10.5	16.81	J	1	
3494	J 1154	+27°4018	11	47	27	47	213.9	1.12	9.0	10.0	06.51	A	3	
3495	A 1440	+39°4493	12	12	39	57	135.7	0.24	8.3	8.6	07.78	A	3	
3496	A 1692	+54°2499	12	46	55	11	290.8	3.89	9.4	11.8	11.63	J	1	
3497	J 578	Anon.	12	59	13	17	293.2	3.82	9.4	11.6	11.63	V	1	
							286.8	3.55	9.4	11.6	16.83	J	2	
							195.9	3.85	8.9	9.3	07.70	E	3	
3498	E 514	+46°3246	13	2	46	59	5.6	3.92	9.1	11.3	15.73	J	2	
3499	J 1152	+39°4501	13	22	39	39	244.6	1.63	9.6	12.5	12.76	J	1	
3500	J 850 AB	Anon.	13	56	16	16	231.0	1.91	9.8	13.0	16.82	J	2	
							340.2	13.23	9.6	9.6	12.76	J	1	
							340.0	12.99	..	..	12.76	Dj	1
							341.8	11.25	9.8	9.8	16.82	J	2	
							353.3	0.27	9.1	9.3	06.51	A	3	
3501	A 1441	+39°4507	13	58	39	41	302.5	3.50	9.2	12.7	07.72	E	2	
3502	E 515	+25°4504	14	54	25	54	282.6	3.62	9.3	10.6	15.84	J	1	
3503	J 1228	Anon.	15	55	32	45	253.8	4.92	9.5	13.5	10.83	J	1	
3504	J 196	Anon.	16	33	27	49	248.8	4.18	9.4	12.0	16.82	J	1	
							104.3	2.62	11.1	11.3	07.79	β	2	
							172.0	19.87	10.6	..	07.78	β	3	
3505*	β— CD B—CD AB	+61°2111	16	41	62	15	22.4	206.83	2.8	10.6	07.79	β	3	

3485—I could not find this pair in 1916.—J.

3487—There is a 14th mag. 290°, 24" from A.—E.

3489—Measured by Hussey and Aitken as Hu 1311.—J

3505—The principal star is a *Cephei*.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'								
3506	E 1005 BC AB	+50°3311	21	16	45	50	29	107.4	2.15	10.0	11.5	10.94	E	2	
									141.4	11.30	9.5	10.0	10.91	E	1
3507	A 1693	+52°2909		16	56	52	35	58.2	1.95	8.1	12.5	07.76	A	2	
3508	A 1694	+54°2516		17	11	54	35	81.3	0.52	9.0	10.2	07.78	A	3	
3509	A 1695	+52°2915		17	15	52	59	212.2	0.42	7.8	9.1	07.78	A	3	
3510	J 1229	Anon.		17	31	32	45	296.2	1.44	9.2	9.7	15.84	J	1	
3511	J 160	Anon.		17	34	18	21	291.0	2.18	9.6	9.8	10.72	J	1	
									285.6	2.73	9.7	10.8	16.80	J	1
3512	E 820 BC AB	+48°3350		17	57	49	2	290.7	3.17	9.7	11.6	09.67	E	2	
									59.0	33.42	8.8	9.7	09.67	E	2
3513	E 678	+47°3379		18	29	47	43	116.4	4.10	9.5	11.5	08.92	E	2	
3514	J 161	+10°4533		18	35	10	37	125.0	1.90	9.1	9.1	10.73	J	1	
									124.5	1.74	9.2	9.2	10.74	V	2
									123.7	1.80	9.0	9.2	11.74	J	2
									123.5	2.00	9.0	9.1	11.74	V	2
									121.2	1.89	9.0	9.3	14.87	J	1
									122.8	1.91	9.0	9.0	16.82	J	1
3515	E 377 BC AB	+31°4430		18	51	31	18	210.0	2.49	9.7	10.0	06.84	E	2	
									290.8	49.38	9.1	9.7	06.84	E	2
3516	J 851	+14°4599		18	54	15	13	143.6	1.23	8.9	9.2	12.78	J	1	
									141.2	1.23	9.1	9.3	12.78	Dj	1
									140.0	1.60	9.0	9.5	16.80	J	1
3517	J 1244	+ 3°4559		19	42	4	1	106.2	2.44	8.5	8.9	15.90	J	1	
									104.2	2.65	8.2	8.8	16.84	J	1
3518	A 1696	+54°2525		19	46	54	32	234.0	1.11	9.5	9.5	07.76	A	2	
3519	J 914	+ 2°4351		20	7	2	28	8.3	1.31	9.5	9.5	12.91	J	2	
									3.8	1.58	9.2	9.2	13.81	J	1
									3.2	1.77	9.1	9.1	13.81	Dj	1
									6.2	1.77	9.3	9.4	16.82	J	1
3520*	A 2288	+ 3°4562		20	18	3	22	214.5	0.33	9.7	9.7	10.59	A	3	
3521	A 1892	+54°2530		21	2	54	57	347.4	0.66	7.2	9.3	08.49	A	3	
3522	A 2289 AB AB—C=OΣ 439	+ 1°4477		21	27	1	42	304.2	0.25	8.2	9.2	10.59	A	3	
									220.6	15.43	7.3	11.2	50.48	De	3
3523	J 1039	Anon.		21	31	2	27	220.7	15.45	8.0	11.5	10.56	A	1	
									329.2	2.87	9.6	10.5	13.81	J	1
									333.6	2.90	9.9	10.7	13.81	Dj	1
3524*	E 1102 CD BC AB	+47°3399		22	29	47	57	325.2	3.38	9.7	12.0	16.83	J	2	
									107.5	3.56	12.0	12.8	11.86	E	3
									49.6	5.02	11.3	12.0	11.86	E	3
3525	E 822	+48°3385		22	34	48	50	194.9	46.71	9.5	11.3	11.86	E	3	
									37.2	1.57	9.0	9.2	09.64	E	3
3526	E 679	+47°3400		22	44	47	20	39.2	..	..	..	12.25	Dob	2
									275.6	4.52	9.4	10.6	08.75	E	3
3527	A 1697	+53°2622		22	57	53	57	252.2	3.39	8.9	12.2	07.44	A	2	
3528	A 1442	+38°4497		23	13	38	48	271.3	0.06	9.0	11.0	06.55	A	3	

3520—A.G. Albany assigns a P.M. of $0^{\circ}14$ in $186^{\circ}1$ to this star.—A.

3524—It is assumed that in *M.N.*, vol. lxxii. page 194, C=11.3 should read B=11.3.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3529*	E 1007	+53°2625	21	23	36	54	12	45.6	2.03	9.5	9.5	10.67	E	4
3530*	J 162	+13°4717		24	51	13	19	53.1	2.47	9.4	10.7	10.70	J	2
								56.3	2.60	9.4	12.0	10.70	V	1
								58.9	2.40	9.1	10.2	12.80	J	1
								57.0	2.63	9.5	10.5	12.80	Dj	1
								56.2	2.36	9.1	10.8	16.80	J	1
3531	J 611	Anon.	25	3		20	7	21.6	1.31	9.5	9.5	11.84	J	2
								19.1	1.20	9.5	9.5	11.84	V	1
								26.0	1.42	9.5	9.5	16.82	J	1
3532	J 579	Anon.	25	11		18	45	178.9	3.64	9.4	9.5	11.64	J	1
								177.8	3.84	9.5	9.6	11.64	V	1
								180.6	3.20	10.0	10.2	16.80	J	1
3533	E 1171 AB AC	+46°3324	25	20		46	52	193.8	3.63	9.4	9.5	12.77	E	3
								228.5	20.72	9.4	12.5	12.77	E	3
3534	J 197	+14°4614	25	26		14	30	23.5	2.60	9.4	9.4	10.84	J	1
								21.2	2.71	9.4	9.4	10.84	V	1
								25.0	2.91	9.1	9.2	11.74	J	1
								22.7	2.75	9.2	9.2	11.74	V	1
								24.8	2.71	9.5	9.5	16.80	J	1
3535	E 1274	+43°3556	26	14		46	8	240.2	2.55	9.4	13.3	13.72	E	3
3536	J 198	Anon.	26	16		14	53	35.6	3.00	9.5	9.8	10.84	J	1
								35.4	2.86	9.4	9.7	10.84	V	1
								39.2	3.62	9.8	10.0	16.80	J	1
3537	J 612	+23°4324	26	17		23	32	274.0	1.94	8.9	10.0	11.82	J	1
								275.1	1.70	9.0	10.2	11.82	V	1
								276.4	2.29	8.8	10.0	16.80	J	1
3538	E 258 BC AB	+35°4543	26	19		36	5	355.5	4.02	9.3	12.0	05.87	E	3
								203.3	25.41	9.0	9.3	05.85	E	1
3539	J 199	Anon.	26	58		8	7	183.0	4.52	9.4	9.5	10.84	J	1
								182.5	4.28	9.4	9.6	10.84	V	1
								187.8	4.20	9.5	9.6	16.82	J	1
3540	J 178	+11°4581	27	2		11	20	184.8	2.66	9.5	9.8	10.74	J	1
								184.8	2.58	9.5	9.8	11.30	V	2
								184.8	2.25	9.4	9.7	11.86	J	1
								189.8	2.29	9.8	10.3	16.80	J	1
3541	J 1155	Anon.	27	10		36	41	223.3	2.93	9.4	10.0	15.61	J	1
3542	E 516	Anon.	27	23		46	56	140.5	3.31	9.4	11.0	07.84	E	3
3543	E 1336	+43°3948	27	42		44	15	340.3	3.66	9.5	14.0	14.88	E	3
3544	J 1236	Anon.	28	25		31	0	276.6	2.17	9.7	10.0	15.85	J	1
3545*	A 2290	+1°4494	28	45		1	38	261.4	0.46	9.8	9.8	10.56	A	2
3546	E 259	+38°4522	28	57		38	27	321.9	2.80	9.2	9.5	05.93	E	2
3547	E 517	+28°4122	29	14		29	9	239.4	2.05	9.2	9.9	07.78	E	4
3548	A 1698 BC BD	+52°2963	29	35		52	24	349.0	2.20	9.0	14.5	07.44	A	2
								239.5	7.30	9.0	14.5	07.44	A	2
	AB=β 370							326.5	3.46	8.5	9.0	76.67	De	4
								326.5	3.30	8.0	9.0	07.44	A	2

3529—In *M.N.*, vol. lxxi. page 222, for 21^h 24^m.0 read 21^h 23^m.0.—J.

3530—In 1916 I noted the companion bluish.—J.

3545—Both stars are strong orange colour, an unusual phenomenon in so close a pair.—A.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3549	A 1443	+38°4527	21	29	36	38	43	203·6	0·36	8·5	9·3	06·62	A	3
3550*	J 613	Anon.		29	43	19	56	209·7	4·31	9·0	12·5	11·85	J	1
								213·8	3·92	9·0	14·0	16·80	J	1
3551	E 1339 AB AC	+43°3963		29	44	44	15	132·8	4·81	9·5	14·5	14·88	E	3
								247·1	23·63	9·5	10·2	14·88	E	2
3552	J 200	Anon.		30	36	14	54	317·0	2·42	9·1	9·1	10·84	J	1
								317·3	2·48	9·3	9·3	10·84	V	1
								316·6	2·32	9·4	9·5	12·77	J	1
								316·0	2·46	9·3	9·5	12·77	V	1
								313·0	2·81	9·3	9·3	16·82	J	1
3553	A 2291	+2°4383		30	56	2	47	95·5	1·19	9·8	10·0	10·56	A	2
3554	J 285	Anon.		30	59	15	30	73·6	2·33	9·6	9·8	10·86	J	1
								72·1	2·23	9·6	9·8	10·86	V	1
								77·8	2·23	9·9	10·1	16·82	J	1
3555	E 380 CD AB AC	+29°4452		31	17	29	53	310·9	2·46	11·2	11·5	06·74	E	3
								52·2	13·85	8·5	14·0	06·79	E	1
								106·9	57·85	8·5	11·2	06·71	E	2
3556	E 518	+45°3589		31	23	46	8	11·9	4·55	9·2	12·3	07·67	E	3
3557*	J 286	+15°4450		31	27	15	25	298·4	4·20	8·6	13·5	10·86	J	1
								295·6	3·95	8·6	13·5	10·86	V	1
								292·0	4·67	9·0	13·0	16·82	J	1
3558	E 1173	+46°3373		32	1	47	1	94·3	3·48	9·3	10·5	12·85	E	3
3559	A 1893 AB AB—C	+55°2604		32	5	56	11	19·7	0·58	9·0	10·2	08·54	A	2
								67·0	15·90	..	14·5	08·64	A	1
3560	E 1456	+42°4147		32	23	42	39	135·3	4·27	9·5	12·0	15·76	E	3
3561	J 163	— 0°4239		32	23	0	9	307·4	4·38	9·0	9·7	10·74	J	1
								307·0	4·21	9·1	9·6	10·74	V	1
								312·0	3·85	9·0	9·5	12·77	J	1
								310·4	3·87	9·3	9·7	12·77	Dj	1
								307·8	3·96	9·2	9·6	16·82	J	1
3562	E 1457	+41°4204		32	51	42	16	77·9	3·64	9·4	12·7	15·93	E	2
3563	E 1174	+47°3488		33	6	47	53	253·5	2·13	9·3	9·8	12·65	E	3
3564	A 1699	+54°2581		33	57	54	27	96·5	4·19	7·8	14·8	07·45	A	2
3565	A 1700 AB BC	+52°2991		34	32	52	22	307·0	4·15	9·0	11·0	07·46	A	2
								247·4	7·10	11·0	14·2	07·46	A	2
3566*	Fox 43	Anon.		35	28	50	28	81·7	2·76	10·0	10·3	11·50	Fox	3
3567	J 1232	Anon.		35	43	42	28	209·8	2·55	10·0	10·5	15·84	J	1
3568	A.G.—	+13°4757		36	3	14	5	223·2	4·62	9·1	9·6	95·73	Lpz	1
								221·8	2·89	9·0	9·8	03·77	Cog	2
								220·0	3·62	9·0	9·5	10·78	J	2
								221·3	3·54	9·0	9·5	10·78	V	2
3569	A 1444	+37°4388		36	30	37	27	277·9	1·05	9·4	9·4	06·62	A	3
3570	A 1445	+38°4567		36	38	39	9	280·3	1·46	6·5	12·5	06·62	A	3

3550—Fainter neighbouring stars are in the B.D.—J.

3557—The B.D. gives the magnitude 9·5. It is certainly much brighter.—J.

3566—62^s f. and 23^s·7 s. of β .G.C. 11123.—Fox. The place given here is in accordance with this note, but if it is correct, the declination given in *Annals of the Dearborn Observatory*, vol. i. page 228, is 4' too small. β .G.C. 11123—*h* 1671 : 325°, 9"·7, 9-10.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3571	A 1446	+39°4631	21	36	39	39	19	43.4	1.13	9.4	10.2	06.62	A	3
3572	J 1146	Anon.		36	52	36	42	203.3	2.67	9.4	9.5	15.61	J	1
3573	E 1104 AB AC	+49°3591		37	20	50	9	353.9	3.30	9.5	13.0	11.93	E	3
3574	J 287	+15°4477	38	10	15	55		351.6	2.35	8.9	9.2	10.89	J	1
								348.7	2.20	9.0	9.3	10.89	V	1
								350.0	1.94	8.9	9.5	11.87	J	1
								349.0	2.24	9.0	9.5	11.87	V	1
								347.0	2.79	9.1	9.6	12.18	J	2
								346.1	3.13	9.2	9.6	12.18	V	2
								349.1	2.97	9.4	9.9	15.62	J	1
3575	J 614	Anon.	39	2	20	41		297.9	1.67	9.1	9.6	11.84	J	1
								300.1	1.45	9.3	9.8	11.84	V	1
								310.2	1.94	9.6	9.6	16.82	J	1
3576	E 1341	+43°4018	39	6	44	13	294.6	3.88	9.5	14.0	14.89	E	3	
3577	E 1275 BC BD AB	+45°3640	39	14	45	55		336.5	4.30	13.0	13.4	10.81	E	3
								279.2	5.22	13.0	13.2	10.81	E	2
3578	A 1894	+52°3015	39	22	52	59		3.6	66.47	8.6	13.0	10.81	E	2
								137.2	1.83	8.8	10.2	08.54	A	2
3579	J 852	Anon.	39	39	20	25		89.6	3.10	9.4	9.6	12.63	J	1
								90.8	3.20	9.5	9.8	12.63	V	1
								95.2	3.20	9.4	9.8	16.82	J	1
3580	A 2097	+1°4531	39	46	1	37	280.2	0.57	9.5	9.6	09.77	A	3	
3581	E 1009	+52°3018	39	49	52	47	298.1	4.37	9.5	9.5	10.94	E	4	
3582	A 2098	+2°4401	39	59	3	12	216.8	0.70	9.0	13.0	09.77	A	2	
3583	E 1276	+46°3641	40	0	45	28	287.2	2.40	9.4	10.2	13.82	E	2	
3584	E 1010	+54°2608	40	46	55	5	106.5	2.50	9.5	10.3	10.78	E	3	
3585	A 1447	+38°4595	41	10	39	10	301.5	0.36	9.5	9.7	06.62	A	3	
3586	J 821	Anon.	41	11	16	4		6.0	1.52	9.5	11.0	12.51	J	1
								2.1	1.67	9.5	10.6	12.51	V	1
								8.4	1.53	9.3	11.2	16.82	J	1
3587	E 381	+31°4539	41	13	31	22	109.5	4.89	8.7	13.5	06.59	E	2	
3588	A 1895	+54°2609	41	14	55	18	58.3	3.84	9.0	13.0	08.54	A	2	
3589	A 1896	+54°2611	41	34	54	50	171.3	3.46	8.9	13.2	08.54	A	2	
3590	Lewis	..	41 :		25	7 :	295.1	4.62	9.5	10.0	06.86	L	1	
3591	J 164	Anon.	41	54	13	57		298.4	3.81	9.4	11.0	10.72	J	3
								299.2	4.05	9.4	11.0	10.74	V	2
								297.4	3.92	9.3	11.0	16.82	J	1
								279.9	1.96	9.8	9.8	15.89	E	3
3592	E 1459	Anon.	42	11	42	36	279.9	1.96	9.8	9.8	15.89	E	3	
3593	J 615	-2°5634	42	30	-1	43		347.7	4.21	9.4	10.6	11.87	J	1
								351.1	3.99	9.5	11.2	11.87	V	1
3594	J 201	Anon.	42	53	10	6		220.4	2.71	9.3	9.3	10.83	J	1
								224.2	2.65	9.3	9.4	12.76	J	1
								222.0	2.09	9.1	9.5	16.82	J	1
3595*	J 202	+6°4899	42	54	7	0		178.6	3.41	9.0	9.4	10.84	J	1
								181.4	3.30	9.0	9.5	10.84	V	1
								183.8	2.89	9.2	9.5	16.82	J	1

3595—In A.G. Leipzig II. on three nights the magnitudes were 10.0-9.5-9.0 respectively.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3596*	E 1460	+41°4263	21	43	2	42	17	2.0	1.80	9.3	11.0	15.94	E	3
3597	J 616	Anon.		43	35	45	7	311.4	4.73	9.5	10.5	11.83	J	1
								318.4	4.33	9.3	11.0	11.83	V	1
3598	E 1012	+54°2622	44	2		55	1	4.2	4.28	9.1	9.2	10.74	E	3
3599	E 1013	+53°2706	45	0		53	58	3.4	3.57	9.3	11.7	10.86	E	2
3600*	J 915	+14°4678	45	25		14	28	146.8	2.60	8.8	11.5	12.85	J	1
								145.0	2.33	8.9	11.4	12.85	Dj	1
								144.0	2.75	9.0	11.8	16.82	J	1
3601	A 1448	+37°4432	45	58		37	53	333.2	4.55	9.0	13.6	06.62	A	3
3602	J 853	Anon.	46	7		14	32	29.4	2.60	9.5	9.7	12.56	J	1
								29.0	2.52	9.4	9.8	12.56	Dj	1
								29.0	2.27	9.5	9.8	16.82	J	1
3603	E 681	+53°2715	46	54		53	20	46.2	2.10	9.5	9.6	08.92	E	3
3604	E 211	+39°4683	47	10		39	22	196.9	2.6±	9.5	10.5	04.77	E	1
3605	E 1014	+52°3046	47	17		53	18	226.0	3.82	9.2	12.7	10.90	E	3
3606	E 826	+48°3523	47	36		48	45	127.0	3.56	9.0	11.9	09.65	E	4
3607	J 916	+ 5°4887	48	5		5	26	17.5	1.10	9.4	9.4	12.91	J	2
								10.4	1.53	9.3	9.4	16.82	J	1
3608	E 827	+49°3642	48	11		50	18	243.8	3.38	9.3	9.6	09.61	E	3
3609	A 2692	+32°4277	48	27		32	56	238.1	2.93	9.3	12.5	13.38	A	2
3610*	E 261	+39°4695	48	59		40	3	162.5	4.67	9.2	9.2	05.96	E	1
								162.7	4.73	9.5	9.6	10.54	Roe	3
3611	E 522	+44°3972	49	30		44	51	174.7	4.35	9.0	11.0	07.89	E	2
3612	E 1175	+49°3650	49	37		49	51	195.4	4.00	9.4	10.8	12.76	E	2
3613	J 288	+16°4622	49	48		17	12	291.4	4.95	8.8	10.3	10.86	J	1
								290.3	4.74	9.0	10.4	11.37	V	2
								289.3	4.57	9.0	10.0	11.87	J	1
								293.4	4.91	9.2	11.0	15.77	J	1
3614*	J 2	+18°4886	51	18		18	46	33.7	3.06	9.6	9.6	09.61	J	3
								30.7	3.17	9.1	9.1	10.76	J	2
								31.6	3.18	9.0	9.0	10.76	V	2
								30.2	3.11	10.1	10.1	13.82	Doo	4
								31.0	2.87	9.4	9.4	16.82	J	1
3615	E 525	+48°3544	51	40		48	54	149.1	3.82	8.6	10.5	07.71	E	2
3616	J 203	Anon.	51	53		31	55	61.0	2.20	10.0	10.5	10.83	J	1
								59.0	2.22	10.0	10.3	10.83	V	1
								57.2	2.95	10.0	10.0	16.82	J	1
3617	A 1449	+38°4638	52	12		38	26	24.0	0.40	9.1	9.1	06.55	A	3
3618	A 1800	+54°2647	52	13		54	19	31.9	1.20	9.5	10.0	07.76	A	2
3619	J 854	Anon.	52	34		26	39	310.6	2.57	9.7	9.7	12.63	J	1
								308.0	2.28	9.8	9.8	12.63	V	1
								302.4	2.08	10.9	10.0	16.83	J	2
3620	E 1106 AB AC	+51°3189	53	4		51	50	9.4	4.77	9.4	10.2	11.75	E	2
								158.2	10.77	9.4	12.0	11.77	E	3

3596—Star, 14.0, at 235°8, 20'.—E.

3600—In *J.A.*, vol. ii. page 9, for +14°4675 read +14°4678.—Doo.

3610—Measured by Roe as Roe 46.—J.

3614—In *A.N.* 4406, page 235, for 18° 43' read 18° 46'.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3621	Hu 1314	+64°1606	21	53	20	65	18	95·7	0·20	9·0	9·0	04·75	Hu	1
								96·0	0·23	..	..	05·93	A	1
3622*	E 212	+64°1608		53	55	65	10	..	..	9·0	..	03·60	E	1
3623	A 1897	+55°2652		54	1	55	35	245·8	0·80	9·5	9·5	08·54	A	2
3624	A 1450	+37°4462		55	30	37	33	189·2	3·90	8·5	12·5	06·54	A	2
3625	A 1898	+55°2658		55	33	55	53	228·4	1·30	8·7	9·2	08·54	A	2
								230·9	1·57	..	..	11·82	Dob	2
3626	E 684	+53°2753		56	8	54	8	273·0	4·30	9·2	12·5	08·94	E	2
3627	E 830	+49°3708		56	33	50	3	302·5	3·85	9·3	11·8	09·77	E	3
3628*	E 384	+31°4612		57	11	31	45	66·5	2·99	9·1	9·2	06·63	E	2
3629	E 527	+27°4230		57	42	27	28	207·4	3·05	9·7	9·9	07·67	E	2
3630	A 1451	+38°4656		57	44	38	52	351·8	0·11	7·3	7·6	06·73	A	3
3631	E 383	+34°4586		57	52	34	48	168·1	4·62	9·2	11·6	06·95	E	2
3632	A 1452	+36°4741		58	33	37	4	281·7	1·37	9·0	11·8	06·55	A	3
3633	J 1040	Anon.		58	35	0	43	194·0	1·75	9·3	11·0	13·85	J	1
								191·6	1·83	9·3	11·1	13·85	Dj	1
								187·8	1·91	9·1	10·8	16·82	J	1
3634	E 528	+46°3546		59	21	46	50	74·5	2·47	9·1	11·7	07·72	E	2
3635*	J 289	Anon.		59	29	23	35	100·0	0·89	9·3	9·0	10·95	J	1
								135·2	0·97	9·8	9·9	15·93	J	1
								140·5	1·28	9·7	10·2	16·81	J	3
3636	Lewis	..		59 :		26	20 :	253·3	4·91	10·0	11·0	06·85	L	2
3637	J 1246	Anon.	22	0	13	23	43	355·4	3·33	9·8	9·8	15·92	J	2
								355·6	2·95	9·8	9·9	16·81	J	3
3638	J 1224 BC	Anon.		0	35	23	36	356·6	0·48	11·0	11·0	16·83	J	1
	A—BC							77·4	22·91	9·5	10·3	16·83	J	1
3639	E 531	+47°3680		0	57	48	16	225·1	2·55	9·2	11·5	07·71	E	3
3640*	E 1462 BC	+42°4291		1	28	42	54	181·7	1·52	9·1	9·3	15·74	E	3
	AB							15·0	43·11	9·1	9·1	15·73	E	2
3641	A 1453	+38°4679		1	59	38	35	314·1	0·42	9·1	9·5	06·55	A	3
3642	J 1225	Anon.		2	17	29	28	111·7	2·35	9·6	9·6	15·83	J	1
3643	E 1110	+50°3551		2	29	50	45	9·5	2·38	9·0	9·2	11·91	E	3
3644	A 1454	+53°2782		2	35	53	59	210·2	1·70	9·1	9·9	06·73	A	3
3645	Doolittle	Anon.		2	38	41	14	220·4	4·72	9·5	9·7	07·60	Doo	3
3646*	E 833	+47°3696		3	58	47	56	259·9	2·60	9·1	9·2	09·67	E	3
								262·0	2·63	..	..	12·09	Dob	5,3
3647	J 204	+10°4698		5	4	10	24	340·0	4·95	9·4	11·5	10·83	J	1
								338·8	5·07	9·5	11·5	10·83	V	1
								331·8	4·37	9·4	11·2	16·82	J	1
3648	E 1112	+50°3578		5	34	51	9	230·8	1·23	9·1	9·2	11·67	E	3
3649	E 1016	+52°3122		5	46	52	35	295·2	4·04	9·0	11·6	10·88	E	3
3650*	E 387	Anon.		5	52	32	58	268·5	1·65	10·0	10·2	06·74	E	4

3622—No particulars, simply entered as double.—E.

3628—In *M.N.*, vol. lxxvii. page 196, for 21^h 58^m·4 read 21^h 56^m·4.—J.

3635—This is not B.D. +23°4454 given in *J.A.*, vol. i. page 102. It is 6^s f. 2' s. B.D. +23°4455 (9·3). If the angle of 1910 is correct, there is rapid motion.—J.

3640—Star, 13·8, at 317°1 makes a triangle.—E.

3646—In *M.N.*, vol. lxx. page 243, for 22^h 3^m·9 read 22^h 3^m·2.—J.

3650—A little pair n. of π Pegasi.—E.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.							
			h	m	s	°	'			°	'										
3651	A 1455	+39°4772	22	6	49	39	41	103.2	0.84	9.0	10.7	06.59	A	3							
									106.0	0.94	9.0	10.6	11.67	Fox	4						
3652	A 2493	+43°4145		6	54	43	41	333.6	3.66	8.0	13.8	12.62	A	2							
3653*	E 213	+63°1814		6	57	63	43	..	4±	9.0	11.0	03.60	E	1							
3654	J 290	Anon.	7	29	18	14		310.8	3.35	10.1	10.5	12.00	Fox	3							
								173.8	4.58	9.5	12.0	10.86	J	1							
								172.4	4.42	9.5	12.3	10.86	V	1							
								176.6	4.50	9.5	12.0	16.82	J	1							
3655	A 2494	+41°4409		7	33	41	47	318.2	0.17	9.4	9.6	12.62	A	3							
3656	A 1456 BC AB	+53°2804	8	16	53	23		255.8	3.34	10.8	10.8	06.47	A	2							
								178.2	6.24	9.0	10.8	06.47	A	2							
3657	A 1457	+52°3132		8	25	52	36	285.2	0.19	8.8	9.1	06.46	A	3							
3658	A 2394	+45°3829		8	29	46	12	156.3	2.70	9.0	12.8	11.48	A	2							
3659*	E 1178	+48°3638		8	31	49	17	117.5	1.74	9.5	9.7	12.85	E	4							
3660	A 2292	+ 0°4836		8	40	0	47	187.2	0.84	8.3	10.5	10.60	A	2							
3661	E 1464	+42°4323		9	3	42	57	149.7	1.39	9.4	9.8	15.78	E	3							
3662	A 2495 AB AC=Ho 471 AD=Ho 471	+40°4758	9	22	40	24		270.0	0.46	8.0	11.2	12.62	A	3							
3663	A 1458	+36°4787		9	33	36	29	333.3	0.62	9.2	10.0	06.59	A	3							
3664	A 2293	+ 3°4686		10	15	4	4	202.8	1.98	9.3	12.5	10.60	A	2							
3665	A 2496	+41°4427		10	26	42	13	254.1	1.56	8.9	12.2	12.61	A	2							
3666	E 1342	+44°4076		10	47	45	6	185.3	3.73	9.1	13.0	14.72	E	2							
3667	A 2599	- 6°5947		11	2	- 5	59	277.8	0.64	8.1	11.0	13.67	A	2							
3668	A 1459	+55°2706		11	26	55	25	328.1	1.34	8.9	12.0	06.73	A	3							
3669	E 533	+45°3848		11	35	45	29	321.5	4.25	9.0	12.0	07.73	E	2							
3670	A 2600	- 3°5412		11	39	- 2	50	13.4	1.80	9.0	13.2	13.65	A	2							
3671	J 1211	Anon.		11	52	34	58	238.2	2.93	9.8	10.3	15.84	J	1							
3672*	E 214	+34°4636		11	53	34	26	170.4	3.5±	9.0	12.0	04.69	E	1							
3673*	E 1017 BC AB	+54°2721	12	16	55	5		175.8	4.17	9.0	11.3	15.84	J	1							
								280.0	4.90	10.5	13.0	10.72	E	3							
								14.8	15.65	9.0	10.5	10.72	E	3							
3674	A 2395	+46°3643		13	19	46	20	0.8	2.09	9.0	14.2	11.48	A	2							
3675*	A 2497	+41°4449		14	7	42	8	197.6	4.91	9.0	12.7	12.61	A	2							

3653—The fainter star of a wide pair.—E. Fox, who measured this pair as Fox 44 in *Annals of the Dearborn Observatory*, vol. i. page 228, gives the declination $63^{\circ} 37'$ (1920). The B.D. number given by Espin possibly refers to the near bright star he mentions.—J.

3659—In *M.N.*, vol. lxxiii, page 163, for $+48^{\circ}2638$ read $+48^{\circ}3638$. This is confirmed by Espin.—J.

672—Not $+34^{\circ}4634$ given in *M.N.*, vol. lxxv, page 712. It is 20^s preceding $+34^{\circ}4639$.—J.

3673—An 11th mag. $138^{\circ}.1$, $11''7$, and a 13th mag. $177^{\circ}.2$, $15''9$.—E.

3675—In *Lick Obs. Bul.* 223, for A.G. Bonn 16551 read A.G. Bonn 16555.—Doo.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3676	J 205	Anon.	22	14	14	16	34	293.6	2.12	9.4	12.0	10.83	J	1
								294.6	1.90	9.5	12.0	10.83	V	1
								293.2	2.11	9.4	12.5	16.85	J	1
3677	E 1343	+44°4090	14	21	44	39	258.4	1.33	9.4	9.6	14.87	E	4	
3678	E 1018	+52°3172	14	58	52	45	44.3	4.91	9.2	14.0	10.72	E	2	
3679	A 1460	+55°2718	15	11	55	43	197.5	1.54	8.5	13.7	06.73	A	3	
3680	J 179	+ 7°4846	15	21	7	36	313.8	2.39	9.2	9.7	10.77	J	2	
							313.2	2.32	9.2	9.7	10.77	V	2	
							313.0	2.90	9.0	9.9	11.77	J	1	
							314.5	3.18	9.1	10.0	11.77	V	1	
							303.0	2.89	9.4	9.8	16.82	J	1	
							212.2	0.79	9.0	12.3	13.71	A	3	
3681	A 2693	— 8°5854	15	32	— 8	5	212.2	0.79	9.0	12.3	13.71	A	3	
3682	E 834	Anon.	16	11	51	20	335.0	2.55	9.3	10.7	09.63	E	2	
3683*	A 1461	+55°2722	16	12	55	43	89.5	1.45	9.5	9.9	06.73	A	3	
3684	E 1020	+52°3180	16	22	52	45	245.7	1.90	9.1	9.3	10.77	E	3	
3685	E 835	+50°3668	16	34	51	17	199.5	4.02	9.0	10.7	09.70	E	2	
3686	E 1465	+42°4356	16	35	42	41	116.4	4.82	9.5	13.9	15.78	E	2	
3687	Hu 1315	+48°3683	16	38	49	9	21.5	4.43	8.8	13.5	04.97	Hu	1	
							19.1	4.21	..	..	05.70	A	1
3688	E 1344	+44°4099	17	5	44	51	182.0	4.59	9.5	9.5	14.56	E	3	
3689*	E 1279	+46°3671	18	17	46	40	299.4	4.87	8.4	12.1	13.90	E	3	
3690	A 2694	— 8°5862	18	18	— 7	52	146.0	0.28	9.5	9.5	13.71	A	2	
3691	A 1462	+52°3189	18	20	53	0	285.3	0.45	9.3	9.7	06.52	A	3	
3692	Hu 1316	+67°1432	19	15	67	38	46.9	1.71	9.0	10.5	04.75	Hu	1	
							45.2	1.62	..	..	05.93	A	1
3693	A.G.—	+ 3°4701	20	25	3	25	140±	3±	8.6	9.3	80.80	Alb	e	
							149.1	3.32	8.5	9.5	11.94	Dob	2	
3694	E 1345	+44°4125	21	9	44	54	293.8	2.61	9.3	9.7	14.74	E	2	
3695	E 536	Anon.	21	21	26	58	270.1	2.97	10.2	10.2	07.67	E	2	
3696	J 206	+14°4794	21	21	14	46	29.4	2.80	8.9	11.6	10.84	J	1	
							30.3	2.90	9.0	11.5	10.84	V	1	
							29.8	2.65	9.1	11.0	16.82	J	1	
							29.8	2.65	9.1	11.0	16.82	J	1	
3697	E 1282	+45°3918	21	28	45	25	55.8	4.51	9.0	12.3	13.94	E	3	
3698*	Roe 55	Anon.	22	4	0	12	46.0	4.26	10.0	10.5	10.77	Roe	3	
3699	A 2498	+41°4492	22	6	42	3	349.6	0.47	8.9	12.0	12.69	A	2	
3700	E 687	+47°3792	22	20	47	44	269.6	4.92	9.0	9.1	08.75	E	2	
							267.6	4.51	8.8	9.1	12.32	Fox	3	
3701	E 1284	+46°3697	22	30	46	59	65.7	2.09	9.3	12.0	13.86	E	4	
3702	A 1463	+55°2749	22	39	56	6	339.9	0.92	8.7	9.8	06.73	A	3	
3703	A 2396	+45°3933	23	2	46	8	181.4	1.54	9.0	14.5	11.53	A	2	
3704	A 1464	+53°2882	23	19	53	42	98.0	4.72	7.5	14.0	06.49	A	2	
3705*	E 1180 BC AB=h 1766	+49°3853	23	21	49	54	272.4	4.75	9.6	13.2	12.76	E	2	
							264.8	10±	10.0	11.0	28+	h	..	
							266.0	13.57	9.1	9.6	12.76	E	2	

3683—The brighter star of a wide pair.—A.

3689—The principal star is orange-red.—E. It is 5372 of Krüger *Neuer Katalog Farbiger Sterne.*—J.

3698—In *Popular Astronomy*, vol. xviii. page 556, for B.D. —0°4363 read B.D. —0°4353. This is confirmed by Roe.—J.

3705—In *M.N.*, vol. lxxiii. page 163, for mag. 9.1 read 9.6, and for C = 9.6 read A = 9.1. This is confirmed by Espin.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3706	E 1346 AB AC	+43°4203	22	23	21	44	8	311.1	2.99	9.5	11.7	14.88	E	3
									0.7	7.29	9.5	13.4	14.88	E	2
3707	J 855	Anon.	23	29		12	33	27.4	2.83	9.4	9.4	12.76	J	1
								28.2	3.05	9.3	9.3	12.76	Dj	1
								31.2	3.08	9.6	9.6	16.82	J	1
3708	E 1285	+46°3704	23	37		46	45	135.7	4.40	9.4	10.7	13.82	E	2
3709	Barnard	Anon.	23	41		57	17	259.0	1.45	10.5	11.2	07.71	Bar	1
								260.2	1.38	11.5	12.5	10.83	Bar	1
								261.5	1.42	10.5	11.0	15.70	Bar	2
3710	Barnard	Anon.	23	44		57	20	78.6	0.87	11.5	14.5	15.80	Bar	3
3711	J 580	+11°4803	23	57		12	0	80.8	0.94	11.5	14.5	16.40	Bar	1
								108.3	4.17	9.2	9.6	11.78	J	1
								112.8	4.14	9.1	9.6	11.78	V	1
3712	E 537	+49°3855	24	1		50	15	116.0	4.32	9.0	9.6	15.93	J	1
								19.7	2.27	9.2	9.4	07.81	E	2
								283.8	4.13	8.8	11.5	10.77	J	1
3713	J 180	+8°4873	24	11		8	46	282.3	3.78	8.9	11.7	10.77	V	1
								281.6	4.52	9.0	11.5	16.82	J	1
								306.4	0.50	..	..	05.56	A	1
3714*	A 1465	+52°3213	24	39		52	33	153.2	0.86	8.0	11.5	06.52	A	3
3715*	Fox 46	+70°1241	24	45		70	35	129.6	4.92	9.1	10.4	11.68	Fox	3
3716	Hu 1317	+13°4926	25	5		13	55	303.0	0.49	9.0	9.0	04.97	Hu	1
								306.4	0.50	..	..	05.56	A	1
3717	J 856	Anon.	25	17		28	55	218.4	0.82	9.3	9.5	12.63	J	1
								213.2	0.94	9.5	10.5	15.93	J	1
								66.8	3.40	9.1	10.5	07.89	E	2
3718*	E 538	+46°3716	25	33		46	30	63.2	3.48	9.1	11.0	11.53	A	2
								70.6	4.01	9.2	11.2	11.66	Abt	3
								317.1	3.20	9.3	10.9	81.73	β	3
3719*	β 844 BC	Anon.	25	38		5	16	312.8	3.08	9.3	10.0	12.96	J	1
								306.8	3.16	9.5	10.5	12.96	Dj	1
								314.0	3.04	9.6	11.2	16.80	J	1
								34.3	98.34	8.1	9.3	81.73	β	3
3720*	E 1347	+44°4144	25	45		45	2	150.4	3.57	9.4	13.0	14.72	E	2
3721	E 1115	+51°3392	26	5		51	24	231.3	1.89	9.5	9.7	11.82	E	4
3722*	A 2294	+1°4621	26	32		1	27	205.5	2.97	9.0	13.0	10.64	A	2
3723	Hu 1318	+50°3737	26	45		50	57	12.3	0.69	9.1	9.1	04.97	Hu	1
								10.8	0.62	..	..	05.70	A	1
3724*	J 918	Anon.	26	50		23	46	275.6	2.03	9.4	11.0	12.87	J	1
								278.4	2.21	9.5	11.0	12.87	Dj	1
								277.4	2.38	9.2	10.8	16.82	J	1
3725	A 1466	+38°4785	27	12		38	58	164.5	0.79	9.5	10.0	06.67	A	3

3714—In *Lick Obs. Bul.* 109, for 22^h 23^m 32^s read 22^h 23^m 52^s.—Doo.

3715— β .G.C. 11762—A 783 is also identified for +70°1241, but this is incorrect, the Aitken pair is +70°1233.—Fox.

3718—Measured by Abetti as a new pair from a list of Cerulli.—J.

3719—Measured by Jonckheere as J 917. The place of the pair and not of A is given. Some mistake occurred in the transfer of the measures printed in 1913.—J.

3720—In *M.N.*, vol. lxxv. page 204, for 44° 34' read 44° 56', as Espin confirms B.D. +44°4144.—J.

3722—*n. pr.* of two stars, same brightness.—A.

3724—Though not in the B.D., this star is a little brighter than B.D. +23°4554 (9.4).—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3726	E 836	+47°3819	22	27	16	48	2	165.7	3.32	9.1	12.3	09.77	E	2
								167.0	4.25	9.2	13.5	11.58	A	2
3727	A 1467	+39°4858	27	17		39	42	341.5	0.40	8.9	9.4	06.54	A	3
3728	Hu 1319	+48°3750	27	23		48	31	36.7	0.25±	9.0	9.2	04.97	Hu	1
								34.1	0.28	..	..	06.70	A	1
3729	E 1023	+53°2903	27	29		54	4	268.9	4.12	9.1	9.1	10.90	E	2
3730	E 688	+46°3726	27	37		46	36	20.1	2.02	9.3	9.5	08.85	E	3
3731	E 1181	+48°3753	27	50		48	48	115.2	1.75	9.3	9.6	12.93	E	2
3732	A 2397	+47°3825	28	3		47	28	267.3	1.93	9.5	11.2	11.53	A	2
3733	E 1182	Anon.	28	14		48	51	250.1	1.97	9.5	10.3	12.93	E	2
3734	E 1024	+54°2795	28	43		55	2	259.3	4.32	8.9	11.0	10.75	E	3
3735	E 540	+48°3762	29	30		48	33	281.5	1.30	9.1	9.9	07.71	E	3
3736	Hu 1320	+48°3763	29	35		48	58	269.7	0.19	8.2	8.2	04.97	Hu	1
								274.6	0.21	..	..	05.70	A	1
3737*	J 617	+21°4781	29	47		21	52	283.0	0.82	8.8	9.1	11.83	J	1
								279.6	0.60	9.0	9.0	12.80	J	1
								280.0	0.70	9.0	9.0	12.80	Dj	1
								288.6	0.42	9.2	9.2	15.85	J	2
								282.4	0.40	9.3	9.3	16.80	J	1
								352.6	3.07	9.2	10.1	13.92	E	2
3738	E 1286	+45°3982	30	3		45	27	174.5	2.05	9.0	12.0	10.89	J	1
3739	J 291	- 1°4318	30	20		- 1	9	173.6	2.36	9.0	11.8	16.85	J	1
3740	J 292	+13°4943	30	33		13	35	40.0	2.07	8.7	9.5	10.89	J	1
								39.9	2.21	9.8	9.7	11.34	V	2
								38.2	2.21	8.9	9.7	11.77	J	1
3741*	E 839 BC AB	+48°3765	30	57		48	25	42.1	2.53	9.0	11.0	15.75	J	1
								65.5	4.78	9.9	10.7	09.85	E	3
3742	A 1468	+53°2918	30	59		53	40	101.7	31.09	9.1	9.9	09.85	E	2
								255.9	0.26	7.7	7.7	06.55	A	3
3743	Hu 1321	+49°3898	31	23		49	35	178.8	3.16	8.8	9.0	04.97	Hu	1
3744	E 840	Anon.	31	57		48	20	178.2	3.05	..	..	05.70	A	1
								29.2	4.38	9.6	13.2	09.85	E	3
3745*	J 1041 BC AB	+ 2°4529	32	3		3	9	64.6	2.75	9.3	10.5	13.88	J	1
								65.4	2.82	9.2	10.6	13.88	Dj	1
								58.6	3.22	9.6	11.2	15.94	J	2
								229.0	21.07	9.2	9.3	13.88	J	1
								228.2	21.24	9.0	9.2	13.88	Dj	1
								228.5	20.74	9.5	9.6	15.94	J	2
3746	E 841	Anon.	32	10		48	20	95.1	2.83	9.8	9.9	09.85	E	3
3747*	A 1469 Cc AB=Σ 2922 BC BD	+38°4808	32	19		39	13	257.4	1.40	9.7	14.4	06.59	A	3
								185.9	22.47	6.0	6.5	31.61	Σ	2
								155.2	28.16	6.5	10.2	30.96	Σ	2
								131.7	66.50	6.5	8.5	30.96	Σ	2

3737—In 1915 with the 28-inch the star was never separated. It is probable that the distance is decreasing.—J.

3741—In *M.N.*, vol. lxx. page 244, for 22^h 29^m.3 read 22^h 30^m.0.—J.

3745—The magnitudes and measures were wrongly transferred in *J.A.*, vol. ii. page 18.—J.

3747—8 *Lacertæ*. There is no change in the Struve companions.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3748	A 1470	+52°3247	22	32	28	52	47	269.3	0.17	8.7	8.7	06.55	A	3
3749	A 1471	+39°4894		32	49	39	58	22.1	1.92	8.5	14.2	06.56	A	3
3750	J 293	+15°4682		33	21	15	36	250.4	4.96	8.6	13.0	10.89	J	1
								253.0	5.00	8.6	13.2	10.89	V	1
								250.6	4.79	8.7	12.0	15.94	J	1
3751	A 1472	+36°4887		33	29	36	47	275.3	0.31	9.1	9.8	06.68	A	3
3752	J 919	- 0°4390		33	31	- 0	11	76.8	3.50	9.3	9.9	12.94	J	1
								76.8	3.86	9.2	9.9	12.94	Dj	1
								78.0	4.46	9.4	10.3	15.94	J	1
								77.6	4.29	9.4	11.0	16.85	J	1
3753	J 165	+10°4786		33	56	11	6	132.9	1.81	9.1	9.3	10.74	J	2
								131.9	1.91	9.2	9.4	10.74	V	2
								137.0	2.47	8.9	9.1	11.77	J	1
								136.0	2.54	9.0	9.4	11.77	V	1
								137.5	2.15	8.9	9.1	12.80	J	1
								144.0	2.42	8.9	9.1	12.80	Dj	1
								139.0	1.93	9.0	9.5	15.93	J	1
								134.8	1.91	9.3	9.5	16.85	J	1
3754	A 2695	- 8°5912		34	10	- 8	19	117.5	0.22	7.0	8.8	13.70	A	3
3755	E 216 BC	+35°4850		34	12	36	16	..	4±	11.0	13.0	04.78	E	e
	AC							0.4	2.32	9.5	11.0	05.87	E	3
								38.0	44.3±	8.3	11.0	04.78	E	1
								39.4	45.07	8.3	9.5	05.75	E	1
3756	E 842	+47°3867		35	24	47	30	111.6	3.42	9.1	9.9	09.88	E	2
								112.0	3.36	9.1	11.2	11.58	A	2
3757	A 2099	+ 0°4905		35	54	0	47	343.4	0.30	8.5	9.0	09.84	A	2
3758	A 1473	+53°2945		36	29	54	16	285.6	1.24	9.0	9.8	06.71	A	3
3759	J 618	Anon.		36	44	16	9	221.6	1.94	9.5	9.5	11.80	J	1
								224.0	1.86	9.5	9.5	11.80	V	1
								228.4	1.99	10.0	10.0	16.80	J	2
3760	E 1026	+52°3262		36	51	53	8	26.5	2.05	9.0	11.3	10.97	E	5
3761	E 844	+48°3804		37	22	48	26	39.6	4.45	9.2	11.2	09.86	E	2
3762	J 207	+17°4786		37	32	17	30	186.2	3.08	8.4	13.0	10.84	J	1
								183.6	3.17	8.6	13.0	10.84	V	1
								186.6	3.22	8.6	12.5	15.94	J	1
3763	J 181	+10°4801		38	15	10	51	242.8	4.42	9.0	10.6	10.77	J	1
								239.1	4.72	8.9	10.5	10.77	V	1
								242.0	4.08	9.2	10.3	15.94	J	1
3764	E 845	+47°3889		38	29	47	49	36.7	4.37	8.8	12.2	09.88	E	2
3765	E 1288	+45°4024		38	53	46	11	338.2	4.90	9.4	10.4	13.91	E	3
3766	E 1471	+43°4275		38	53	43	22	91.6	3.60	8.7	13.8	15.68	E	2
3767	J 208	Anon.		38	59	11	19	70.2	3.43	9.5	9.6	10.81	J	1
								70.0	3.43	9.5	9.6	10.81	V	1
								70.0	3.99	9.5	9.7	15.94	J	1
3768	E 1348	+43°4279		39	25	44	18	102.4	2.73	8.6	13.5	14.99	E	2
3769	J 209	+17°4798		39	53	17	25	44.9	4.47	8.8	12.5	10.84	J	1
								44.3	4.40	9.0	12.0	10.84	V	1
								47.8	4.46	9.1	12.8	16.82	J	1

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3770	J 857	Anon.	22	40	34	40	41	322.6	2.68	9.6	9.6	12.69	J	1
3771*	A 2696 BC A--BC=Σ2938	- 3°55.01	40	57		- 3	5	320.2	2.87	10.0	10.0	15.90	J	1
								261.8	0.20	9.0	9.5	13.76	A	2
								343.2	19.54	8.2	8.2	29.47	Σ	3
								342.2	19.56	..	..	66.34	De	3
								342.0	19.32	..	..	13.74	A	1
3772	A 2295	+ 1°46.44	41	1		2	10	77.7	1.26	9.4	11.8	10.65	A	2
3773	E 848	Anon.	41	29		50	9	93.8	2.25	9.3	9.5	09.72	E	2
3774	E 217 BC A--BC	+36°49.25	41	49		36	29	..	3±	10.0	11.0	04.78	E	e
								61.5	3.11	10.7	11.4	05.68	E	3
								..	70±	8.7	10.0	04.78	E	e
								295.1	74.16	8.3	10.7	05.81	E	2
3775	A 1474	+54°28.49	41	52		54	33	163.7	0.33	9.4	9.5	06.71	A	3
3776	A 1475	+54°28.54	42	48		54	44	197.6	2.34	8.8	12.9	06.71	A	3
3777	E 394	+29°47.64	43	11		30	11	338.9	4.57	9.1	11.1	06.80	E	2
3778	A 2398	+47°39.33	46	23		48	8	151.9	0.34	9.5	9.5	11.62	A	2
3779	J 210	Anon.	46	33		18	40	323.3	4.43	9.6	11.0	11.22	J	2
								322.6	4.42	9.5	10.5	11.22	V	2
								322.0	4.70	10.0	12.5	15.90	J	1
3780*	β-- AB AC=h-	+52°33.06	47	12		52	41	175.2	4.35	9.4	10.2	02.47	β	2
								172.3	4.40	9.2	10.0	10.93	E	2
								225.3	20±	9.5	9.5	30+	h	..
								225.9	24.82	9.4	10.2	02.47	β	2
								224.9	25.47	9.2	9.5	10.93	E	2
3781	E 1031	+54°28.70	47	25		55	10	251.7	2.12	9.4	9.5	10.74	E	2
3782	E 1032 BC AB	+52°33.12	48	22		52	46	190.6	2.27	12.0	12.2	10.88	E	3
								134.3	24.55	8.3	12.0	10.88	E	3
3783	E 854	+48°38.69	49	2		48	32	89.0	2.70	9.0	11.5	09.96	E	2
3784	E 853	+45°39.57	49	7		48	8	226.1	3.55	9.3	13.7	09.95	E	3
3785	E 1472	+43°43.28	49	22		43	46	36.1	2.39	9.3	11.1	15.78	E	2
3786*	J 668	+ 7°49.41	49	44		7	57	326.3	1.37	9.4	10.0	11.93	J	1
								320.1	1.48	9.1	10.3	11.93	V	1
								322.6	1.84	9.4	10.3	15.94	J	1
3787	J 619	Anon.	50	0		17	55	221.2	2.14	9.3	11.0	11.80	J	1
								224.6	2.09	9.5	10.5	16.80	J	1
3788	A 1476	+36°49.54	50	19		36	28	277.1	0.72	9.1	9.9	06.67	A	3
3789	Vanderdonck 2	+ 7°49.45	50	25		7	58	126.8	2.95	9.0	9.0	11.93	V	1
								128.2	2.99	9.2	9.2	11.93	J	1
								129.2	3.10	9.2	9.2	15.94	J	2
3790	J 620	Anon.	50	39		17	52	77.9	1.92	9.8	10.5	11.80	J	1
								75.4	1.86	9.9	11.0	16.80	J	1
3791*	J 621 AB AC	Anon.	50	47		17	46	44.8	2.92	9.5	9.8	11.80	J	1
								56.0	2.59	9.8	10.0	16.80	J	2
								90.2	15.46	9.8	11.0	16.80	J	2

3771—Struve observed the two components of his pair of equal magnitude. The north component to my eye is the fainter, and I have therefore designated my pair B and C.—A.

3780—The companion C is B.D.+52°33.05.—β.

3786—In *M.N.*, vol. lxxii. page 188, for 336°3 read 326°3.—J.

3791—In *M.N.*, vol. lxxii. page 163, for 17° 6' read 17° 46'.—J.

No.	Name.	B.D.	R.A. 1920.			Deci. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3792	E 855	+47°3969	22	51	31	48	17	228.4	4.97	9.1	9.7	09.66	E	2
3793*	Roe 81	Anon.	52	25		35	48	166.3	4.20	..	..	13.84	Roe	3
3794	E 395	+29°4812	52	43		30	12	351.3	4.05	9.2	12.0	06.71	E	2
3795	J 669	Anon.	53	10		13	38	33.9	0.98	9.4	9.6	11.94	J	1
								37.2	0.88	9.4	9.4	11.94	V	1
								41.6	0.70	10.0	10.0	15.94	J	1
3796	E 1033 AB	+53°3035	53	17		54	19	236.7	2.26	9.5	10.2	10.74	E	4
	AC							279.6	21.37	9.5	12.2	10.73	E	2
3797*	E 218 BC	+64°1733	53	21		64	22	330.5	2.76	11.0	12.0	02.73	E	1
	AB=h 1833							331.7	3.28	10.0	11.2	06.00	β	2
								290.8	16±	9.5	9.5	28+	h	..
								296.4	19.1±	10.0	11.0	02.73	E	1
								295.3	19.03	9.6	10.0	06.00	β	2
3798	E 1119	+51°3509	53	33		51	44	115.8	4.51	9.4	9.8	11.70	E	2
3799	A 2399	+46°3890	54	13		46	47	260.2	0.94	9.0	12.2	11.62	A	2
3800	A 1477	+53°3039	54	29		54	14	333.4	0.70	8.3	10.2	06.72	A	2
3801	E 1184	Anon.	54	33		50	41	245.2	1.51	9.6	9.7	12.53	E	4
3802	A 2296	+ 3°4804	54	36		3	34	55.6	0.63	9.2	10.2	10.66	A	3
3803	A 1478	+36°4978	56	32		36	55	39.7	3.66	8.2	12.0	06.62	A	3
3804	A 2297	+ 1°4672	56	46		1	24	114.6	3.50	9.0	13.4	10.66	A	3
3805	E 692 BC	+54°2894	57	1		54	22	159.4	4.00	10.0	10.5	08.91	E	3
	AB							252.8	94.00	8.7	10.0	08.91	E	3
3806	E 1121	+51°3524	57	48		52	14	331.9	1.18	9.3	9.5	11.66	E	3
								329.4	1.34	..	..	11.71	Fox	3
3807	J 294	+ 9°5150	58	4		10	0	139.5	3.97	9.1	9.1	10.94	J	1
								136.0	4.02	9.1	9.2	11.77	V	1
								137.0	4.24	9.2	9.2	11.77	J	1
								138.8	3.37	9.2	9.4	15.94	J	1
3808	E 1349	+44°4309	58	26		44	26	166.3	4.99	8.8	13.6	14.80	E	4
3809	A 2697	- 4°5811	58	51		- 4	15	231.9	2.63	9.0	12.8	13.76	A	2
3810*	E 1185	+49°4020	59	0		49	21	318.0	4.15	9.5	10.8	12.78	E	3
3811	E 396	Anon.	59	34		30	56	27.7	3.81	9.3	9.4	06.67	E	2
3812	E 1036	+52°3359	59	42		53	4	86.5	2.65	9.5	10.6	10.91	E	2
3813	J 211	+23°4668	23	0	23	24	13	148.8	1.91	9.1	9.3	10.81	J	2
								148.6	2.00	9.1	9.4	10.81	V	2
								150.2	2.27	9.1	9.8	15.84	J	1
3814	J 622	Anon.	0	53		0	57	311.8	3.63	9.2	9.8	11.79	J	1
								313.6	3.52	9.3	10.0	11.79	V	1
								317.6	3.78	9.2	10.0	15.85	J	1
3815	E 1122	+50°3940	2	32		50	45	83.5	2.50	9.2	9.3	11.89	E	2
3816	J 212	Anon.	3	27		19	43	343.0	3.83	9.6	9.6	10.83	J	1
								341.8	4.98	10.0	10.0	15.84	J	1
								341.2	4.49	10.0	10.0	16.81	J	1
3817	A 1899	+ 4°4964	4	6		4	37	68.5	1.50	8.7	12.2	08.65	A	2

3793—42⁸.9 following B.D. +35°4912.—Roe. No magnitudes are given by Roe, *A.N.* 4762.—J.

3797—Given as an unnumbered Espin pair in *β.G.C.*, although the other stars of the list, E 151–E 221 (*M.N.*, vol. lxxv. page 711), are not in Burnham's Catalogue.—J.

3810—In *M.N.*, vol. lxxiii. page 163, for 49°4010 read +49°4020. This is confirmed by Espin.—J.

No.	Name.	R.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3818	E 543	+46°3945	23	4	47	47	4	22.0	3.87	9.2	10.5	07.78	E	2
3819	E 544	+49°4054		5	7	49	30	245.6	2.30	9.5	9.7	07.95	E	2
3820	Hu 1322	+51°3550		6	28	51	32	128.4	0.30±	9.0	9.2	04.97	Hu	1
3821	J 295	+16°4884		6	58	16	22	125.0	0.29	..	..	05.70	A	1
								142.8	1.78	9.5	12.5	10.94	J	1
								141.4	1.42	10.0	13.0	15.85	J	1
								170.3	34.43	8.5	9.5	10.94	J	1
	AB							171.4	34.85	8.5	10.0	15.85	J	1
3822	E 1037	+54°2923		7	1	54	28	341.0	3.30	9.5	9.9	10.67	E	2
3823	J 858	Anon.		7	25	44	0	137.0	2.98	9.6	11.6	12.69	J	1
								144.4	2.23	9.7	12.3	16.82	J	1
3824	A 1480	+36°5019		7	54	37	5	247.3	0.47	9.2	9.7	06.62	A	3
3825*	J 670	+ 8°5015		8	0	8	26	188.7	1.63	8.8	10.4	11.93	J	1
								191.8	1.69	8.9	10.4	11.93	V	1
								195.6	1.78	8.9	9.8	15.94	J	1
3826	J 623	Anon.		8	3	35	59	234.5	1.87	9.6	9.8	11.87	J	1
								227.8	1.57	9.5	9.7	11.87	V	1
								240.8	1.72	10.0	10.0	15.84	J	1
3827	A 2698	- 9°6145		8	18	- 8	42	87.1	2.18	9.0	13.2	13.68	A	2
3828*	A 2298	+ 1°4694		8	33	2	15	120.9	0.24	8.9	9.0	10.67	A	3
3829	J 859	Anon.		8	45	61	52	153.6	1.38	9.3	9.5	12.70	J	1
								154.6	1.62	9.3	9.5	12.70	V	1
3830	E 1290 AB	+45°4166		8	56	46	19	65.7	3.15	9.4	10.5	13.82	E	2
	AC							292.8	17.40	9.4	11.6	13.82	E	2
3831*	A 2299	Anon.		9	31	1	47	53.0	0.45	10.3	10.7	10.67	A	3
3832	A 1481	+38°4957		9	56	39	6	128.0	0.38	9.2	9.3	06.62	A	3
3833	A 1900	+ 6°5133		10	24	7	14	213.0	0.86	9.0	9.8	08.65	A	2
3834	J 624	Anon.		10	55	24	21	9.8	2.59	9.3	9.4	11.86	J	1
								8.5	2.74	9.4	9.5	11.86	V	1
								16.4	2.57	9.8	9.8	15.84	J	1
								11.4	2.91	9.8	9.8	16.82	J	2
3835	E 1123 AB	+51°3565		11	20	52	9	309.6	2.53	9.4	10.0	11.69	E	3
	AC							125.9	17.37	9.4	12.3	11.69	E	3
3836	E 1039	+52°3403		11	26	52	55	208.9	1.19	9.0	9.4	10.88	E	4
3837	J 581	+13°5082		11	54	14	4	20.1	1.38	9.0	9.0	11.78	J	1
								21.7	1.39	9.1	9.1	11.78	V	1
								21.2	1.07	9.1	9.1	15.84	J	1
								17.4	1.39	9.0	9.0	16.82	J	1
3838	J 860	Anon.		12	2	57	30	197.2	2.37	9.3	9.8	12.70	J	1
								200.1	2.07	9.4	9.8	12.70	V	1
								197.0	2.07	9.6	9.9	15.90	J	1
3839*	E 694	+47°4090		12	25	47	35	92.3	3.52	9.5	12.0	08.75	E	2
								89.6	4.03	9.3	12.3	12.94	E	3

3825—In *M.N.*, vol. lxxii. page 188, for Lpz. II. 1156 read Lpz. II. 11556.—J.

3828—The Albany A.G. Catalogue assigns a proper motion of 0".17 in 178°.—A.

3831—This faint pair is a distant companion to the 8th magnitude star σ^2 491 rej. One night's measure gives the relative position as 118"3 at 319°. There are other faint stars in the field.—A. σ^2 491 was excluded as single in the second edition of the *Poulkova Catalogue*.— β .

3839—Measured as new in 1912 under the number E 1186.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	'			
3840	A 1482	+53°3115	23	12	36	53	59	283.8	1.28	9.0	9.0	06.73	A	3
3841	E 1040	+54°2943	13	33		55	3	235.8	2.55	9.4	9.6	10.72	E	4
3842	E 1041	+53°3118	13	38		54	0	133.6	2.40	9.5	9.7	10.73	E	3
3843*	Fox 47	+9°5196	13	54		10	6	280.6	4.86	9.1	10.3	10.52	Fox	3
								280.6	4.22	9.2	10.6	16.90	J	1
3844	A 2699	-7°5982	14	51		-7	9	309.6	0.94	9.3	9.8	13.68	A	2
3845	E 1042	+51°3581	15	2		52	9	306.2	4.10	9.1	9.3	10.99	E	2
3846	E 696	+53°3133	15	31		53	43	230.9	2.92	8.9	11.5	08.86	E	3
3847*	E 697 BC	+54°2954	16	51		55	5	74.9	3.87	9.0	12.5	08.93	E	2
	AB							344.1	68.26	8.5	9.0	08.94	E	2
3848	Hu 1323	+61°2429	17	5		62	8	345.6	2.50	8.3	12.5	04.66	Hu	2
3849	E 220 BC	+61°2430	17	19		61	59	..	4.0±	11.5	12.5	04.02	E	1
	AB							..	30±	8.0	11.5	04.02	E	1
3850	E 698	+47°4130	17	43		47	30	57.5	3.20	8.8	12.0	08.75	E	2
3851	J 861	Anon.	17	46		44	19	232.0	3.38	9.5	10.0	12.69	J	1
								238.2	4.04	9.4	10.4	16.88	J	1
3852	J 296	+5°5163	19	11		6	18	138.0	4.18	9.0	9.5	10.94	J	1
								138.0	3.89	9.1	9.5	10.94	V	1
								135.6	3.82	9.2	9.8	15.94	J	1
								135.0	4.17	9.2	9.9	16.82	J	1
3853	E 1351	+42°4655	19	13		43	19	141.7	3.92	9.5	10.8	15.01	E	2
3854	J 297	+6°5149	19	36		7	4	119.0	4.66	8.7	11.5	10.93	J	1
								121.7	4.45	8.9	11.7	10.93	V	1
								123.8	3.90	8.8	10.5	15.94	J	1
								121.0	3.96	8.9	11.0	16.82	J	1
3855	A 1483	+36°5058	19	50		37	13	307.6	0.78	9.2	9.4	06.67	A	3
3856	A 1484 AB	+52°3430	19	51		52	32	104.6	4.34	9.0	13.2	06.72	A	2
	AC							315.7	10.58	9.0	14.7	06.71	A	1
3857	E 1187 AB	+50°4033	20	13		50	59	135.6	3.38	9.5	12.5	12.75	E	4
	AC							333.2	6.35	9.5	13.8	12.74	E	3
3858	E 1188	+49°4109	20	32		49	51	144.5	3.17	9.5	10.7	12.81	E	2
3859*	E 398	Anon.	20	47		31	53	264.2	4.09	9.1	11.0	06.67	E	2
3860	E 546	+26°4623	21	6		26	30	162.2	2.37	9.1	10.8	07.68	E	3
								159.0	2.29	..	..	08.74	WB	2
								166.2	2.05	9.5	11.5	16.90	J	1
3861	J 862	Anon.	21	16		46	20	11.8	2.88	9.8	12.0	12.69	J	1
								15.6	2.87	9.7	12.8	16.88	J	1
3862	A.G—	+32°4642	21	43		32	55	230.5	3.05	8.8	10.2	04.78	E	3
								229.5	2.78	9.3	10.9	16.90	J	1
3863	E 857	+47°4153	22	0		47	34	161.0	3.32	9.2	10.5	09.79	E	2
3864	E 1043 BC	+54°2974	22	53		54	33	118.9	2.00	10.6	11.0	10.71	E	6
	AB							29.1	29.45	8.5	10.6	10.68	E	3
	AD							20.0	43.24	8.5	10.0	10.69	E	4
3865	A 1485	+53°3158	23	5		54	8	221.2	0.49	8.9	9.4	06.73	A	3

3843—If this is +9°5196 as given in *Annals of the Dearborn Observatory*, vol. i. page 228, the declination should there read 9° 53' instead of 9° 48'.—J.

3847—On two nights A was suspected to be a close double.—E.

3859—Espin gives me 23^h 17^m 37^s.5+31° 31'4, for 1855. In *M.N.*, vol. lxxvii. page 196, for 23^h 18.8 the R.A. should therefore read 23^h 19.8.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3866*	A 2400	+ 3°4862	23	23	16	4	1	315.7	1.15	8.6	12.7	10.69	A	3
3867	E 1044	+ 52°3449	23	23		52	37	259.8	3.92	9.5	11.5	10.99	E	2
3868	E 1189	+ 49°4126	23	42		50	12	138.7	1.75	9.4	9.7	12.78	E	2
3869	E 1045	+ 54°2980	23	50		55	9	259.2	2.77	9.5	11.3	10.74	E	2
3870	E 858 BC	+ 47°4165	24	11		48	8	122.0	3.37	10.1	10.4	09.81	E	4
	AB							237.1	29.38	9.5	10.1	09.81	E	4
3871	J 166	+ 16°4930	24	16		16	35	350.0	3.93	9.2	11.2	10.70	J	2
								350.2	3.80	9.2	11.0	10.74	V	1
								351.6	4.04	9.2	11.0	15.84	J	1
								352.2	3.84	9.5	11.0	16.81	J	1
3872	A 1486	+ 54°2987	24	49		54	58	253.8	0.65	9.0	10.3	06.73	A	3
3873	A 1487	+ 39°5095	25	19		40	16	187.7	0.88	8.6	9.2	06.67	A	3
3874	J 298	Anon.	26	27		8	18	129.2	4.28	9.3	9.8	10.93	J	1
								127.6	4.01	9.4	10.0	10.93	V	1
								123.4	4.32	9.6	10.6	15.94	J	1
								119.6	4.89	10.3	10.6	16.65	Roe	2
								123.4	4.88	9.8	11.0	16.85	J	1
3875	E 267	Anon.	26	54		39	4	174.0	2.21	9.6	11.0	05.86	E	2
3876	A 1488	+ 53°3183	28	10		54	14	75.2	2.73	9.0	14.6	06.62	A	3
3877	A 1489	+ 49°4147	28	46		49	22	18.4	0.48	9.1	10.0	06.78	A	3
3878	Fox 48	- 9°6213	29	26		8	48	7.6	1.84	9.5	11.7	14.27	Fox	2
3879	A 1490	+ 51°3640	29	39		51	44	206.7	0.86	8.2	12.2	06.78	A	3
3880	A 2499	+ 1°4736	30	8		1	52	141.6	0.50	9.0	12.5	11.68	A	2
3881*	E 1473	+ 42°4704	30	52		42	58	136.7	1.45	9.4	9.5	15.83	E	3
3882	A 2799	+ 42°4708	31	16		42	47	202.8	1.30	9.3	14.0	14.59	A	2
3883	A 2300	+ 1°4742	31	49		2	1	252.6	4.86	8.5	13.0	10.66	A	2
3884	A 1491	+ 53°3202	32	28		54	2	281.4	0.86	8.4	10.0	06.57	A	3
3885	E 401	+ 29°4970	32	48		30	19	71.8	1.60	9.3	11.5	06.92	E	2
3886	Fox 49	+ 67°1543	32	58		67	46	176.7	2.87	9.3	11.6	12.25	Fox	2
3887	J 625	Anon.	33	8		18	51	256.0	2.44	9.5	11.8	11.80	J	1
								257.5	2.39	9.4	12.0	11.80	V	1
								255.0	2.35	9.5	12.5	15.94	J	1
3888*	A 1492	Anon.	33	14		39	1	212.0	1.55	9.3	11.0	06.68	A	3
3889	E 859 BC	+ 47°4216	33	35		48	6	265.1	2.65	9.8	9.9	09.81	E	3
	AB							216.6	87.84	8.0	9.8	09.81	E	2
3890*	β 1336 AB	+ 12°5006	34	0		12	26	321.1	0.33	8.5	8.9	05.59	β	2
	AB-C = h 317							220 \pm	10 \pm	9.0	12.0	20+	h	..
	AB-D							229.0	19.50	8.5	11.2	05.59	β	2
								257.7	50.65	8.5	11.4	05.59	β	2
3891	Hu 1324	+ 65°1920	34	6		65	34	231.4	0.31	9.2	9.4	06.33	A	2
3892	A 1493	+ 54°3017	34	19		54	48	214.1	0.20	8.8	9.1	06.62	A	3
3893	J 582	+ 3°4884	34	26		3	52	198.2	2.98	9.0	10.3	11.75	J	1
								200.2	2.95	9.0	10.8	11.75	V	1
								205.4	2.83	8.9	10.0	15.94	J	1
								204.0	3.08	9.0	11.5	16.82	J	1

3866—According to Boss the principal star has a proper motion of 0".10 in 192°.—A.

3881—In *M.N.*, vol. lxxvi. page 212, for 23^h 28.9 read 23^h 29.9 if it is B.D. 42°4704.—J.

3888—Not given in B.D., though estimated at 9.1 magnitude. The pair is *s.f.* B.D. +38°5037.—A.

3890—The place given here is from the B.D. It is 12" less in R.A. than that given to h 317 in β .G.C.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.	
			h	m	s	°	'			°	'				
3894*	E 1352 AC AB = De 26	+43°45'16"	23	34	49	43	58	292.2	4.91	9.3	14.8	14.98	E	3	
									73.8	2.03	9.2	10.5	72.67	De	2
									70.5	1.96	9.0	11.5	78.78	β	1
									70.9	2.16	9.0	11.5	03.67	β	3
									70.7	2.22	9.3	10.5	14.98	E	3
3895	A 2500	+43°45'19"	35	17		43	41	175.5	2.16	8.7	14.0	12.64	A	2	
3896	E 402	+31°49'49"	35	49		32	12	88.1	4.15	9.2	13.0	06.91	E	1	
3897	Hu 1325	+12°50'13"	36	3		12	32	183.7	0.66	8.8	11.5	04.97	Hu	1	
								169.4	0.59	9.3	10.8	05.61	A	2	
3898	Lewis	..	36	:		19	55	128.2	1.60	8.0	11.0	07.94	L	1	
3899	E 403	+30°50'01"	36	39		30	41	294.7	2.75	9.2	9.5	06.92	E	2	
								296.7	2.43	9.3	10.0	09.61	J	1	
								294.2	2.57	9.3	9.8	10.80	J	1	
								295.6	2.63	9.3	9.6	10.80	V	1	
3900	E 860	Anon.	37	15		49	36	46.9	2.42	9.5	9.8	09.93	E	3	
3901	A 1494	+38°50'56"	38	25		38	37	188.9	0.33	9.1	9.5	06.68	A	3	
3902	A 1495	+53°32'19"	38	34		54	10	158.5	0.49	8.7	8.9	06.57	A	3	
3903*	J 167	Anon.	38	41		1	46	5.0	4.42	9.5	9.5	10.74	J	1	
								7.1	4.80	9.4	9.5	10.74	V	1	
								7.8	4.16	9.4	9.4	16.83	J	1	
3904	E 1047	+54°30'28"	38	43		54	23	269.9	3.85	9.4	10.0	10.78	E	3	
3905	Fox 51	Anon.	38	54		59	30	299.4	1.71	10.3	11.6	15.63	Fox	3	
3906*	J 299	Anon.	39	20		5	5	181.8	2.85	9.4	12.5	10.95	J	1	
3907*	A.G.—	+11°50'51"	41	26		11	55	95.7	4.96	8.7	10.0	93.97	Lpz	1	
								95.2	4.20	9.0	10.0	02.85	Mil	3	
								95.0	4.22	8.8	9.4	16.88	J	1	
3908	Hu 1326	+60°26'17"	41	33		60	36	242.5	0.70	9.1	10.5	05.73	A	2	
3909	J 626	+29°49'90"	42	4		30	3	233.8	4.95	9.0	10.0	11.83	J	1	
								233.1	5.32	9.0	10.6	11.83	V	1	
								234.3	4.07	8.9	11.0	15.94	J	1	
								231.2	4.52	9.1	11.3	16.81	J	1	
3910	E 1353	+44°44'88"	42	36		44	27	78.8	1.98	9.5	11.2	14.88	E	3	
3911	E 268	+39°51'61"	42	53		40	6	266.3	4.25	8.5	10.0	05.79	E	2	
3912*	J 300	+15°48'84"	43	6		15	48	6.9	3.77	8.9	9.4	10.87	J	1	
								7.0	3.53	8.9	9.3	11.22	V	2	
								7.2	3.57	8.9	9.8	11.77	J	1	
								12.6	3.02	8.9	9.5	15.90	J	1	
								10.2	3.32	9.2	9.8	16.81	J	1	
3913	J 863	+44°44'94"	44	12		44	46	252.4	2.67	9.4	11.6	12.72	J	1	
								262.8	2.35	9.4	11.0	12.72	V	1	
								258.2	3.28	9.6	12.3	15.94	J	1	
3914	Barnard	+2°47'19"	45	7		3	5	181.1	1.62	8.5	12.5	13.92	Bar	2	

3894—The faint *comes* has hitherto escaped detection. It was measured with the 24-inch reflector in moonlight on all three nights.—E. In *M.N.*, vol. lxxv. page 204, for 43° 58' read 43° 53'.—J.

3903—In *J.A.*, vol. i. page 87, for 23^h 39^m 41^s read 23^h 38^m 41^s.—J.

3906—On three nights in 1916, the faint companion was suspected, but the duplicity was uncertain.—J.

3907—Measured as a double star in A.G. Leipzig I., but not in β.G.C.—J.

3912—This is not +15°48'79" given in *J.A.*, vol. i. page 103, and *A.N.* 4484, page 398. The new identification and place are given here. The first R.A. published was 2^m 36^s less.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1925.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3915	E 1124	+50°4164	23	46	17	50	48	246.7	2.32	9.2	9.4	11.93	E	3
3916	E 863	+49°4242		46	20	49	36	330.9	3.65	9.3	9.7	09.94	E	2
3917	E 926 AB	Anon.		46	25	49	57	149.5	3.30	9.2	9.7	10.02	E	2
	AC							198.4	7.49	9.2	12.0	10.02	E	2
	AD							130.0	14.91	9.2	14.0	10.03	E	1
3918	A 2700	-7°6095	47	39		-7	3	217.5	0.21	9.4	9.4	13.70	A	3
3919	E 1476 AB	+42°4779	47	45		42	38	59.1	1.42	9.6	9.7	15.89	E	3
	AC							245.4	15.22	9.6	12.5	15.89	E	2
3920	J 627	Anon.	48	3		17	35	182.9	2.42	9.5	11.0	11.86	J	1
								182.6	2.65	9.6	11.0	16.81	J	1
3921	A 2198	+0°5064	48	10		1	3	132.3	1.60	8.3	12.5	09.86	A	2
3922	A 2199	+1°4790	48	20		1	57	162.7	2.00	9.0	13.0	09.86	A	2
3923	Hu 1327	+12°5036	48	24		12	26	35.8	1.52	8.8	9.2	04.97	Hu	1
								35.4	1.39	..	..	05.55	A	1
								31.4	1.33	8.9	9.3	16.90	J	1
								166.0	4.99	9.5	9.7	10.81	J	1
3924	J 213	Anon.	48	23		28	26	168.5	4.98	9.5	9.8	10.81	V	1
								167.5	4.78	9.6	9.6	15.94	J	1
3925	E 1477	+41°4885	48	30		42	21	346.3	4.49	9.5	13.2	15.92	E	2
3926*	A 1496 AB	+37°4901	48	47		38	15	172.1	0.33	8.6	10.3	06.71	A	3
	AB-C=	Σ3043						250.4	15.57	8.3	9.5	06.68	A	1
3927	E 1049	+52°3550	48	48		52	33	217.3	4.87	9.3	10.6	10.90	E	2
3928	E 1050 AB	+54°3061	49	43		54	26	228.8	4.68	9.1	12.0	10.73	E	3
	AC							310.5	39.17	9.1	9.3	10.73	E	3
3929*	J 214	+15°4901	49	52		15	32	109.4	3.33	9.0	9.5	10.83	J	1
								111.2	3.20	9.2	9.6	10.83	V	1
								110.6	3.42	9.0	9.8	11.77	J	1
								111.0	3.27	..	..	11.77	V	1
								113.4	3.22	8.9	9.4	15.93	J	1
								110.8	3.00	9.2	9.8	16.90	J	1
3930*	E 551 BC	+47°4313	50	31		47	49	311.6	4.72	11.7	12.7	07.83	E	2
	Aa							11.4	24.60	8.5	10.5	07.87	E	1
	AB							88.1	30.90	8.5	11.7	07.83	E	2
3931	E 1355	+43°4573	50	54		43	35	11.9	3.61	9.4	14.0	14.98	E	3
3932	A 2200	+3°4902	50	54		4	2	217.0	0.77	9.5	9.6	06.86	A	2
3933	A.G.—	+37°4908	52	9		37	18	316.6	1.98	9.2	9.3	04.74	E	4
3934*	E 701	+54°3074	52	15		55	10	309.3	3.83	9.4	10.7	08.93	E	3
3935	A 2100	+3°4909	52	41		4	15	288.9	0.21	7.5	8.0	09.81	A	3
3936	A 2800	+41°4901	52	47		42	9	94.9	1.60	9.0	13.6	14.59	A	2
3937	A 1497	+52°3567	53	46		53	8	228.1	1.79	9.1	10.6	06.62	A	3
3938	E 1478	+43°4587	53	47		43	38	2.2	1.33	9.5	10.4	15.76	E	2
3939	E 1479	+42°4797	53	54		43	18	104.5	3.50	9.5	9.6	15.87	E	2
3940	E 702	+53°3263	54	17		53	51	106.9	4.27	8.9	13.3	08.87	E	3
3941	A 1498	+53°3267	55	27		54	15	67.6	0.38	8.3	8.6	06.59	A	3

3926—There is no change in the Struve pair.—J.

3929—In *J.A.*, vol. i. page 96, for 2"33, read 3"33.—J.

3930—The B.D. magnitude is 9.0, and A.G. Bonn gives it as 9.1.—J.

3934—In *M.N.*, vol. lxxix. page 225, for +54°3075 read +54°3074. This is confirmed by Espin.—J.

No.	Name.	B.D.	R.A. 1920.			Decl. 1920.		Angle.	Distance.	Magnitudes.		1900+	Obs.	n.
			h	m	s	°	'			°	"			
3942*	E 1356	+43°4599	23	55	38	44	11	106.9	2.51	9.3	12.0	14.97	E	2
3943	J 215	+16°5029		57	32	16	32	36.0	1.90	9.1	12.0	10.83	J	1
								35.2	2.10	9.2	12.2	10.83	V	1
								34.6	2.73	9.3	12.9	16.86	J	2
3944	E 1292	Anon.	57	41		45	44	86.7	3.10	9.7	9.8	13.82	E	2
3945*	J 864 AB	Anon.	57	52		45	3	55.2	3.93	9.1	9.4	12.78	J	1
								51.0	3.77	9.3	9.7	12.78	Dj	1
								52.6	3.86	9.4	9.6	16.90	J	1
	AC							359.2	13.58	9.1	14.0	12.78	J	1
								364.0	13.75	9.4	14.0	16.20	J	1
3946	Fox 52	+56°3133	58	6		56	49	135.9	2.18	9.1	9.4	12.80	Fox	3
3947	A 1499	+54°3101	58	29		55	8	207.8	0.99	8.3	9.5	06.62	A	3
3948	A 1500	+52°3588	59	21		53	6	225.8	0.32	9.4	9.5	06.62	A	3
3949	E 1191	+48°4232	59	42		48	26	14.1	3.82	9.4	12.8	12.82	E	3
3950	J 628	Anon.	59	53		21	4	195.6	3.18	9.8	9.8	11.80	J	1
								195.8	2.92	9.8	9.8	11.80	V	1
								193.6	2.57	10.0	10.0	15.90	J	1

3942—Espin confirms B.D. +43°4596, as given in *M.N.*, vol. lxxv. page 204. I have, however, adopted +43°4599, as it agrees with the place and magnitude published; on that page the B.D. column starts at 3 instead of 1, hence the possible mistake. B.D. +43°4596 is of mag. 8.2 and 46' s.—J.

3945—This is not B.D. +44°4529 given in *J.A.*, vol. ii. page 2.—J.

I N D E X.

I N D E X.

AITKEN.

A 1 to A 1250 are given in Burnham's General Catalogue.

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
		1290	568	1330	1662	1370	2399
1251	5	1291	573	1331	1664	1371	2533
1252	7	1292	580	1332	1720	1372	2537
1253	11	1293	581	1333	1721	1373	2568
1254	26	1294	612	1334	1726	1374	2572
1255	31	1295	617	1335	1737	1375	2573
1256	34	1296	621	1336	1779	1376	2610
1257	75	1297	624	1337	1784	1377	2657
1258	123	1298	630	1338	1787	1378	2681
1259	132	1299	654	1339	1798	1379	2683
1260	177	1300	663	1340	1867	1380	2687
1261	180	1301	668	1341	1911	1381	2694
1262	205	1302	730	1342	1910	1382	2716
1263	206	1303	742	1343	1915	1383	2737
1264	215	1304	801	1344	1959	1384	2739
1265	235	1305	839	1345	1974	1385	2753
1266	241	1306	857	1346	1976	1386	2772
1267	244	1307	920	1347	1980	1387	2776
1268	247	1308	921	1348	2000	1388	2785
1269	266	1309	964	1349	2007	1389	2798
1270	289	1310	965	1350	2031	1390	2816
1271	337	1311	968	1351	2049	1391	2830
1272	341	1312	990	1352	2068	1392	2854
1273	342	1313	991	1353	2098	1393	2865
1274	344	1314	1019	1354	2113	1394	2872
1275	364	1315	1057	1355	2115	1395	2877
1276	383	1316	1065	1356	2132	1396	2924
1277	397	1317	1103	1357	2143	1397	2934
1278	399	1318	1121	1358	2166	1398	2932
1279	406	1319	1194	1359	2231	1399	2943
1280	413	1320	1311	1360	2244	1400	2957
1281	437	1321	1396	1361	2259	1401	2986
1282	452	1322	1405	1362	2260	1402	2995
1283	463	1323	1429	1363	2296	1403	2993
1284	485	1324	1462	1364	2334	1404	3024
1285	499	1325	1482	1365	2346	1405	3033
1286	509	1326	1497	1366	2360	1406	3052
1287	512	1327	1510	1367	2369	1407	3092
1288	513	1328	1514	1368	> 5"	1408	3095
1289	558	1329	1535	1369	2377	1409	3109

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
1410	3112	1450	3624	1490	3879	1530	460
1411	3140	1451	3630	1491	3884	1531	480
1412	3145	1452	3632	1492	3888	1532	481
1413	3152	1453	3641	1493	3892	1533	487
1414	3158	1454	3644	1494	3901	1534	530
1415	3165	1455	3651	1495	3902	1535	533
1416	3168	1456	3656	1496	3926	1536	538
1417	3173	1457	3657	1497	3937	1537	542
1418	3184	1458	3663	1498	3941	1538	543
1419	3201	1459	3668	1499	3947	1539	547
1420	3205	1460	3679	1500	3948	1540	555
1421	3212	1461	3683	1501	12	1541	560
1422	3215	1462	3691	1502	49	1542	582
1423	3226	1463	3702	1503	62	1543	586
1424	3238	1464	3704	1504	66	1544	702
1425	3241	1465	3714	1505	79	1545	704
1426	3246	1466	3725	1506	81	1546	711
1427	3251	1467	3727	1507	94	1547	715
1428	3273	1468	3742	1508	106	1548	724
1429	3280	1469	3747	1509	112	1549	731
1430	3303	1470	3748	1510	125	1550	732
1431	3325	1471	3749	1511	129	1551	744
1432	3360	1472	3751	1512	135	1552	754
1433	3375	1473	3758	1513	145	1553	780
1434	3392	1474	3775	1514	153	1554	798
1435	3406	1475	3776	1515	156	1555	812
1436	3422	1476	3788	1516	161	1556	817
1437	3426	1477	3800	1517	168	1557	828
1438	3440	1478	3803	1518	171	1558	835
1439	3445	1479	> 5"	1519	182	1559	838
1440	3495	1480	3824	1520	186	1560	846
1441	3501	1481	3832	1521	188	1561	878
1442	3528	1482	3840	1522	260	1562	924
1443	3549	1483	3855	1523	264	1563	929
1444	3569	1484	3856	1524	293	1564	935
1445	3570	1485	3865	1525	294	1565	946
1446	3571	1486	3872	1526	300	1566	948
1447	3585	1487	3873	1527	313	1567	950
1448	3601	1488	3876	1528	389	1568	1001
1449	3617	1489	3877	1529	459	1569	1023

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
1570	1028	1610	2265	1650	2903	1690	3454
1571	1043	1611	2268	1651	2908	1691	3461
1572	1118	1612	2276	1652	2911	1692	3496
1573	1389	1613	2280	1653	2914	1693	3507
1574	1442	1614	2284	1654	2923	1694	3508
1575	1456	1615	2288	1655	2962	1695	3509
1576	1506	1616	2310	1656	2970	1696	3518
1577	1622	1617	2312	1657	2990	1697	3527
1578	1695	1618	2314	1658	3035	1698	3548
1579	1697	1619	2318	1659	3041	1699	3564
1580	1708	1620	2319	1660	3063	1700	3565
1581	1713	1621	2321	1661	3079	1701	347
1582	1722	1622	2328	1662	3098	1702	482
1583	1725	1623	2330	1663	3099	1703	494
1584	1840	1624	2331	1664	3124	1704	498
1585	1869	1625	2337	1665	3128	1705	502
1586	1878	1626	2338	1666	3141	1706	503
1587	1917	1627	2340	1667	3159	1707	552
1588	1922	1628	2344	1668	3195	1708	597
1589	2048	1629	2347	1669	3227	1709	607
1590	2082	1630	2363	1670	3231	1710	614
1591	2087	1631	2366	1671	3232	1711	631
1592	2111	1632	2371	1672	3239	1712	660
1593	2121	1633	2378	1673	3242	1713	662
1594	2164	1634	2381	1674	3282	1714	671
1595	2171	1635	2387	1675	3301	1715	673
1596	2179	1636	2389	1676	3309	1716	674
1597	2185	1637	2391	1677	3312	1717	696
1598	2188	1638	2393	1678	3318	1718	844
1599	2197	1639	2400	1679	3339	1719	853
1600	2199	1640	2404	1680	3342	1720	881
1601	2201	1641	2407	1681	3349	1721	886
1602	2206	1642	2417	1682	3369	1722	896
1603	2209	1643	2436	1683	3379	1723	908
1604	2219	1644	2481	1684	3386	1724	1022
1605	2228	1645	2483	1685	3424	1725	1035
1606	2233	1646	2857	1686	3435	1726	1038
1607	2235	1647	2891	1687	3443	1727	1044
1608	2240	1648	2896	1688	3444	1728	1054
1609	2254	1649	2901	1689	3446	1729	1072

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
1730	1163	1770	2073	1810	157	1850	2203
1731	1207	1771	2074	1811	285	1851	2205
1732	1233	1772	2077	1812	310	1852	2221
1733	1313	1773	2086	1813	317	1853	2223
1734	1327	1774	2084	1814	356	1854	2237
1735	1345	1775	2091	1815	363	1855	2255
1736	1400	1776	2144	1816	368	1856	2258
1737	1446	1777	2150	1817	370	1857	2262
1738	1448	1778	2154	1818	388	1858	2394
1739	1457	1779	2158	1819	408	1859	2428
1740	1477	1780	2174	1820	411	1860	2430
1741	1481	1781	2181	1821	424	1861	2432
1742	1483	1782	2204	1822	433	1862	2434
1743	1554	1783	2210	1823	448	1863	2435
1744	1738	1784	2224	1824	476	1864	2449
1745	1768	1785	2225	1825	523	1865	2450
1746	1781	1786	2230	1826	563	1866	2454
1747	1785	1787	2247	1827	564	1867	2456
1748	1802	1788	2251	1828	565	1868	2458
1749	1807	1789	2261	1829	574	1869	2460
1750	1811	1790	2263	1830	578	1870	2462
1751	1813	1791	2264	1831	588	1871	2464
1752	1814	1792	2266	1832	625	1872	2465
1753	1820	1793	2269	1833	642	1873	2466
1754	1850	1794	2271	1834	649	1874	2467
1755	1866	1795	2297	1835	651	1875	2471
1756	1893	1796	2298	1836	652	1876	2472
1757	1899	1797	2301	1837	658	1877	2514
1758	1904	1798	2410	1838	666	1878	2515
1759	1908	1799	2411	1839	667	1879	2519
1760	1907	1800	3618	1840	677	1880	2529
1761	1912	1801	19	1841	679	1881	2541
1762	1919	1802	30	1842	681	1882	2544
1763	1926	1803	42	1843	725	1883	2557
1764	1927	1804	43	1844	755	1884	2559
1765	1937	1805	56	1845	773	1885	2563
1766	1973	1806	91	1846	2105	1886	2579
1767	1975	1807	98	1847	2107	1887	2703
1768	2044	1808	113	1848	2114	1888	2712
1769	2072	1809	138	1849	2176	1889	2731

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
1890	2733	1930	474	1970	1723	2010	282
1891	2735	1931	524	1971	1729	2011	304
1892	3521	1932	528	1972	1742	2012	328
1893	3559	1933	535	1973	1860	2013	339
1894	3578	1934	553	1974	1861	2014	349
1895	3588	1935	594	1975	1862	2015	> 5"
1896	3589	1936	600	1976	1875	2016	371
1897	3623	1937	602	1977	1882	2017	374
1898	3625	1938	632	1978	1885	2018	375
1899	3817	1939	643	1979	1887	2019	377
1900	3833	1940	691	1980	1890	2020	384
1901	115	1941	700	1981	1891	2021	390
1902	141	1942	718	1982	1892	2022	394
1903	142	1943	723	1983	1894	2023	407
1904	179	1944	760	1984	1901	2024	422
1905	195	1945	778	1985	1925	2025	446
1906	202	1946	810	1986	1934	2026	454
1907	207	1947	814	1987	1943	2027	467
1908	212	1948	1024	1988	1987	2028	472
1909	221	1949	1058	1989	1992	2029	479
1910	222	1950	1069	1990	2010	2030	489
1911	226	1951	1087	1991	2011	2031	490
1912	228	1952	1105	1992	2018	2032	500
1913	229	1953	1109	1993	2022	2033	661
1914	232	1954	1185	1994	2033	2034	675
1915	243	1955	1384	1995	2080	2035	683
1916	251	1956	1402	1996	2128	2036	686
1917	265	1957	1454	1997	2136	2037	707
1918	284	1958	1463	1998	2168	2038	710
1919	290	1959	1467	1999	2178	2039	714
1920	303	1960	1487	2000	2218	2040	727
1921	309	1961	1504	2001	25	2041	756
1922	311	1962	1519	2002	101	2042	768
1923	315	1963	1550	2003	147	2043	772
1924	316	1964	1566	2004	152	2044	1147
1925	321	1965	1583	2005	196	2045	1573
1926	326	1966	1597	2006	214	2046	1585
1927	381	1967	1602	2007	239	2047	1610
1928	410	1968	1640	2008	255	2048	1617
1929	447	1969	1696	2009	272	2049	1637

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
2050	1712	2090	2521	2130	1824	2170	2292
2051	1945	2091	2531	2131	1851	2171	2336
2052	1946	2092	2543	2132	1853	2172	2339
2053	1955	2093	2594	2133	1858	2173	2342
2054	2034	2094	> 105°	2134	1877	2174	2345
2055	2041	2095	3219	2135	1883	2175	2374
2056	2169	2096	> 105°	2136	1888	2176	2385
2057	2170	2097	3580	2137	1896	2177	2401
2058	2177	2098	3582	2138	1956	2178	2408
2059	2184	2099	3757	2139	1963	2179	2412
2060	2198	2100	3935	2140	1967	2180	2418
2061	2212	2101	165	2141	1979	2181	2419
2062	2227	2102	183	2142	1982	2182	2420
2063	2277	2103	185	2143	1988	2183	2500
2064	2286	2104	> 5"	2144	1989	2184	2506
2065	2295	2105	832	2145	1990	2185	2548
2066	2304	2106	910	2146	1995	2186	2551
2067	2311	2107	919	2147	2001	2187	2552
2068	2316	2108	938	2148	2002	2188	2558
2069	2317	2109	941	2149	2004	2189	2561
2070	2329	2110	944	2150	2016	2190	2576
2071	2332	2111	945	2151	2021	2191	2580
2072	2343	2112	954	2152	2023	2192	2747
2073	2372	2113	1124	2153	2028	2193	2748
2074	2373	2114	1138	2154	2039	2194	2763
2075	2380	2115	1173	2155	2061	2195	2783
2076	2383	2116	1177	2156	2096	2196	2884
2077	2390	2117	1260	2157	2100	2197	2909
2078	2395	2118	1283	2158	2102	2198	3921
2079	2396	2119	1295	2159	2126	2199	3922
2080	2398	2120	1332	2160	2139	2200	3932
2081	2402	2121	1444	2161	> 105°	2201	27
2082	2409	2122	1505	2162	2157	2202	32
2083	2415	2123	1536	2163	2159	2203	89
2084	2429	2124	1586	2164	2160	2204	92
2085	2470	2125	1594	2165	2161	2205	96
2086	2482	2126	1621	2166	2248	2206	102
2087	2486	2127	1800	2167	2283	2207	118
2088	2497	2128	1803	2168	2289	2208	126
2089	2503	2129	1805	2169	2290	2209	130

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
2210	> 5"	2250	> 105°	2290	3545	2330	366
2211	198	2251	> 105°	2291	3553	2331	369
2212	199	2252	> 105°	2292	3660	2332	379
2213	209	2253	> 105°	2293	3664	2333	382
2214	218	2254	> 105°	2294	3722	2334	386
2215	225	2255	> 105°	2295	3772	2335	404
2216	318	2256	> 105°	2296	3802	2336	409
2217	350	2257	2581	2297	3804	2337	414
2218	387	2258	> 105°	2298	3828	2338	440
2219	401	2259	> 105°	2299	3831	2339	442
2220	417	2260	2606	2300	3883	2340	444
2221	423	2261	2616	2301	59	2341	449
2222	426	2262	2701	2302	87	2342	451
2223	429	2263	2713	2303	93	2343	511
2224	497	2264	> 105°	2304	97	2344	516
2225	2232	2265	> 105°	2305	99	2345	518
2226	2322	2266	> 105°	2306	116	2346	562
2227	2326	2267	2852	2307	120	2347	584
2228	2351	2268	2853	2308	148	2348	587
2229	2367	2269	2859	2309	151	2349	591
2230	2386	2270	2863	2310	158	2350	640
2231	2388	2271	2888	2311	169	2351	670
2232	2422	2272	2897	2312	172	2352	687
2233	2427	2273	2910	2313	197	2353	688
2234	2433	2274	2916	2314	203	2354	915
2235	2469	2275	3126	2315	208	2355	1183
2236	2478	2276	3133	2316	217	2356	1212
2237	2479	2277	3144	2317	219	2357	1217
2238	> 105°	2278	3160	2318	223	2358	1343
2239	2489	2279	3222	2319	238	2359	1371
2240	> 105°	2280	3252	2320	248	2360	1376
2241	> 105°	2281	3313	2321	249	2361	1746
2242	> 105°	2282	3321	2322	257	2362	1764
2243	2504	2283	3353	2323	288	2363	1771
2244	> 105°	2284	3355	2324	314	2364	1772
2245	2507	2285	3384	2325	330	2365	1793
2246	2508	2286	3402	2326	352	2366	1796
2247	2509	2287	3470	2327	354	2367	1991
2248	2517	2288	3520	2328	360	2368	1994
2249	2532	2289	3522	2329	365	2369	2005

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
2370	2062	2410	307	2450	1250	2490	2257
2371	2063	2411	431	2451	1301	2491	2273
2372	2064	2412	434	2452	1306	2492	2279
2373	2066	2413	456	2453	1312	2493	3652
2374	2071	2414	469	2454	1326	2494	3655
2375	2075	2415	471	2455	1335	2495	3662
2376	2079	2416	486	2456	1338	2496	3665
2377	> 105°	2417	521	2457	1358	2497	3675
2378	2088	2418	539	2458	1394	2498	3699
2379	2103	2419	541	2459	1436	2499	3880
2380	> 105°	2420	545	2460	1441	2500	3895
2381	> 105°	2421	554	2461	1450	2501	351
2382	2146	2422	556	2462	1466	2502	357
2383	> 105°	2423	593	2463	1473	2503	358
2384	2294	2424	690	2464	1474	2504	361
2385	2350	2425	705	2465	1480	2505	534
2386	2510	2426	722	2466	1486	2506	605
2387	> 105°	2427	749	2467	1579	2507	706
2388	2698	2428	763	2468	1668	2508	872
2389	3008	2429	799	2469	1709	2509	904
2390	3030	2430	823	2470	1714	2510	927
2391	3091	2431	856	2471	1749	2511	984
2392	3097	2432	873	2472	1819	2512	1003
2393	3116	2433	883	2473	1837	2513	1092
2394	3658	2434	905	2474	1842	2514	1120
2395	3674	2435	951	2475	1879	2515	1145
2396	3703	2436	955	2476	1903	2516	1190
2397	3732	2437	978	2477	1913	2517	1211
2398	3778	2438	995	2478	1932	2518	1248
2399	3799	2439	1032	2479	1938	2519	1266
2400	3866	2440	1039	2480	1947	2520	1277
2401	231	2441	1049	2481	1949	2521	1348
2402	234	2442	1063	2482	1978	2522	1352
2403	242	2443	1080	2483	2050	2523	1509
2404	250	2444	1096	2484	2117	2524	1515
2405	261	2445	1101	2485	2149	2525	1516
2406	277	2446	1150	2486	2153	2526	1518
2407	291	2447	1153	2487	2182	2527	1521
2408	292	2448	1171	2488	2207	2528	1593
2409	301	2449	1240	2489	2249	2529	1629

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
2530	1631	2570	2019	2610	462	2650	926
2531	1633	2571	2040	2611	464	2651	931
2532	1635	2572	2060	2612	466	2652	952
2533	1639	2573	2089	2613	606	2653	961
2534	1653	2574	2109	2614	611	2654	962
2535	1654	2575	2112	2615	618	2655	970
2536	1678	2576	2123	2616	623	2656	972
2537	1684	2577	2129	2617	634	2657	989
2538	1685	2578	2130	2618	638	2658	1020
2539	1689	2579	> 105°	2619	659	2659	1031
2540	1706	2580	2156	2620	693	2660	1066
2541	1727	2581	2162	2621	713	2661	1076
2542	1734	2582	2183	2622	717	2662	1078
2543	1747	2583	2195	2623	734	2663	1083
2544	1751	2584	2238	2624	740	2664	1117
2545	1782	2585	2245	2625	741	2665	1188
2546	1815	2586	2282	2626	743	2666	1196
2547	1818	2587	2299	2627	745	2667	1199
2548	1823	2588	2306	2628	750	2668	1205
2549	1828	2589	2323	2629	758	2669	1225
2550	1831	2590	2365	2630	761	2670	1232
2551	1832	2591	2406	2631	767	2671	1234
2552	1833	2592	2487	2632	770	2672	1249
2553	1847	2593	2493	2633	775	2673	1285
2554	1848	2594	2511	2634	784	2674	1300
2555	1855	2595	2592	2635	790	2675	1304
2556	1898	2596	2899	2636	791	2676	1317
2557	1939	2597	3017	2637	804	2677	1337
2558	1941	2598	3263	2638	821	2678	1351
2559	1952	2599	3667	2639	827	2679	1355
2560	1960	2600	3670	2640	845	2680	1365
2561	1965	2601	103	2641	851	2681	1439
2562	1977	2602	273	2642	852	2682	1567
2563	1984	2603	322	2643	876	2683	1648
2564	1986	2604	327	2644	880	2684	2492
2565	1993	2605	355	2645	882	2685	2530
2566	1997	2606	391	2646	897	2686	2647
2567	2012	2607	393	2647	901	2687	2708
2568	2015	2608	427	2648	918	2688	2774
2569	2020	2609	461	2649	925	2689	2793

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
2690	3094	2730	1363	2770	2055	2810	1180
2691	3458	2731	1385	2771	2057	2811	1213
2692	3609	2732	1387	2772	2067	2812	1224
2693	3681	2733	1386	2773	2069	2813	1230
2694	3690	2734	1409	2774	2076	2814	1255
2695	3754	2735	1475	2775	2094	2815	1258
2696	3771	2736	1551	2776	2108	2816	1263
2697	3809	2737	1553	2777	2127	2817	1265
2698	3827	2738	1587	2778	2138	2818	1276
2699	3844	2739	1591	2779	2140	2819	1293
2700	3918	2740	1638	2780	2193	2820	1297
2701	807	2741	1651	2781	2239	2821	1302
2702	854	2742	1669	2782	2413	2822	1307
2703	861	2743	1671	2783	2431	2823	1344
2704	864	2744	1687	2784	2447	2824	1350
2705	892	2745	1705	2785	2485	2825	1359
2706	894	2746	1710	2786	2895	2826	1360
2707	907	2747	1716	2787	2953	2827	1362
2708	934	2748	1719	2788	2983	2828	1370
2709	939	2749	1736	2789	2991	2829	1380
2710	973	2750	1808	2790	3089	2830	1403
2711	976	2751	1816	2791	3106	2831	1406
2712	998	2752	1846	2792	3319	2832	1420
2713	1000	2753	1868	2793	3341	2833	1422
2714	1015	2754	1889	2794	3359	2834	1428
2715	1070	2755	1920	2795	3361	2835	1434
2716	1130	2756	1931	2796	3389	2836	1437
2717	1152	2757	1933	2797	3417	2837	1451
2718	1165	2758	1936	2798	3459	2838	1453
2719	1189	2759	1942	2799	3882	2839	1470
2720	1209	2760	1953	2800	3936	2840	1476
2721	1220	2761	1954	2801	629	2841	1478
2722	1221	2762	1966	2802	695	2842	1490
2723	1228	2763	1969	2803	771	2843	1491
2724	1229	2764	1996	2804	840	2844	1492
2725	1242	2765	2006	2805	1034	2845	1493
2726	1247	2766	2026	2806	1074	2846	1501
2727	1256	2767	2035	2807	1075	2847	1507
2728	1323	2768	2052	2808	1133	2848	1511
2729	1353	2769	2053	2809	1179	2849	1520

AITKEN—*continued.*

A.	Cat. No.	A.	Cat. No.	A.	Cat. No.	A.	Cat. No.
2850	1522	2880	1672	29..	1576	29..	<105°
2851	1525	2881	1675	29..	1600	29..	1047
2852	1526	2882	1691	29..	1613	29..	1191
2853	1527	2883	1694	29..	1614	29..	1388
2854	1529	2884	1698	29..	1627	29..	1650
2855	1532	2885	1701	29..	1647	29..	1962
2856	1533	2886	1743	29..	1676	29..	2524
2857	1534	2887	1753	29..	1683	29..	3178
2858	1538	2888	1762	29..	1703		
2859	1541	2889	1763	29..	1704		
2860	1544	2890	1765	29..	1711		
2861	1545	2891	1770	29..	1731		
2862	1547	2892	1783	29..	1756		
2863	1548	2893	1786	29..	1760		
2864	1558	2894	1790	29..	1775		
2865	1571	2895	1792	29..	1776		
2866	1580	2896	1795	29..	1801		
2867	1584	2897	1806	29..	1809		
2868	1589	2898	1817	29..	1845		
2869	1598	2899	1835	29..	1852		
2870	1601	2900	1843	29..	1856		
2871	1609	29..	> 105°	29..	1859		
2872	1611	29..	1268	29..	1863		
2873	1615	29..	1289	29..	1871		
2874	1620	29..	1329	29..	1884		
2875	1628	29..	1549	29..	1900		
2876	1641	29..	1555	29..	1902		
2877	1645	29..	1556	29..	1906		
2878	1659	29..	1557	29..	1924		
2879	1665	29..	1570	29..	2488		

JONCKHEERE.

J.	Cat. No.		J.	Cat. No.		J.	Cat. No.		J.	Cat. No.
			40	1331		80	2065		120	2969
1	3317		41	1430		81	2092		121	> 5"
2	3614		42	1524		82	2095		122	> 5"
3	3307		43	1560		83	1961		123	rej.
4	3326		44	1599		84	2042		124	> 5"
5	348		45	1642		85	2119		125	3054
6	372		46	1688		86	2124		126	> 5"
7	893		47	752		87	2133		127	3186
8	960		48	820		88	> 5"		128	> 5"
9	1095		49	879		89	2054		129	3265
10	1099		50	1071		90	2070		130	3296
11	726		51	1077		91	> 5"		131	2722
12	747		52	1129		92	> 5"		132	> 5"
13	764		53	1214		93	2442		133	> 5"
14	781		54	1319		94	2598		134	3156
15	802		55	1392		95	2637		135	3214
16	1073		56	1408		96	2649		136	3182
17	1081		57	1496		97	2655		137	2918
18	1137		58	> 5"		98	2650		138	> 5"
19	1143		59	1513		99	> 5"		139	> 5"
20	1401		60	1517		100	2665		140	3003
21	1465		61	rej.		101	2669		141	3045
22	1471		62	1590		102	2675		142	3324
23	1512		63	1624		103	2692		143	6
24	2954		64	1626		104	> 5"		144	847
25	3068		65	1655		105	> 5"		145	859
26	537		66	1667		106	2705		146	900
27	569		67	1680		107	2724		147	930
28	577		68	1692		108	2725		148	2882
29	590		69	1693		109	> 5"		149	2937
30	610		70	1699		110	2727		150	3023
31	736		71	1735		111	2761		151	3062
32	753		72	1755		112	> 5"		152	3042
33	788		73	1780		113	> 5"		153	3085
34	875		74	1838		114	2851		154	3130
35	982		75	1844		115	2868		155	3276
36	987		76	1864		116	2869		156	3357
37	1148		77	1872		117	> 5"		157	3415
38	1182		78	1944		118	> 5"		158	3442
39	1330		79	2046		119	> 5"		159	3465

JONCKHEERE—continued.

J.	Cat. No.	J.	Cat. No.	J.	Cat. No.	J.	Cat. No.
160	3511	200	3552	240	759	280	1489
161	3514	201	3594	241	826	281	1612
162	3530	202	3595	242	831	282	1630
163	3561	203	3616	243	889	283	1644
164	3591	204	3647	244	899	284	3449
165	3753	205	3676	245	903	285	3554
166	3871	206	3696	246	909	286	3557
167	3903	207	3762	247	916	287	3574
168	69	208	3767	248	917	288	3613
169	906	209	3769	249	932	289	3635
170	971	210	3779	250	936	290	3654
171	2959	211	3813	251	> 5"	291	3739
172	3059	212	3816	252	1036	292	3740
173	3129	213	3924	253	1050	293	3750
174	3139	214	3929	254	1062	294	3807
175	3214	215	3943	255	1114	295	3821
176	3188	216	28	256	1178	296	3852
177	3485	217	35	257	> 5"	297	3854
178	3540	218	45	258	1201	298	3874
179	3680	219	59	259	1216	299	3906
180	3713	220	83	260	1227	300	3912
181	3763	221	105	261	1237	301	14
182	29	222	108	262	1252	302	111
183	> 5"	223	109	263	1264	303	477
184	825	224	181	264	1280	304	508
185	865	225	190	265	1290	305	519
186	1089	226	194	266	1299	306	595
187	> 5"	227	200	267	1357	307	769
188	1106	228	236	268	1366	308	795
189	1661	229	271	269	1397	309	1059
190	3323	230	306	270	1414	310	1082
191	3362	231	329	271	1416	311	1085
192	3366	232	453	272	1417	312	1086
193	3372	233	457	273	1424	313	1090
194	3396	234	458	274	1425	314	1374
195	3399	235	567	275	1431	315	1458
196	3504	236	626	276	1435	316	298
197	3534	237	637	277	1438	317	697
198	3536	238	682	278	1447	318	728
199	3539	239	689	279	1472	319	774

JONCKHEERE—*continued.*

J.	Cat. No.	J.	Cat. No.	J.	Cat. No.	J.	Cat. No.
320	776	360	1479	400	2444	440	2335
321	777	361	1494	401	680	441	2355
322	786	362	1498	402	694	442	2370
323	793	363	1528	403	762	443	2376
324	815	364	1530	404	783	444	2384
325	830	365	1537	405	819	445	2403
326	858	366	1562	406	947	446	2405
327	863	367	1582	407	1055	447	2437
328	871	368	1592	408	1166	448	2441
329	870	369	1596	409	1193	449	2474
330	887	370	1605	410	1202	450	2490
331	937	371	1607	411	1321	451	2491
332	977	372	1616	412	1340	452	2496
333	1067	373	1643	413	1670	453	2513
334	1079	374	1673	414	1745	454	2516
335	1084	375	1739	415	1886	455	2528
336	1107	376	1741	416	1791	456	2545
337	1113	377	1754	417	1636	457	2560
338	1115	378	> 5"	418	1666	458	2562
339	1132	379	1759	419	1677	459	2564
340	1141	380	1774	420	1730	460	2586
341	1157	381	1788	421	1750	461	> 105°
342	1160	382	1812	422	1761	462	2633
343	1167	383	1834	423	> 5"	463	2651
344	1186	384	1870	424	1880	464	2690
345	1187	385	1873	425	1918	465	2699
346	1200	386	1909	426	1971	466	2700
347	1203	387	1923	427	2085	467	2702
348	1251	388	1921	428	2123	468	2720
349	1274	389	> 5"	429	2175	469	2723
350	1294	390	1125	430	2180	470	2732
351	1308	391	1151	431	2191	471	2750
352	1315	392	1154	432	2211	472	2754
353	1316	393	1169	433	2220	473	2765
354	1415	394	1267	434	2229	474	2770
355	1433	395	1418	435	2242	475	2780
356	1455	396	1563	436	2256	476	2787
357	1459	397	1773	437	2278	477	> 5"
358	1464	398	> 5"	438	2285	478	2794
359	1469	399	2424	439	2315	479	2806

JONCKHEERE—*continued.*

J.	Cat. No.	J.	Cat. No.	J.	Cat. No.	J.	Cat. No.
480	2815	520	> 5"	560	3279	600	1426
481	2823	521	2639	561	3294	601	3081
482	2825	522	2640	562	3299	602	3146
483	2844	523	2663	563	3302	603	3153
484	2850	524	2667	564	3305	604	3204
485	2856	525	2670	565	3328	605	3405
486	2931	526	2685	566	3330	606	3416
487	2939	527	2693	567	3338	607	3419
488	2973	528	2697	568	3343	608	3434
489	3001	529	> 105°	569	3347	609	3486
490	3002	530	2721	570	3351	610	3493
491	3013	531	2740	571	3370	611	3531
492	3014	532	2743	572	3403	612	3537
493	3025	533	2778	573	3409	613	3550
494	3028	534	2791	574	3466	614	3575
495	3034	535	2831	575	> 5"	615	3593
496	3044	536	2839	576	3481	616	3597
497	3049	537	2845	577	3484	617	3737
498	3071	538	2846	578	3497	618	3759
499	3088	539	2873	579	3532	619	3787
500	3096	540	2922	580	3711	620	3790
501	3119	541	2974	581	3837	621	3791
502	3127	542	3066	582	3893	622	3814
503	3155	543	3077	583	55	623	3826
504	3157	544	3131	584	72	624	3834
505	3176	545	3149	585	93	625	3887
506	3177	546	3154	586	136	626	3909
507	3216	547	3167	587	240	627	3920
508	3217	548	3181	588	378	628	3950
509	3274	549	3188	589	867	629	1
510	3289	550	3191	590	890	630	47
511	3364	551	3194	591	> 5"	631	60
512	3368	552	3202	592	1159	632	61
513	3376	553	3229	593	1168	633	70
514	3388	554	3236	594	1219	634	73
515	170	555	3244	595	1231	635	90
516	2540	556	3255	596	1324	636	107
517	2566	557	3264	597	1325	637	124
518	2591	558	3272	598	1333	638	127
519	2622	559	3278	599	1413	639	204

JONCKHEERE—*continued.*

J.	Cat. No.	J.	Cat. No.	J.	Cat. No.	J.	Cat. No.
640	227	680	1052	720	1254	760	2625
641	268	681	1060	721	1296	761	2638
642	269	682	1119	722	1336	762	2641
643	302	683	1146	723	1361	763	2645
644	305	684	1149	724	1364	764	2659
645	308	685	1161	725	1368	765	2718
646	312	686	1162	726	1369	766	2792
647	367	687	1176	727	1395	767	2800
648	373	688	1215	728	1484	768	2833
649	419	689	1238	729	1539	769	2866
650	712	690	1258	730	1543	770	2874
651	751	691	1261	731	1625	771	2902
652	837	692	1272	732	1707	772	2925
653	> 5"	693	1281	733	1724	773	2965
654	912	694	1310	734	1740	774	2976
655	969	695	1318	735	1826	775	2979
656	1011	696	1320	736	2030	776	2984
657	1027	697	1346	737	2032	777	3000
658	1243	698	1393	738	2438	778	3007
659	1244	699	1407	739	2473	779	3038
660	1245	700	1419	740	2477	780	3046
661	1269	701	1488	741	1218	781	3083
662	1271	702	1495	742	1412	782	3093
663	1273	703	1500	743	1423	783	3103
664	1286	704	1503	744	1865	784	3132
665	1342	705	1526	745	1897	785	3223
666	1351	706	1588	746	1970	786	3260
667	1354	707	1663	747	2025	787	3262
668	3786	708	655	748	2104	788	3283
669	3795	709	664	749	2252	789	3291
670	3825	710	684	750	2303	790	3327
671	283	711	729	751	2585	791	3332
672	412	712	733	752	2631	792	3333
673	475	713	956	753	2549	793	3335
674	829	714	957	754	2550	794	3423
675	877	715	1104	755	2571	795	3429
676	925	716	1136	756	2577	796	3431
677	999	717	1140	757	2582	797	3457
678	1016	718	1195	758	2596	798	928
679	1017	719	1253	759	2617	799	2662

JONCKHEERE—continued.

J.	Cat. No.	J.	Cat. No.	J.	Cat. No.	J.	Cat. No.
800	2966	840	3266	880	324	920	46
801	2968	841	3269	881	403	921	77
802	1372	842	3270	882	425	922	78
803	1679	843	3295	883	428	923	85
804	1895	844	3298	884	439	924	110
805	2604	845	3377	885	445	925	143
806	2643	846	3410	886	455	926	163
807	2648	847	3436	887	465	927	246
808	2715	848	3468	888	473	928	> 5"
809	2728	849	3490	889	517	929	> 5"
810	2749	850	3500	890	525	930	506
811	2790	851	3516	891	546	931	515
812	2801	852	3579	892	550	932	531
813	2802	853	3602	893	596	933	585
814	2835	854	3619	894	639	934	645
815	2989	855	3707	895	698	935	757
816	3006	856	3717	896	703	936	809
817	3015	857	3770	897	834	937	940
818	3101	858	3823	898	849	938	949
819	3148	859	3829	899	895	939	953
820	3268	860	3838	900	1226	940	958
821	3586	861	3851	901	933	941	963
822	2879	862	3861	902	980	942	992
823	2890	863	3913	903	988	943	993
824	2964	864	3945	904	1056	944	994
825	3018	865	4	905	1064	945	996
826	3020	866	9	906	1100	946	1002
827	3027	867	22	907	1102	947	1005
828	3050	868	33	908	1175	948	1007
829	3058	869	39	909	1223	949	1008
830	3073	870	64	910	1236	950	1009
831	3115	871	68	911	1399	951	1010
832	3164	872	74	912	3352	952	1013
833	3172	873	149	913	3432	953	1021
834	3196	874	150	914	3519	954	1029
835	3233	875	166	915	3600	955	1033
836	3240	876	224	916	3607	956	1040
837	3243	877	233	917	3719	957	1042
838	3250	878	253	918	3724	958	1046
839	3257	879	279	919	3752	959	1051

JONCKHEERE—*continued.*

J.	Cat. No.	J.	Cat. No.	J.	Cat. No.	J.	Cat. No.
960	1053	1000	1577	1040	3633	1080	319
961	1093	1001	1717	1041	3745	1081	421
962	1094	1002	1732	1042	88	1082	441
963	1097	1003	748	1043	808	1083	468
964	1108	1004	792	1044	818	1084	532
965	1116	1005	1282	1045	911	1085	589
966	1122	1006	1287	1046	942	1086	646
967	1123	1007	1799	1047	997	1087	665
968	1134	1008	1804	1048	1012	1088	738
969	1142	1009	1876	1049	1091	1089	833
970	1144	1010	2012	1050	1110	1090	1004
971	1158	1011	2097	1051	1126	1091	1111
972	1164	1012	2099	1052	1131	1092	1239
973	1181	1013	2106	1053	1155	1093	1275
974	1197	1014	2116	1054	1156	1094	1278
975	1206	1015	2125	1055	1382	1095	1288
976	1208	1016	2135	1056	1404	1096	1375
977	1222	1017	2137	1057	1411	1097	1377
978	1235	1018	2142	1058	1440	1098	1398
979	1257	1019	2155	1059	1460	1099	1427
980	1259	1020	2163	1060	1552	1100	1674
981	1262	1021	2173	1061	1561	1101	1292
982	1270	1022	2190	1062	1568	1102	1128
983	1284	1023	2194	1063	1572	1103	1246
984	1298	1024	2216	1064	1578	1104	1373
985	1303	1025	2222	1065	1604	1105	1045
986	1305	1026	2341	1066	1789	1106	1356
987	1309	1027	2352	1067	1825	1107	3043
988	1314	1028	2353	1068	3047	1108	2907
989	1334	1029	2356	1069	3104	1109	3220
990	1347	1030	2357	1070	3111	1110	1810
991	1367	1031	2397	1071	269	1111	549
992	1378	1032	2505	1072	3161	1112	504
993	1379	1033	2512	1073	3346	1113	3310
994	1390	1034	3004	1074	3387	1114	985
995	1432	1035	2836	1075	3411	1115	1174
996	1452	1036	2838	1076	3430	1116	1014
997	1468	1037	2855	1077	2940	1117	1686
998	1485	1038	2862	1078	3450	1118	2809
999	1581	1039	3523	1079	3463	1119	175

JONCKHEERE—*continued.*

J.	Cat. No.	J.	Cat. No.	J.	Cat. No.	J.	Cat. No.
1120	346	1160	3053	1200	2590	1240	3010
1121	2307	1161	3056	1201	3026	1241	3284
1122	2324	1162	3171	1202	3078	1242	3348
1123	2090	1163	3174	1203	3118	1243	3292
1124	2440	1164	3185	1204	3121	1244	3517
1125	2302	1165	3203	1205	2804	1245	430
1126	2003	1166	3189	1206	2829	1246	3637
1127	2574	1167	3208	1207	2940	1247	3237
1128	2287	1168	3169	1208	2717	1248	2498
1129	2333	1169	3228	1209	2795	1249	779
1130	2480	1170	2654	1210	3390	1250	813
1131	2499	1171	2951	1211	3671	1251	806
1132	2597	1172	3048	1212	2666	1252	470
1133	2646	1173	3248	1213	2677	1253	797
1134	2710	1174	2843	1214	2689	1254	1210
1135	2570	1175	2860	1215	2704	1255	888
1136	2985	1176	2948	1216	3012	1256	891
1137	2446	1177	3070	1217	3067	1257	1569
1138	2678	1178	3340	1218	2595	1258	1623
1139	2977	1179	3382	1219	3438	1259	3057
1140	3117	1180	3451	1220	2593	1260	1112
1141	3398	1181	2920	1221	2917	1261	1241
1142	2797	1182	2963	1222	3142	1262	2083
1143	3329	1183	2994	1223	3447	1263	2828
1144	2950	1184	3080	1224	3638	1264	2906
1145	3076	1185	3011	1225	3642	1265	2664
1146	3572	1186	2864	1226	2719	1266	2668
1147	3234	1187	3029	1227	3060	1267	2741
1148	3218	1188	2738	1228	3503	1268	2760
1149	2644	1189	2695	1229	3510	1269	2612
1150	2832	1190	2696	1230	3206	1270	2613
1151	3437	1191	2746	1231	3261	1271	2671
1152	3499	1192	2878	1232	3567	1272	2673
1153	3455	1193	3016	1233	3162	1273	2684
1154	3494	1194	3192	1234	3213	1274	2714
1155	3541	1195	3247	1235	3480	1275	2742
1156	3082	1196	3306	1236	3544	1276	2745
1157	2898	1197	2653	1237	3394	1277	2751
1158	3122	1198	2849	1238	3354	1278	2755
1159	3123	1199	2893	1239	2945	1279	2773

JONCKHEERE—*continued.*

J.	Cat. No.		J.	Cat. No.		J.	Cat. No.		J.	Cat. No.
1280	2775		1290	2999		1300	2817		1310	2930
1281	2805		1291	3069		1301	2821		1311	2949
1282	2819		1292	3135		1302	2824		1312	2975
1283	2861		1293	3136		1303	2847		1313	2996
1284	2840		1294	3137		1304	2885		1314	3019
1285	2875		1295	3190		1305	2887		1315	3021
1286	2933		1296	3198		1306	2889		1316	3032
1287	2936		1297	3281		1307	2913		1317	3055
1288	2988		1298	3285		1308	2919		1318	3414
1289	2998		1299	3287		1309	2926		1319	3462

ESPIN.

E 1 to E 150 are given in Burnham's General Catalogue.

E.	Cat. No.	E.	Cat. No.	E.	Cat. No.	E.	Cat. No.
153	36	236	575	295	1830	373	3433
161	295	238	613	296	1881	374	3448
165	536	239	653	297	1914	375	3469
166	551	241	2730	298	1916	377	3515
167	570	242	3051	299	1928	380	3555
169	785	243	3138	300	1930	381	3587
171	869	244	3207	301	1951	383	3631
172	959	245	3297	302	2017	384	3628
173	967	250	3404	305	2101	387	3650
174	1421	252	3471	307	2165	394	3777
179	1690	253	3474	309	2274	395	3794
187	2636	254	3475	311	2334	396	3811
189	2707	255	3477	312	38	398	3859
190	2726	256	3488	313	54	401	3885
194	2883	258	3538	315	84	402	3896
196	2938	259	3546	316	117	403	3899
198	2992	261	3610	318	210	404	95
200	3084	267	3875	319	216	405	131
201	3134	268	3911	320	276	406	134
206	3288	270	338	321	299	407	193
207	3478	271	385	322	323	408	192
208	3489	272	420	324	405	409	325
209	> 5"	273	510	326	478	410	592
211	3604	274	520	330	739	411	599
212	3622	275	557	333	841	412	766
213	3653	278	622	335	885	414	800
214	3672	279	647	341	1542	419	1619
216	3755	280	796	345	2605	420	1656
217	3774	281	836	347	2623	423	1718
218	3797	282	874	352	2870	425	1734
220	3849	283	974	353	2900	426	1778
223	104	284	1006	360	3166	427	1822
227	245	285	1088	361	3170	429	1940
228	297	286	1135	362	3256	430	1983
229	332	288	1192	363	3258	431	1985
230	336	289	1461	365	3320	432	2014
231	416	290	1546	366	3381	436	2189
232	443	292	1744	368	3391	437	2192
233	559	293	1758	371	3412	439	2214
235	571	294	1829	372	3418	440	2243

ESPIN—*continued.*

E.	Cat. No.	E.	Cat. No.	E.	Cat. No.	E.	Cat. No.
441	2246	518	3556	604	2058	688	3730
443	13	522	3611	605	2120	692	3805
444	82	525	3615	608	2270	694	3839
445	86	527	3629	609	2327	696	3846
448	155	528	3634	610	8	697	3847
451	213	531	3639	612	44	698	3850
452	237	533	3669	614	114	701	3934
453	287	536	3695	615	139	702	3940
455	345	537	3712	616	159	706	505
456	359	538	3718	617	230	708	787
459	392	540	3735	618	340	709	794
460	396	543	3818	622	529	710	975
462	493	544	3819	624	2358	711	1048
463	496	546	3860	625	2368	717	1905
466	609	551	3930	628	2423	719	1935
467	789	559	492	632	2439	720	1972
468	2520	562	548	634	2475	721	2013
469	2547	564	608	636	2523	724	2148
472	2608	565	616	637	2525	730	2213
474	2620	570	669	638	2535	732	2241
476	2642	571	699	641	2599	735	2272
480	2788	572	709	643	2609	737	2305
481	2822	574	822	645	2611	739	2348
482	2837	577	855	647	2618	740	2364
485	2929	578	979	648	2627	742	2392
487	2942	581	1139	650	2758	744	16
488	2947	583	1349	655	2958	745	17
490	2967	584	1391	656	2971	747	21
493	2972	585	1559	657	3005	750	53
494	3072	587	1657	666	3334	755	174
495	3110	588	1660	669	3395	756	176
496	3147	591	1728	671	3400	757	191
501	3193	592	1748	672	3401	761	270
503	3249	593	1757	673	3413	762	275
505	3300	594	1777	675	3420	764	353
508	3365	596	1827	678	3513	766	436
514	3498	599	1874	679	3526	768	495
515	3502	600	1948	681	3603	770	572
516	3542	601	1957	684	3626	772	1564
517	3547	602	1964	687	3700	774	2354

ESPIN—continued.

E.	Cat. No.	E.	Cat. No.	E.	Cat. No.	E.	Cat. No.
776	2495	857	3863	951	488	1024	3734
780	2578	858	3870	953	540	1026	3760
781	2587	859	3889	954	598	1031	3781
788	2736	860	3900	955	644	1032	3782
789	2786	863	3916	956	650	1033	3796
790	2826	871	335	957	716	1036	3812
795	3031	872	362	958	721	1037	3822
797	3086	873	432	960	2281	1039	3836
798	3163	879	601	969	2451	1040	3841
799	3210	880	603	970	2453	1041	3842
800	3253	883	676	971	2457	1042	3845
802	3286	884	678	972	2463	1043	3864
804	3331	894	943	974	2555	1044	3867
807	3367	895	1026	981	2848	1045	3869
808	3373	896	1037	982	2876	1047	3904
809	3374	899	1383	983	2881	1049	3927
811	3408	904	1649	985	3100	1050	3928
814	3425	905	1682	986	3180	1056	258
816	3460	906	1681	988	3254	1060	320
818	3467	908	1766	989	3259	1061	334
819	3492	911	1854	990	3337	1063	376
820	3512	916	2008	991	3344	1067	620
822	3525	917	2009	993	3363	1068	635
826	3606	918	2037	997	3393	1069	648
827	3608	921	2078	998	3397	1070	719
830	3627	922	2093	999	3428	1072	898
833	3646	923	2152	1000	3452	1077	1328
834	3682	924	2200	1001	3453	1078	1449
835	3685	926	3917	1005	3506	1080	1499
836	3726	929	18	1007	3529	1081	1508
839	3741	930	20	1009	3581	1084	2134
840	3744	931	57	1010	3584	1086	2349
841	3746	932	58	1012	3598	1089	2452
842	3756	938	121	1013	3599	1092	2553
844	3761	941	137	1014	3605	1093	2781
845	3764	942	160	1016	3649	1094	2808
848	3773	943	178	1017	3673	1097	2927
853	3784	945	254	1018	3678	1098	3022
854	3783	947	262	1020	3684	1099	3183
855	3792	948	286	1023	3729	1100	3311

ESPIN—*continued.*

E.	Cat. No.	E.	Cat. No.	E.	Cat. No.	E.	Cat. No.
1101	3316	1165	2981	1232	1041	1309	438
1102	3524	1166	3439	1233	1068	1310	491
1104	3573	1168	3456	1235	1184	1312	544
1106	3620	1171	3533	1238	1445	1313	579
1110	3643	1173	3558	1241	1540	1316	641
1112	3648	1174	3563	1243	1632	1317	672
1115	3721	1175	3612	1244	1958	1318	701
1119	3798	1178	3659	1246	2051	1320	708
1121	3806	1180	3705	1247	2059	1325	1700
1122	3815	1181	3731	1248	2172	1326	2777
1123	3835	1182	3733	1249	2236	1327	2944
1124	3915	1184	3801	1252	2362	1328	3009
1127	24	1185	3810	1257	2527	1330	3267
1128	65	1186	3839	1260	2575	1331	3271
1129	71	1187	3857	1262	2652	1333	3491
1130	187	1188	3858	1264	2729	1336	3543
1131	224	1189	3868	1266	2978	1339	3551
1133	398	1191	3949	1271	3441	1341	3576
1134	415	1192	2	1272	3483	1342	3666
1135	435	1193	10	1273	3487	1343	3677
1137	576	1199	50	1274	3535	1344	3688
1139	746	1200	52	1275	3577	1345	3694
1140	843	1202	63	1276	3583	1346	3706
1141	923	1204	140	1279	3689	1347	3720
1142	1410	1205	144	1282	3697	1348	3768
1143	1618	1207	184	1284	3701	1349	3808
1150	2027	1210	220	1285	3708	1351	3853
1151	2029	1212	267	1286	3738	1352	3894
1152	2043	1213	280	1288	3765	1353	3910
1154	2145	1214	296	1290	3830	1355	3931
1155	2187	1215	331	1292	3944	1356	3942
1156	2291	1216	380	1294	41	1359	100
1157	2601	1217	450	1295	67	1360	164
1158	2619	1218	514	1296	80	1361	259
1159	2679	1220	522	1297	122	1364	501
1160	2682	1221	566	1298	128	1365	561
1161	2709	1223	619	1300	167	1366	604
1162	2834	1224	628	1301	256	1368	627
1163	2886	1227	720	1304	263	1370	657
1164	2941	1231	842	1307	395	1372	735

ESPIN—*continued.*

E.	Cat. No.		E.	Cat. No.		E.	Cat. No.		E.	Cat. No.
1374	811		1400	2122		1427	2734		1454	3476
1375	834		1402	2202		1428	2756		1456	3560
1376	860		1403	2208		1430	2789		1457	3562
1377	868		1404	2215		1432	2892		1459	3592
1378	981		1405	2217		1433	2894		1460	3596
1381	1127		1406	23		1434	2961		1462	3640
1382	1172		1407	37		1436	3114		1464	3661
1383	1339		1409	189		1437	3151		1465	3686
1384	1341		1410	211		1439	3225		1471	3766
1385	1381		1411	274		1440	3235		1472	3785
1388	1767		1412	2484		1441	3304		1473	3881
1389	1794		1415	2565		1442	3308		1476	3919
1390	1857		1416	2583		1443	3315		1477	3925
1393	1968		1417	2602		1446	3378		1478	3938
1395	2024		1418	2603		1447	3380		1479	3939
1397	2056		1419	2607		1448	3385			
1398	2081		1422	2660		1450	3427			
1399	2118		1425	2711		1452	3464			

HUSSEY.

Hu 1 to Hu 1200 are given in Burnham's General Catalogue.

Hu.	Cat. No.	Hu.	Cat. No.	Hu.	Cat. No.	Hu.	Cat. No.
1201	3	1238	1098	1273	2359	1302	2904
1202	48	1241	1204	1275	2421	1303	2912
1207	133	1242	1279	1276	2426	1304	2955
1209	173	1244	1608	1277	2443	1305	2987
1210	252	1245	1646	1278	2455	1306	3090
1213	278	1246	1652	1279	2468	1307	3113
1214	281	1247	1658	1281	2502	1308	3125
1215	333	1248	1733	1282	2518	1309	3471
1216	400	1250	1769	1283	2534	1310	3473
1217	599	1251	1821	1284	2536	1311	3489
1218	685	1252	1950	1285	2538	1314	3621
1219	692	1253	1981	1286	2539	1315	3687
1220	737	1254	1998	1287	2542	1316	3692
1221	765	1255	2047	1288	2546	1317	3716
1222	782	1256	2147	1289	2569	1318	3723
1223	805	1257	2151	1290	2600	1319	3728
1224	816	1258	2226	1291	2614	1320	3736
1225	850	1259	2250	1292	2634	1321	3743
1226	862	1260	2253	1293	2656	1322	3820
1227	866	1261	2275	1294	2744	1323	3848
1228	884	1263	2293	1295	2782	1324	3891
1229	913	1264	2300	1296	2784	1325	3897
1232	966	1265	2308	1297	2810	1326	3908
1233	983	1266	2309	1298	2820	1327	3923
1234	1025	1267	2313	1299	2858	1338	2038
1235	1030	1268	2320	1300	2867		
1236	1061	1269	2325	1301	2870		

MISCELLANEOUS.

The pairs discovered by these observers will be found under the following catalogue numbers :—

A.G.	Biesbroeck	Dobereck	Fox— <i>con.</i>	Lewis— <i>con.</i>	Olivier
309	526	3371	* Cat.	2626	* Cat.
1018	3345		44 3653	2628	1 583
1531		Doolittle	46 3715	2629	9 418
1595	Bohlin	803	47 3843	2630	12 2110
1603	2128	1443	48 3878	2658	14 2674
1606	Bowyer	1702	49 3886	2661	15 2686
1634	15	2045	51 3905	2672	
1715	914	2196	52 3946	2680	Przybyllok
1849	1758	2416		2688	146
2448	2615	2921	Furner	2752	
2567	2676	2960	2186	2757	Roe
2598	3074	3645	2495	2759	* Cat.
2632	3102		2522	2762	2 2379
2749	3108		2621	2766	14 3302
2768	3314	Fox	2624	2767	20 3065
2769		* Cat.		2771	25 1523
2779	Bryant	1 40		2799	33 1836
2827	2556	2 51	Hough	2803	34 1841
2841		3 154	* Cat.	2807	36 2361
2905	Burnham	4 507	628 1574	2812	41 3179
2915	* Cat.	5 615	630 2476	2813	42 3221
2952	" 76	6 633	631 2494	2814	46 3610
2956	" 119	7 902	633 2526	2818	50 2706
3039	" 162	8 1141	634 2635	2928	55 3698
3075	1333 636	10 1170	635 2796	2980	69 1575
3105	" 656	11 1322	636 2811	3037	73 2131
3143	1334 824	13 1752	637 2871	3061	76 527
3187	" 1502	14 1999	638 3120	3064	78 3224
3290	" 2036	15 2234	639 3421	3087	81 3793
3293	" 2192	17 2425		3107	
3383	" 2382	22 2554	Lewis.	3199	Storey
3568	" 2478	25 2676	483	3209	3230
3693	1335 2935	26 2842	484	3245	
3862	" 2997	27 2880	848	3336	Struve
3907	" 3036	29 2982	922	3350	* Cat.
3933	" 3150	31 3040	986	3358	2028 2414
	" 3197	32 3160	1198	3407	
	" 3275	33 3175	1565	3590	Vanderdonck
Barnard	" 3472	34 3200	2141	3636	* Cat.
26	" 3482	35 3211	2375	3898	1 1291
31	" 3505	36 3277	2445		2 3789
1797	" 3780	37 3322	2459		3 1839
1929	" 3890	38 3356	2461	Luizet	
2167	1336 3890	39 3219	2501	2267	Wirtz
3709	Cerulli	40 3225	2584		9
3710	201	41 3479	2588	Miller	343
3914	3713	43 3566	2589	2764	402