

KG
11365
278

M.31

MEMORANDA.

KG 11365.278

1962phae.proj. 278B

KG 11365.278



1862 Jan 3.

To have label "Memoranda" attached
to this Book

To have letter to R.C. Carrington
copied with obs on Comet and
Neptune Uranus & Sirius papers.

Copy from Printers of Annals. to
be arranged.

Labels for Pamphlet shelves
to have black margin & large
white margin. & to be put on

Numbers to be put on.

Rest of labels to be filed away.

To file copy of Report in cover

Done To change Mr Carringtons address
to
Avenue Lodge Isleworth
London W.
England.

Done To write to Col Graham
respecting Catalogue

Done To direct comet articles.
" Sirius "

Done To pack Charts of Comet & set away
by the side of drawers.

Done To file letters.

Done To make a case for linen chart of Comet

Done Notices of discovery Comet III 1861 & Elmerich
by J.H. Safford & Ephemeris sent to R. Astr. Soc.
Astr. Nach. Paris Bulletin Dillmanns Journal

Brunner's Notices -

Done Mr Hall has sent elements to
Brunner's Notices

H. P. Tuttle's Elements I sent to Paris
Bulletins.

Done To transfer above to Report Mem. Book
To direct Memoirs etc. to David A Wells &
to put his name on distribution list

Manchester Phil. Soc.

Done Jan 9 1862

Ed. H. To copy Mtg. Obs for Prof Leomin

Done To copy Bill & Mem. Welch, Bigelow
& Note to Mr Quincy jr Bill Kil-
burn & Mallory

Copy Letter to Mr Quincy.

Done New book for entry of Library donations

To enter Obs. Imps Paris vol 711 Jan 9.
Done North Road City Eng.

Done To copy magnetometer readings for
July & Aug 1841. & fill away with sheets.

Done David A. Wells Troy N. Y.

Done Orion to be replotted.

The straight lines OB are to be transferred
to dry impressions Plate XXIV.

1st describe 3 circles of ^{known} equidistant radii
from nucleus & set off from straight
line OB , the computed values $Ob + A'a^2$,
and also draw below the path of
Comet, say for 2ⁱⁿ from nucleus, a
straight line from nucleus inclined
to OB by $\sin^{-1} A$. To be used as guide
in describing curve

Done For radii of circles take ^{three} when practically
equidistant & one near end of Tail Ray
& describe another for end of Last Ray.

After completing curve of axis

Done ✓ Transfer it to chart on dry paper
 apply breadth & construct front &
 rear edge of ~~tail~~ ray.

Done 1 To copy for prep acct of Sec. tail.

To parts on Nos & Labels on pamphlet shelves

T.H.S. To arrange pamphlets.

Ed. H. To put wrappers on files of letters

Done 1 To copy p 153 Prep again.

Done In transferring axis of ray to chart
 for Mr Watts. cut out squares in orig
 chart & transfer by pricking?

Done To erase all pencil marks from
 books to be quoted from.

Done Ed. H. To stretch paper on small drawing
 board for Orion. Draw to half scale.

Annals Comet 1858

Done To insert description of telescopes
Notice the occasional repetition of
extracts in acct of tail.

1862 Feb 4

Done Ed. H. to copy Dr Peters letter

Ed. H. To trace outlines of envelopes
etc for woodcuts

Done To copy p 156 Prep & substitute
present p 156 Prep for "Annals" p 1230 & c
copy next p 1231 Annals as Prep
p 157⁶ & then insert p 158⁷ & 159⁸
Prep as already copied.

Done To copy rest of English notices
only to Sept 25th to begin with

Done Ed. H. to enter exact titles for
quotations.

Comet of 1861.

To copy Fundamental Catalogue.

Ed H. ~~Do~~ To apply the small corrections on p 76, to all the Orion stars before plotting.

J. H. S to observe in Dec
wings

~~824~~

597 $5^h 24^m 33^s$ $-5^{\circ} 49'$

824 $5^h 32^m 41^s$ $-5^{\circ} 9'$

~~Ed. H. To copy paragraph on
"Umhüllung" Sept 16 from Minner
& insert it in copy for Prof.~~

To Recopy Orion.

Ed H to copy into "Printing" Memor. and
Annals p 91.

Mr Watts to correct places of
nucleus on Plate XLVII

In hand

Oct 13₍₆₎ 18₆₁ and 18₆

The curve also on Oct 13₆ run
out.

1862 March 4 Ed H has worked
for several weeks an hour or two a
day in touching engravings of Comet in
white water color.

Done Ed H. To project catenoid as on
"Annals p. 259."

E.P.B to continue discription of figure
of head of Comet - give angular dimension
2 in miles. also remark on
projections & breadth.

N.B. G.P.B. is to file up remarks
on the projection of Catenoid in
prep copy after Ed. H. has drawn it.
p.c. & d

Don Restore Prof. Challis to distribution list

Quote from Prof. Challis letter.

Done To make envelopes for Proofs.

To find points K & breadths from
the normal outlines. to use on p 259_h

1862

April 4 To send Vol. Lence to Mr. Rogers.

Planet & Comet obs of 1861

"Unhüllung" Paper A.N. 1172 p 316
Oct. 6

1862 April 27

Done To enter in this ~~new~~
Book a record of the Obs. sent
to Astr. Nach.

Done To copy list of Asteroids for
Mr. Bowditch & copy letter.

Done Section XII Envelopes to be
copied for press p 4, 5, 6, 7 - 9

Done To fasten on Charts of Envelopes to sheets.

Done To copy Obs. Comet for Oppolzer's Diurnal.

Done To copy on pencil page 46 9 Distances of
apex of envelopes for $A=1$

To mend plate to Obs. Coll. Romano -
" " D'Arrest &c.

To change outside of cover of As coll
& Level Book from Red to blue.

Done To pack up books Durvies Garra & Co.

1862 June 9 Finished Vol. III of Annals
"Account of Comet 1858."

1862 June 15

To put new labels on shelves & arrange
Pamphlets.

To take account of Books & Pamphlets in
Library & find which of W.C. Br were
transferred to Observatory in his lifetime.

To prepare Title page & Introduction for
Vol. II. of Zones. & pack up for printing.

To request from Corporation an appropriation for cont'g't expenses.

To have account of Phillips Fund examined - to find balance unexpended.

To transfer account for expenses on planting Trees to Obs. - Charges for kindling wood & work on avenue - Pickaxe

To send to Prof. Hubbard Vol. of Zones as requested in his letter of March 24th 1862

Write to Astr. Nach. sending notice of naming of Clytie & mention the fact of the three Maia - Elronia - & Clytie having been observed only in America.

1 Obs Comet III 1861. & Elements.

Get Mr Hale to compute orbit & ephemeris of Maia for Berliner Jahrbuch. & send copy also to Hind

To examine object mentioned in
Hind's letter

1850.0 R $19^h 41^m 26.8^s$ Dec $+26^\circ 56' 36''$

To write to Leverrier Chabot etc.

" Airy Cyr Obs 1859 etc

To send to Astr. Nach article on subject of
perspectives for shortening the figure of head
of Comet

To send to Astr. Nach - all of Sirius Obs.
with remarks on Laplace.

1862 July 5th

Ed. H. To compare not in Leverrier's
letter with originals & copy at end a
notice of ^{new} Comet

G.P.B. is to write autograph letter -

Ed H To copy in this book, list
of titles of Articles sent to Paris Bulletin.

Copy letters to Dr Peters & Com^{te} Gillisp.

Copy for Astr. Nach

To copy obs of Comet for Lieut Gillip
Copy letters to Gillip & Peters

Copy orbit of Comet for Leverrier.

1862 Aug. 6

Reply to Prof. Jewett ^{2 Parcels} Dr Peters
~~Lewis Swift~~ Report on Long.
O. B. Wheeler

Acknowledge receipt of Greenwich Obs.

~~Write to Smith. Inst. respecting parcels by Express~~

Acknowledge To H. T. Parker.

To Mr Hall.

To SCB

To make ink for Spr. Gun at time of using it.

Ed. H

To label M. T. Clock Book

To prepare list of publications
received to be acknowledged

Ed.H. for work to fill in time to catalogue
Books for Library. & Pamphlets. Have
a box & let Mr. Keay bring it in full
of books each day. & return them catalogue

Catalogue on Cards taking title from Paulkova
Cat. & as ^{soon} ~~fast~~ as book is catalogued
mark it on back with water color. ~~To~~
or have a tag pasted on it.

N.B. Say have tags of 4 colors & put
one of same color on Card.

To enter new names on foreign list.

Copy Bills in Obs. acct. books.

Arrange Bills

1862 Oct 21. Copy Obs. of Comet III. 1862
& of Ferussia for Dr Peters letter

To transfer addresses of all persons

to whom copies of Account of Comet 1858
have been sent.

Ed. H. to pack away all papers etc
relating to Comet 1858 and to comp.
of Ann. M.

Change labels on drawers. One for
letters. under pigeon holes.

1862 Dec. 19th To have the catalogue
of stars for Lake Survey (Vide Col. Graham's
letter of Dec 15th) copied.

1863 Jan 1st

~~Done~~ Letter to be written
Lt Col. J. D. Graham on Catalogue
21 stars must be rect'd 48 more should
be.

~~Acknowledgments of receipt of "Account
of Comet 1858 - To be copied & translated
in order of dates.~~

~~Report to be copied.~~

~~Annals to be sent to
Trübner & Co~~

~~Letter G.C. Bond~~

~~Annals to Encke or by letter.~~

1863 Jan. 1st Gave to R. F. Bond Check \$3.26
J. F. Bonditch to be collected.

~~Change Hornstein's address to Göttingen.~~
~~Done Letter to Well, Chicago.~~

~~Rec'd Change for Astr. Nachr. - Notice expression
in Peters letter respecting Vol. III. "Which I dare
expect" etc.~~

~~Done International Exchange - Am. Statistical Soc.~~
~~Done Henry G. L.~~
~~Kaiser 2 Vols Annals.~~

~~Waddell Sec. Am. Statistical Soc. Package
at Athenaeum - Charge \$0.37~~
~~(Probably as explained by Mr. Pade - Check Bond etc.)~~

1863 Jan 1st

Done ~~Westermanns Bible~~

done ~~Major Coolidge - Letter~~
done ~~Fahnestock~~

Done ~~Martin Winger - Hunter Ohio~~

Done ~~H. G. Parker London~~

done ~~Mohn Christiania~~

done ~~Cillips Receipt Dupl. Nant. Mt 1866~~

~~E. H. Talbot~~

Done ~~Wm Mitchell - Report - copies & transla-~~
tions of letters - Copy of Annals for Oliver -

~~Schmid - Nebraska~~

Done ~~Dr Peters~~

Done ~~Dr Perkins~~

Done ~~Butterford Lewis M Annals~~

Done ~~Wm H. Wells Chicago~~

~~Hock Wrocht Lauenburg~~

Done ~~Letter of 5 Feb. 1862 & Oct 29 1862~~
~~2 vols Recherches etc~~

Edw H. Addressee of Books Annals Vol. III. 25 L
entered in Address Book.

1863 Jan 6 By Buck-L (Adams) Express
 Books from Smith. Inst.
 No 6527 - 1722, 1724-1735
 Radcliffe

Treasury Dep. Jan 11 1843
 Certificate No 711 \$11000
 Loan of 1842.

~~Done~~ Copy of Annals to S. C. + C. J. B.

f. ac.

~~Acknowledgment receipt of engraving,
 of medals etc. Lord Pope~~

Edm. You Villarsen

Copy of Ephemeris Comet D.

Arrest.

~~Lord Pope.~~

Edm. H. To make more large envelopes
 Pamphlet to Prison Discipline Soc. Boston
 " Am. Geogr. Soc. N. Y. City
 (W. C. H. Waddell. Sec. Council)

1863 Jan. 31st Reduction Orion Obs

C.H. to copy out & reduce Herschel's stars
on sheets L M etc. A.B. to leave
space below each square for comparison
with our Obs.

~~A Catalogue of Standard Polar and Clock Stars
for the Reduction of Observations in Right Ascension,
With a Discussion of their positions~~

J.ac.

1863 April 7 Letter to H. T. Parker with
Sterling Bill [£] 3 1⁰ enclosed

J.ac.

~~To write to Dr C. A. F. Peters, A.A.
& enclose Sterling Bill. [£] 2 - to account
also Comet & Planet Obs. in 1862.
& article for "Account of Envelopes of
Great Comet of 1858".~~

~~Send English copies of Annals & Report addressed to Henry J. Parker
(see book of addresses) consigned to Stanley & Starr. valuation \$1. copy.
Units by mail to Parker, sending list of addresses.
Send Continental copies to Westermann N.Y. with list of
addresses by mail. U.S. copies by mail prepaid if postage
does not exceed 5 or 6 cents largest.~~

J. ac.

~~Put up 5 copies of each directed to
 Prof G. P. Bond. Can H. T. Parker etc.
 Before sending other copies send first
 to J. Ingersoll Bonditch - Hon. William
 Sturgis. William Sturgis Hooper & Co
 Gen. Josiah Quincy sent by messenger or
 express - Not by post. Boston copies
 to be prepaid
 12 Reports to Mr Sibley -~~

by Express

1863 July 7 To write to Gen. Sabine for a set
 of New Thermometers

Done Write to Prof. Maxwell & send books -

Write to Prof. Schonfeld & send Nebulae. p 106
 Cor of Lons.

To Dr. Berold Report on Dr.
 Munich

To Abbe Moigno & request direction of Mondes
 to be rectified. Effluences of object glass -
 & remittances Books have been sent already

1862phae.proj.:278B

To H. T. Parker Esq. with remittances. Notify to direct Remittances to
and send me notification.
five. E. D. Dixwell send back
Hon. S. D. Everett

List of letters sent Sat. July 11 1871

J. ac New Perry Chicago Hist Soc. with Annals
 J. ac Dr Shaw and Philadelphia " "
 J. ac Prof. Mayne " "
 J. ac Westman Bible
 J. ac Mr. Park Libr. Boston Ath. requesting
 package as in Mr. Parkers letter
 J. ac Hon Ed Everett
 J. ac J. L. Sibley
 J. ac J. B. Lippincott Robt
 J. ac Geo F. Chandler London Package
 J. ac Hon C. Niedmann
 Bibliothek der kgl. bayr. Akad. der Wiss.
 München
 J. ac Mr. P. Tucker Lib. Bowdoin Coll
 with package.

to Write to S. C. B.

To inscribe in vol. of letters of
acknowledgments notice of
Vol IV Dr. Henry Cadwell.

J. ac. To write to Mr. Hottel & enquire respecting
the persons mentioned in his letters as wishing
Annals.

Write to Kaiser p. 64 & send Vol.
1 & 2 H Annals.

To Seidel on Clarke's Photometry - & on
Seidel's latest results.

J. ac. To Encke p. 91 & send ^{Vol IV &} Vol III ^{Lib of Obs}
& Vols I & II to his personal library.

To Sir J. Herschel p. 97
Send Vol I Part I.
Mr. Pattison

J. ac. A. Struve. p. 141
Latitude of Moscow

Motion during geodesic

Prof. Caswell & sent publ. since 1864.

Letter to Mr. Bowditch -

Prof. Cook Thermometers -

~~R. F. B~~ to send out. 6 copies of Annals Vol III.
now at Congress St.

~~Mr. Ray~~ care of rooms etc ~~May & June 1863 and~~
~~Aug 1862.~~

~~In letter to H. T. Parker directions for sending~~
~~through Library H. C. a proportion of expense. To send~~
~~book catalogues - Have these books bound.~~

French table 6 fig logs. Jan & Feb.

~~In particular as to direction for Observatory~~
~~Mr Parker to examine coldresses~~

To write to Astr. Nach respecting stars
with large proper motion -

1863 July 31 ^{Done} Prof. Major requests Annals Vol III & IV
to be sent to Father Curly. To be sent with
Mr Hall - copy Vol III to Hawies at Galtier

Aug 19 Gave letter on Object glasses etc to Mr.
Bowditch.

Letter to Prof Maxwell rec'd his of
Aug 25. Spring Governor & send sheet.

To Otto Struve acknowl'dg. Books and send sp. for sheet.

Letter to Sir J. Herschel. explain that his
combination for achromatic lenses was
adopted by Fraunhofer for curves of
Utrecht Object-glass Art. No. 1289

Also that the system of curves of which
in his Fig. 7 Phil. Trans. 1821 Plate XIX Fig 7
is a type being the system correspon-
ding to rejected roots of equations on p. 260
accords with Gaussian object-glass
Copy of list of new nebulae. refer to Answer Art. 1407.

Done Write to Answers explaining 4 nebula in Zone 23.

Send Vol. III Annals to J. C. Watson Ann Arbor & Vol. IV P.E.
Set of publications to Library of Observatory Ann Arbor

Bands to be put on Paris Bulletin & to be
arranged for binding.

Distribution of Article "On Observed motion of the
Companion of Sirius. etc."

To send to Senator Collamer as in address
book copies of Obs Publications

To send to Prof. Yarnall.

To publish in Am. Ac. List of Nebulae.

1863 Oct 24 ^{Done} Letter to Schönfeld - Answer
+ Sir J. Herschel. enclosing to S. & H. - lists of
Nebulae - Letter to Astr. Nach enclosing
List of Nebulae.

Copy retained for publication by Am. Acad.

Publications to be sent to Prof. Walcott Gibbs
" " Rev. Manuscript Dougherty

H. P. T.'s letter Oct 9 1863 -

Comparison of δ or β Aquilae - compare
with O. 3 stars -

To get Chronograph sheet for Prof. Allen
with - see his letter

1863 Oct 29 Recd. Through Adams
Express. From Smithsonian Institution
Washington Packages of Books as
follows

7520	(No 1314)	to Obs H.C. from Poulken
7521	1316	G.P.B. "
7522	1314	Mr Safford "
7265	1318	Mr Tuttle "
7266	1317	G. Bond Helsingfors
7507	1312	Obs Plantamen
7507b	1313	" "
	1315	G.P.B. Santiago

All acknowledged to Smith. Inst.

1863 Oct 31 Began again work on Orion - Jan 1864
Value of Scale (interrupted next day until Dec)

Done 1863 Nov. 16 To write to Mr Hall notifying him of
sending of Annals To Fatten Curley Prof Yarnall
Prof Ferguson Mr Harkness

as proposed in my letter of July 12

Write to Watson Dougherty Gilly.

To write to Prof Ludwig Seidel & acknowl-
edge

"Untersuchungen über die gegenseitigen
Helligkeiten der Fixsterne etc." Munich 1852
Received Nov 18/1863

1863 Nov 27.

Done C. H. To copy 3 last leaves of Report -
also to copy entire Report

Done Mr. Mitchell wants Vol. III.

Done To send to Prudt Hill extracts from Report.

Sent Prof. Hook (through Mr. Abbe.) wants Vols I & II of
Annals.

Done Write to Sir J. Herschel & point out that all the
"Answers" now were originally discovered at obs H.C.
& that H III 447 & H I. 2800 are not in answers.
Also notice error in Gauss' formula
& send plate of curves

To correct in Report. the number of
Nebulae for the two identified in
Herschel

Copn

Copy of Annals Vol. III to be sent to Auwers

Mr Willis Alpine House
Gosham

1864 Feb 15

Work on Orion - Zones near C & Orionis

Mr. R. F. B. copying supplementary zones of small stars

" To copy on one sheet & arrange in
order of R all the small stars from
pp 2 & 9.

C.H.

"

"

To reduce Sir J. H.'s observations of
Stars near C Orionis.

Copy Duplicate comp. of stars in zones
near C & Orionis.

1864 Feb 15 (cont.)

Mr RFB To chart the stars near C & Orion
C.H. " "

Mr RFB To copy stars of old Orion zones
for final reductions.

Companion of Dispersive Stars
etc.

Mr Cony to form index of some stars observed
in past years with Transit.

1864 Feb. 27th 1st Reductions of Zones near C Orion's
nearly completed

C.H. to copy ~~out~~ ^{some} stars of old Orion Zones for Begin-
ning & end.

C.H. To examine by differences the re-
ductions of stars in Zones near C & Orion's

1864 March 3 Mr Cony begins approx. reduction of
supplementary zones. Mr P. F. B. Charting
stars near & Orion's.

March 4 Charts for drawing neb. & C Or
ready for use

Orion

To acknowledge Bonn Charts -

Write to Prof Schonfeld -

" " Heis. Wimmer -

Done N.B. In final reduction of Stars near C.
& i Orionis to use also the stars taken
from Positions Media. on p 9 of Reducing
and apply also the correction from
Muller; to Wolf's coordinate system.

Orion

Mrs. R. F. B. to occupy revision zones of
1 to V incl. so that we may have with
Mr Coney, a complete duplicate set of these
reductions.

Done " Reduction of Zones XVII & XVIII to be
completed. This will finish set about
1. Those 1 to IX about C must
be corrected for Struve's stars zero, in
green.

CH to ink over & compare with
originals Mr Coney copy of Revision
of Zones. 1 to XIII.

Orion

C.H To apply corrections in Zones V to IX incl. to reduce to include Struve's Star for Zero - The corrected Zero is in green water color.

Zone I to IV do not require any correction

NB That reduction of R to arc. Zones V to IX inclusive must be corrected to new zero in green.

Copying out of revision zones from Obs. book to be completed (in duplicate)

ΣH & C.H to reduce to seconds of arc N & S of H' Orionis the positions of H.C Zones on yellow paper & arrange in order of R .

ΣH & C.H.

Herschel stars to have precession applied to 1857.0

Also Laponner Lapelle Lamont etc.

Mrs R.F.B To chart all stars of Zones.

Don Write to E P Austin Detroit

Rev. J. V. T. Coolidge.

Apply for Memoirs Am. Ac.

Don Capt. Gilliss Letter

Don Toubner & Co. Vol 111

Don Daily Advertiser.

Don Prof. Root

1864 March 15

Mr W. A. Rogers

came as assistant at Observatory - with
correspondence on file -

Reduction of Standard zone Cat-
alogue.

J. H. S. Red. Pierri stars for Zone Catalogue

1864 April 6 Mrs R. F. B. is copying & reducing
in duplicate Zone about C & C Orionis.

Spring Gov. Chromograph Sheets to be read off

1864 April 19 Ed. It. will ^{compare} copy positions of Herschel's stars
 reduced to arc, ~~into sheets where they~~
 with Struve's reduction -
 & Then apply precession correction to 1857.0
 Copy in catalogue form with coef. for precession cor.
 Liapounov to be similarly treated.

For complete reduction of Zones near θ Orionis
 cannot use be made of the Zeros of Scale
 determined in our Ordinary Zone Observations -
 To establish variation of Zero
 independently of refraction arising from
 change of pointing of telescope.

Mem of Ed. It has time he is to copy for J.H.S
 Catalogue of known stars reduced to 1800 for reduction
 of *Picardi*

To make of out working catalogue of
 stars Dec 0° to $+3^\circ$ excluding Lalande stars
 which it is assumed will be obs'd at Paris
 retaining only such as may be specially im-
 portant such for instance as were obs'd by
Picardi.

Mr. Cony's reductions of masses

Mr. P. F. B. to recopy Supplementary Stars with notes in full - but to copy 2nd revisions as ~~for instance~~ Zone 1 11 Feb 27 and 1 Feb 29 separately in same form with others as on pg of 1st set of reductions. There should be headings for cor. in α & δ . see below

C.H. has finished comparing with original record all but Zones 1 to VI incl. "revision" copied by Mr. P. F. B.

Tables of precession corrections (for $\Delta\alpha$ & $\Delta\delta$ in seconds) to reduce for change relative to B' Or. in 1 year.

To have inserted in sheets of reduction of Supplementary Zones two columns for the corrections in α & δ . To be set off from the left hand of columns δ - δ_0 and α - α NB the headings $\Delta\alpha$ to be changed to α - α

1864 April 20th Mrs. R. F. B. is preparing tables for reduction of "revision" zones.

Ed H has finished reduction of Herschel's original Obs. to arc, & compared them with Struve's reduction & found exact agreement.

He is now copying the results into Catalogue form & will apply precession corrections to 1850.0 & 1857.0

25 Mrs. R. F. B. has entered all corrections on sheets of Red. of Principal Zones & their Duplicates making both identical.

C. H. has compared sheets of "Revision" Zones with original Obs.

Done To compare the zero cor. of Principal Zones & their Duplicates.

May 13th Mrs. R. F. B. has finished Tables of corrections for 'revision' Zones & is applying them in reduction sheets. C. H. has finished

Sheets of reduction of Principal Zones. Same work in duplicate has been done by Mrs. R. F. B. The two are to be compared.

1864 May 19th Arranged with Prest Hill for
 4 Divisions of Seniors to visit Observatory
 1st on Tues 10th 2nd Wed. 11th 3rd Thurs 12th
 4 Fri. 13th

10th was partially cloudy. quiet. 20 Part of
 1st Div. came up. 11th 12 13
 Cloudy.

May 13 1864 Orion (continued)

1st) Sheet of reduction of Principal Zones to be
 compared (as to final results now complete,) with Duplicate reductions.

Done 2nd) Sheet of red. of "Revision" Zones The entries
 in pencil of scale readings ($= S$) of Principal stars
 to be revised, as well as the column con-
 taining ($\alpha - \alpha_0$) for the Principal stars.

3rd) The results are to be copied out in the
 order of their R and Dec. (In R in m 29)
 so soon as Original Orion zones have
 been completed. Better in three catalogues one
 for α one for δ and one for C Orionis - at any
 rate for the present.

Ed. It is computing table of precession -
corrections. for $A\alpha$ & $\Delta\delta$ from θ Orionis.

1864 May 18 C.H. will arrange in Catalogue
in order of their R.A. The stars near C & δ Orionis
one Catalogue for C another for δ

1st Separate sheets for C & δ

2 Copy columns ($\alpha - \alpha_0$) with ^(current number) ^{Leaving column for} Number of Zone n
above on sheets near each other distributing
them so that sparse zones shall occupy
same space as the richer ones

having copied all the zones in this way
draw lines in red separating say all
the $\alpha - \alpha_0$ of negative sign beyond -2^m
next include all below -2^m & -1^m next
 -1^m & 0^m &c. Then arrange and
number in order of R. finally copy
in tabular form having numbers in
Order & a column for No of Zone. After
wards enter the $\delta - \delta_0$ mag etc. & compare
($\alpha - \alpha_0$)

Leave column for reduction to arc.

1864 May 25 Mr R. F. B has finished reduction in duplicate of stars of revision zones about ϵ' Orionis & the results for $\alpha - \alpha_0$ $\delta - \delta_0$ have been compared & corrected to previous agreement. M_2 in Zone XIV is ? 2^{nd} $2'$ in Dec.

Mr R. F. B has computations of instrumental errors of Equatorial in hand.

C. H. is arranging stars of principal zones in order of right ascension.

1864

Since before C. H. arranging stars of revision zones in order of R.A.

Mr R. F. B has copied out data for Instrumental Errors for me to take away for discussion.

C. H. has been ruling sheets for duplicate computation of zones about ϵ' Orionis.

Sheets for revision zones stars near ϵ' Orionis to be prepared.

C. H. to copy out hour angles of principal zone ϵ' Orionis.

1864 June 11 Mr R. F. B. ^{finished} copying zones of stars observed in 1857 about δ Orionis for duplicate computation.

N.B. The hour angles at which all the zones were observed whether in 1857 or 1864 are to be copied on sheets which I can take with me into the country. To find limit of effect of neglect of instrumental errors in setting position circle over ^{each} for whole night.

The effect of instrumental errors on changing zero of position during course of night's observation will be chiefly $= x(\sin t - \sin t')$ t being hour angle $x = \text{Dist. of pole of axis of hour axis from } 6^h \text{ circle}$ & ~~probably~~ to be investigated but certainly small probably $< 1'$ so that cor. of zero of pos. will probably be less than $\frac{1}{2}x$ or < 0.5 x effect on dif. $\Delta\alpha$ of two stars differing $12'$ in Dec will be $< 12' \sin 0.5 = < 0.1$

Shall neglect the corrections in reduction of zones but shall investigate its amount in the different zones. or its limit.

Orion

1864 July 7 Mrs R. F. D. has finished copying the
Zones about δ Orionis from original obs. The du-
plicate copy has thus been compared with sheets
of 1st reduction including "mean of wires red. to 1st"
& a list of discrepancies made out which will
be found on p. 816. The two sets have
then been corrected to exact agreement & the
corrections where sensible have been applied
in 1st reductions as far as their influence ex-
tends. Most of the discrepancies had already
been noticed & corrected in 1st reduction so
that in mean values of $\Delta\alpha$ and $\Delta\delta$ the
largest alterations were only of 0".1 or 0".2

Found that in 1st reductions of Zones 4
to 12 inclusive the temperature was as-
sumed at 39.0° while in the observing
book it is 33.5° . The difference of the
two temperature corrections will be 0".034
or 0".37 within limits of field

1864 July 15

Have recomputed $\frac{dx}{ds}$ for all the old Orion zones substituting a value of k_3 (refr. cor. for cor. of zero of angle of position) constant for the night instead of values interpolated for each hour angle as in the 1st reduction.

Examined $\frac{dx}{dt}$ p. 33

Have changed (in red ink) the temperatures for scale corrections. The values of t have been corrected on sheets of 1st reduction but $\frac{dy}{ds}$ has not yet been corrected.

Orion

1864 July 19 Vide book of "Memoranda for Obs. Report"

July 27 The lettering of stars on sheets of 1st reduction has been carefully revised and the duplicate sheets made to conform. The values of $x (= k \pm d \text{ for } t=0 \text{ \& } s=0)$ have been derived for all ~~zones~~ containing the zero star.

Orion

of the Trapezium. first on old reduct. sheets - second
they have been copied into Duplicate sheets where
they have been applied to this zero star & thus
checked by giving $\alpha - \alpha' = -0^m 00^s.33$

$$\delta - \delta_0 = 20' 16.0''$$

Mrs R. F. B. is applying corrections to all zones con-
taining this zero star (vide list on p. 100.)

E. H. is making list of zones in which each
star occurs.

Aug 4 To examine place of $F''F'' = 2''$ on
yellow sheets. R does in arc should
it not be $3' 53''.2 = 0 15^s.55$ p 68 old red.

instead of $3 47$

Found $6''$ too small by error in copying. corrected
also $\xi_1'' \xi_2'' + \xi_3''$

Aug 6 Mrs R. F. B. is computing α for all zones
containing zero stars dependent solely upon $U'' = L''$

The values $\xi + \delta\xi$ & $\eta + \delta\eta$ have been re-
vised for these zero stars by G. P. B. All the zones
containing such zero stars from 24 to 73 inclusive have had
their ξ & η copied by Mrs R. F. B. on Duplicate sheets - & revised
by G. P. B.

1864 Aug 17 All zones depending upon zero-stars derived solely from comparisons with $U'' = d$ of tr. have had their values of α derived according to weights - The weights have been assigned according to the table on p 108 So far G.P.B. has revised all the work on duplicate sheets E.H. is working same results from sheets of 1st reduction.

$\alpha + \text{cor.}$ will now be applied as far as deduced -

Mem. In note of Aug. 9 Mrs R.F.B. says

"Zone 60 K" does not agree in Dec by $2'$ - Zones 69 & 70 have no connections." NB This refers to duplicate sheets which should be examined.

1864 Aug. 30

The Sheets on white ruled paper with title "Approximate positions of Stars derived directly from U'' or from Zones where zero stars have been derived directly from U'' ", have been copied by Mrs. R.F.B. & her father from the sheets of "Duplicate" Reductions. They are now being compared with the "Final Results" on the sheets of 1st reduction. There having been independently computed

by E.H. as far as separate results for x and by Mr R.F.B. in taking mean of x by wts - the wts have been assigned by G.P.B.

Mr R.F.B. & Mr Clinch have been copying the positions of Principal Stars and of Small Stars near $C \approx \epsilon$ Orionis in the order of Right Ascension upon ruled white paper sheets. The numbers have been taken from the "Duplicate" sheets using also in right ascension the sheets "For arrangement in order of right ascension" whether the latter were derived from the duplicate sheets does not appear. They are now (Aug 30 1864) reducing the $\alpha - \alpha_0$ and $\delta - \delta_0$ to seconds of arc. All the numbers however should be compared with the results on the other sheets of reduction.

E.H. to correct, in expression of $\frac{5}{8}$ for F' , the coef $\frac{1}{7}$ to $\frac{1}{8}$ and insert 42 within brackets. on sheets of "Duplicate" elsewhere & on red sheets the cor has been already made.

1864 Aug. 31 Mr McConnell & E. H. have finished the comparison of the 'A+x and D+y on the 6 sheets of "Approximate positions of Stars" derived directly from U" or from zones where "zero-stars have been derived directly from U" " All the corrections have been examined by G. P. B. These sheets will now be used to furnish zero stars for the zones yet unreduced.

1864 Sept 8

The sheets of final positions of Stars near C & c Orionis both "principal stars" and "small stars" have been copied out from Duplicate sheets of reduction and now have been compared with sheets of 1st reduction & the discrepancies adjusted.

The reductions to seconds of arc have not been fully revised.

Bethel

1864 Sept 26 For work at Bethel see two sheets (and) of Special memoranda. Also of that relating to the "Duplicate sheets" was completed two or three circumstances requiring note

1st For the stars whose zero-stars

were derived by Two and Three steps of reduction from $L = U''$. [The results are on the (3) sheets (B) and (1) sheet (C).] for all Thrusts the number of ^{desired} ~~observed~~ observed was assumed to be 2. ^{from Sept 29 1864} ~~to be revised~~ though actually of no influence on the final results.

2nd No correction was applied for $\xi_{\text{th}} - \xi_{\text{(a)}}$ see Petrel mem. p. 2 - of no sensible effect - Sup. B.

3rd All the previously known stars occurring in a Zone were not used as zero stars but as many as three if found & < six.

No 2

4th The reduction & comparison of the ~~following~~ ~~results~~ on the original sheets & the comparison of results for them remains to be done for Zones 1 to ~~VII~~ ^{incl etc} all of Two & Three removes of reduction from U''

1864 Sept. 26 Mrs R. F. B began at Petrel the formation of Conditional Equations on white sheets using notation as on p. B. & is now at work on them

1862, Morton Clinck begins plotting stars near
 C 2.2 Orionis on English blue squared paper.
 The smallest square but one being = 1

1864, Oct 10 Went to Bethel remaining until
 Nov. 5

Worked principally in obtaining corrections
 A B etc from final Least Square Equations
 for correction of assumed Star positions near
 θ Orionis - by Successive Approximations

After proceeding some ways found
 that Star P was identical with S'. Ne-
 cessitating a revision of the approximations

By ordinary Elimination Mrs P. F. B
 has eliminated the "Zones" but her work
~~done~~ is to be corrected for identity of Star P
 and S'

J. M. Clinck has finished charting
 the stars about C 2.2 Orionis and
 has also charted the "Principal Star" for
 θ Orionis employing the positions fixed
 in forming the Equations of Condition.

The anonymous star observed only in Zone VI - will be rejected in solution of Equations - It was not observed at all in Declination and the right ascension looks doubtful.

1864 Nov. 11 The revised elimination of "Zones" from final least-square equations" having regard to the identity of TS the stars P and S' has been finished & Mrs. R. F. B. is substituting in ^{right} left hand members the values of the letters obtained by successive approximation. Excepting only the letter with large coefficient to which each particular equation specially relates which letter is finally derived by transferring to the left hand member the sum of the remaining letters in the equation multiplied each by its coefficient in that equation. Dividing then by the coefficient of the principal letter its value is found.

^{Done} Nov 12 Begin new reduction of small stars of Zone
" near to Orion - by Examining old charts & sheets
of Memoranda.

1864 Dec. 23 Have finished reduction of Filen-
Micrometer & Miscellaneous observations

Also of the Extension of zones near β Orionis
to limits $\alpha - \alpha_0 = +2^m 15^s$ and $-2^m 15^s$

Edward Harris has revised the projec-
tion of Charts executed by M Clinch at Bethel.
& is inserting ^{magnitudes by} Argelander's scale. Mr. R.
F. B. has computed corrections of mag-
nitudes to Arg. scale.

1864 Dec 31 T.H.S. has in hand discussion
of Micrometer observations upon the stars
of the Trapezium - using Liapounov's nota-
tion Mr. McConnell checks formation of Equa-
tions

T.H.S. has completed computation
of corrections for reduction of "Revision"
Zones of small stars made in 1857-58.
Details are on 4 sheets white squared
paper.

1864 Dec 31

Done On 1st white sheet of squared paper comp-
g. value of scale Substitute value of q
& find (2-0)

Cor for pre. & dec to be projected on a chart

As soon as "ultimate cor. for Merid. Obs" have
been deduced corrections to be applied & $\alpha - \alpha_0$ &
 $\delta - \delta_0$ to be reduced to seconds of arc.

At of "Principal Star" to be inserted on
Sheet "Revision" Zones 1857. & reduc-
tions completed & results copied.

All stars to be reduced to 1864.0

List to be formed to include all stars
observed whether in 1864 or 1857 (See below)

Small stars from "Revision" Sheet and from
Sheet of Revision reduction of Miscellaneous Obs-

Those for extension of Zones to $+2^m 15^s$ & $-2^m 15^s$
have already been inserted.

1865 Jan. 2 Ed. 14. begins arranging all the Catalogues
of Stars into one in order of right ascension. He first
arranges each separately copying the $(\alpha - \alpha_0)$ &

The small stars must be inserted
on copy for Mr Watts in the region 20'
n. & s. of the Trapezium.

