

Friday 9 Nov. 1883

Barometer No 1252 {The Old Ben Nevis Barometer} was brought up yesterday & hung in ~~east~~ oak box beside the door of Mr Omond's room tonight.

Sat. 10 Nov 1883

Today the first heavy fall of snow was encountered, the road being rendered impassable for ascent & difficult for descent -

12 Nov 1883 4-10-PM.

Glory seen on Fog in North valley = diameter of ring about 4° by Stefanome - Red outside - There was also a small inner ring, a mere lump, also with Red outside -

13 Nov - 4-25 P.M.

Just after Sunset blue shadow of earth seen rising in eastern sky -

Hair Hygrometer tried - Outside it stood under 60 - Inside above 80 -

{ Saturation = 100 & perfect Dryness = 0 }

1883

16 Nov - Made bolts for doors to be used
in heavy gales -

17 Nov - The floor of the Observatory was today
ascertained to be 3 ft 3 in below the Ordnance
mark on the summit of the hill - The
index point in the cistern of Barometer in
oak box is therefore $4405\frac{1}{2}$ feet above
sea level - This result is however only
approximate as the mode of measurement,
with a sextant and artificial horizon used at
a low altitude, did not admit of very
great accuracy -

Barometer No - 1385 having had a bubble of
air shaken out of its stem was today
hung inside large Observatory window -

18 Nov - Barometer No 1385 was this evening
~~dried~~ dried beside stove so as to let
the boxwood cistern unscrew -

1883

20 Nov Flash of lightening with thunder not three seconds after at 10-25 a.m. At 12-30 telegraph instrument was examined & lightening paper was seen to be scorched slightly - Another flash seen at 6-45^{PM} - Telegraph bell rang at same time, but insulation was not in any way injured -

A ladder was today lashed vertically to the iron cage of thermometer box - It stands about 6 feet clear above the cage & is well stayed up -

21 Nov - Observatory Staff were weighed with the following result -

| | | | | |
|---|--------------|--------------------|---|------------------------------------|
| { | R. T. Omond | 155 ^{lbs} | = | 11 st - 1 ^{lb} |
| | Angus Rankin | 159 | = | 11 - 5 |
| | John Duncan | 133 | = | 9 - 7 |

Removed box which used to have clock thermom. in it from its posts -

1883

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Nov 23

Horse fly seen crawling inside window of living room -

Max. Thermometer No 48026 @ 12222 (Negretti & Zambra) was cut down so as to go in small box -

Nov 24

This morning snow at door was about eleven feet deep - for the first time a "tunnel" had to be bored up to daylight -

Small box mounted on ladder at 4 P.M. with cut down Max. Ther. in it -

Nov 25

after observation at eight p.m. the box inside iron cage was cleared out, all the instruments being taken in to the house -

Nov 26

a weasel today came & looked in at window about 2-30 p.m. -

Max. Ther. No 48026 (Negretti & Zambra) was broken in setting at 5 p.m. -

1883

Nov 29 at 7-20 pm the upper tarpaulin on coal cellar roof was found to be loose & had to be lashed down. For the last two days (28-29) the tarpaulin on house has flapped heavily at intervals.

Nov 30 Shifted door at large Observatory window so as to open into room -
Mounted tm box with Min them - 1449 in it on ladder under lens box -

Dec 1 - Glory seen at 9-15 am - Red outside in both rings - Smaller one almost filled up by shadow of head - Diameter



of Red outer ring = 4° - by Stefanome -

at 11-10 - 12-0 White fog bow - Apparently same size as Ordinary Rainbow - When very bright it was coloured Red outside - Too large to measure by Stefanome -

Got water from Wragges well by digging away snow -

1883

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Dec 3.

At Lam outside observations had to be given up till morning as the snow was drifting in faster than one man could clear it out.

Dec 6 - Fine all day with Fog & Mist in valleys - Sunset Red & Green - Light from Sunset sky gives strong atmospheric bands in Spectrum & at same time light from upper side of layer of Fog gives only Green part of Spectrum - Blue is wanting both in it & in the sunset light -

Corona round Moon all evening -

Red outside; diam. = $4^{\circ} 15''$

Occasionally an outer circle of bluish colour extending from Red ring outwards to a diam. of about 8° was visible -

These measurements were taken at 8.15 PM.



1893

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Dec 7

Shifted thermometer boxes, putting out fresh small one with Dry & Wet No 7 -
Min. No 138545, Maximum No. 138590 -
Bulbs of Dry & Wet about 60 inches above snow.
At 1 P.M. snow crystals of feathery form were falling -

The Hair Hygrometer, which had been standing at about 96 ~~for~~ ever since it was put out, was taken in - after about 4 hours it still stood high (97.5) but after 8 hours it began to move, & stood at 67. The works seem to have been frozen & choked with snow -

Dec 8

The upper rim of the iron cage was today measured & found to be 60 inches above the ground. The summit of the ladder was found to be 71 inches above the rim of cage. Therefore the whole height of ladder is 131 inches -

The lower hinges on both outer doors are in a delapidated condition. The screws drawing out of the wood -

Stained cupboard with Satinwood Varnish = great improvement.

1883

Dec 9

at 7 am lightning rod was examined & the crystals of drifted snow were found to form a thin slab, no thicker than the diameter of rod, pointing towards S.W. showing the wind had been steady. The hourly records for the night giving the wind as observed at iron cage, although mostly giving SW as direction, have some entries of WNW & SSW.

10 PM Depth of snow at cage

W. side = 60 inches } approximately -
 E " = 53 —

Dec 10

A. Turlyne & nine men brought up various instruments for the Observatory. They all arrived safe thanks to the great care taken on the way. Turlyne stayed all night at Observatory -

1883

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Dec 11.

Tulhaze left Observatory at 1 PM
accompanied as far as Buchanan's Well by
Mr Omond - In afternoon drift very
heavy from SW - No outside observation
at six P.M. - At 7 P.M. - passage day
with difficulty, observation taken &
doors closed for night -
Telegraph Bell rung by lightning ^{12 earth current.} at 8-2
8-8

Insulation not injured

At 6 P.M. the doors were so blocked with
drift that no outside observation was
taken - One was made with considerable
difficulty at 7 P.M. & then the door closed
for the night - The wind was SW at 7 P.M.
& at 9 am on the 12th was N^W This
change probably took place early as the
fire smoked badly all night, which it
does with N^W winds -

1883

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Dec 12

Bulbs of Thermometers in Box were
buried in snow up to 5 P.M.

at 3 P.M. depth of snow SW side of cage = 70 inches

Wind very high all day -

Snow drifted into Box - The bulbs of Dry &
Wet were not cleared of snow till after
5 P.M. Observation = up till then they
were entirely buried in it -

at Midnt. depth of snow = 70" at cage -

Dec 13

At 2 am Rain was falling & air
felt much milder than indicated by
thermometers -

at 1 P.M. depth of snow = 60" at cage

at 4 P.M. rain falling on box poye as
it touched it, forming a skin of ice =

at 5 P.M. rain turned into Hail, which
continued till 9 P.M. when snow began -

9 P.M. Depth of snow at cage = 65"

11 P.M. — — — = 70"

These are only estimates - The increase
is greatly due to Drift.

Mounted Galvanometer on Bracket in
Observatory window & fitted scale.

1883

Dec 14

at 4 P.M. hinges were taken off
East outer door & rescrewed on inside -
In consequence no observation was taken at
5 P.M. -

Depth of Snow at cage 4 PM = 78"
7 PM = 80"

7 PM = 80''

The late thaw covered the pavement at outer door with about an inch of slush - this froze hard, & needed to be hacked away with a hammer.

Dec 15

Depth of snow at cage at 5 am = 80"

— — — 10 am = 83"

Barograph stopped at 2 p.m. on 13th & was set
going again at Nov 15th Cause of stoppage
unknown.

Today an arched porch of snow was begun over East door - Foundation stone was laid with all due ceremony at noon -

Dec 16 Heavy snow at night & in
early morning Depth at cage over 100"

1883

During day strong N & NE winds which swept snow ~~off~~ away from roof & E & W. Sides of house - The depth at eage was reduced from 108 to 60 inches in less than 20 hours - the parts where it was beaten hard by our feet - as on track from door to eage - standing 5 to 10 inches above general level -

at 8 am sky to N. (only part clear) was green - At night sky covered with detached masses of low misty cloud driving over hill tops -

Note

On Dec 12.th a room was taken from Mr Macdonald of the Glasgow warehouse as a store for the Observatory, & on same day Mr Donald Macdonald grocer was engaged as store-keeper till Whitsunday 1884. New lock had to be bought for it, which belongs to Observatory -

1883

Dec 17. In early morning & also at night
 coronae seen - At 2 am Double ring
 red outside in both -
 at 10 P.M. Triple ring red outside in all
 three - Diam of middle red $3\frac{1}{2}$ also
 Lunar rainbow, white, diam = 52° .
 (colours if any very faint.)
 At Midnight faint corona -
 Lunar fog bow at 11 P.M. too large to measure.
 At 9 am depth of snow = $60''$
 - 3 PM - - - = $63''$
 - 7 PM - - - = $61''$
 Drizzling rain came on at 6 P.M. with a temp-
 -erature of 25°

Dec 18

Badly defined corona at 6 am. Red outside
 diam - 4°
 at 6 am Depth of snow = $61''$
 at 9 am Snow looked blue green -

1883

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Dec 19

at 1 P.M. Thermometers taken into house
 I fitted to ~~the~~ other small box. Put out again
 at 2^h-2 P.M. Hence no temperature readings
 at 2 & no Max. reading at 3 P.M.

Box placed 49" above snow - Depth of Sn. = 65"

A tin box painted white & was placed under
 Ther. box & at 5-20 P.M. the Thermograph was
 put into it & the box shut tight. By 9 P.M.
 the West side of tin Box was covered with
 ice - But by 10 P.M. ice almost gone -
 {It had been rain since 5 P.M. & a thaw
 came on gradually }

Dec 20

Depth of Snow at cage at 11-8 am = 66"
 8 pm = 62"

It had been snowing all the time between to
 a slight extent - Difference may be due to errors
 of observation - Both measurements were made
 by Mr. Ormond.

Dec 21

Depth of Snow at cage at 5 am = 66"
 6 - = 67
 7 - = 67
 8 - = 66
 9 - = 67
 2 pm = 66
 Midnight = 69.

1883

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This morning at 6 Mr Ommonds' watch, the only timepiece at present in the Observatory, ran down, not having been wound - It was not observed for about half an hour & then put on by guess - In consequence the 7 & 8 am Observations were taken at 7-55 & 8-5 respectively - and in consequence of inaccurate time sent up from Fort William the 9 & 10 am observations were taken at 8-55 & 9-55 respectively -

Up to this date Dec 21. under the heading "Amount. Rain Snow etc." in Daily Sheets the Duration of the fall has been entered; but on & after Dec 22. the total depth of Snow at cage at time of Observation is put. The conditions however are not favourable to accurate observation as the Snow drifts sometimes up to & sometimes away from the ladder on which the Thermometer Box is fixed - No more entries of the ordinary depth of Snow will be made in Log.

1880

Dec 22

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at 2 PM Ther. Box 44" above snow.
 At 9 PM Snow lying in large wreaths
 A tail to SSE of Carin -

Dec 23

12-30 PM Cir-str seen to S. Reddish
 line round Sun, diameter about 15°

2 PM Max. Ther. No 138590 taken
 in, as anemometer had worked down into
 bulb & the instrument had ceased to
 record as a Max - Fog bows at intervals -

3-10 PM Sun

sank into cloud

bank - as it went

down semicircle of

colours formed ~~under~~

~~edge~~ over edge of cloud bank, Red
 outside, like badly defined corona -

Sky above covered with broken Stratus
 & not coloured at all.

Snow has accumulated in deep
 drift near house -



1883

Dec 24 Thermograph taken in at 9 am & put out again at 10 - Record very good - At 5 PM. Ther Box 43" above snow - Rain began at Mont. on 23^d & continued ~~in~~ all 24th - Snow crystals on Box & ladder turned to ice, & at 7 am on 24th were melting away -

Dec 25 Very fine day - air dry & warm - At 8 am Yellow sky to E - at 8-15 - whole E sky from NE to SE green near horizon, blue higher up, & violet towards zenith - Filmy cirrus to E - Very beautiful - At Noon sky cleared, & Sun shone all afternoon - Fog or cloud covered lower hills & filled valleys all afternoon - It rose sometimes as high as the Plateau of Storms, but was mostly below 3000 ft on Ben Nevis. Not another hill showed through it however.

1883

Fleeting badly defined Glories seen all afternoon in Fog in N. valley. Red always outside.

4 PM Very fine Red sunset - Earth shadow seen to E²

5 PM Red streak to W² - Pale green above - Dark blue sky.

9-7 PM Meteor seen. Brightness = Jupiter. No sound or sparks. Moved from point SSW 40° elevation to point SW $\frac{1}{2}$ W 25° elevation where it disappeared in cloud bank. Bluish - Everything outside dried up - Ropes all slack.

Dec 26 Mr John Murray & Prof. Chrystal ascended hill - Very fine views of sky & clouds - Sky at sunrise very red - Sky under Sun continued red or copper coloured all day - at horizon at right angles to direction of Sun sky blue - opposite Sun, near horizon, green - These colours were more or less marked all day - Fog filled valleys & lay over lower hills though not in such a

1883

continuous sheet as yesterday -

The sky continued clear all night; stars very bright, but temperature did not fall. At 8 pm it rose from 28° to 32° & continued well above freezing point all night -

at 3 pm Sun sank into cloud bank -

Dec 27 at 7 am Red streak round E^{th} horizon - This gradually brightened & turned to yellow just before Sunrise = at the same time the sky near W & SW horizon being Blue-green in colour. The hills near were well seen, snow greatly melted off them -

Mr Murray & Prof. Chyrtal left Observatory at 11-15 am having spent the night in it. Before Noon Fog & Mist came on which continued all afternoon -

No fresh snow having fallen for several days the surface is hard & ~~for~~ firm, in many places, compacted into ice by the rain which fell at beginning of thaw -

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Dec 28 Barograph was found to have stopped at 11 am on Dec 27. Put on again at 2 am Dec 28. Cause of ~~stoppage~~ stoppage unknown -

Dec 29 At 5-40 am. stove pipe in room fell suddenly - It was put up again & fixed with copper wire -

at 4-40 p.m. Three bulb thermometer put out hanging exposed on nail at East side of posts on which box was -

| | Small | Medium | Large (Bulbs) | Humidity (Saturation = 100) |
|--------|-------|--------|---------------|--------------------------------|
| 5 p.m. | 32.2 | 32.1 | 32.0 | 100 |
| 6 --- | 32.0 | 32.0 | 32.0 | 100 |
| 7 --- | 31.9 | 31.7 | 31.2 | 100 |
| 8 ... | 29.9 | 29.9 | 29.9 | 100. |

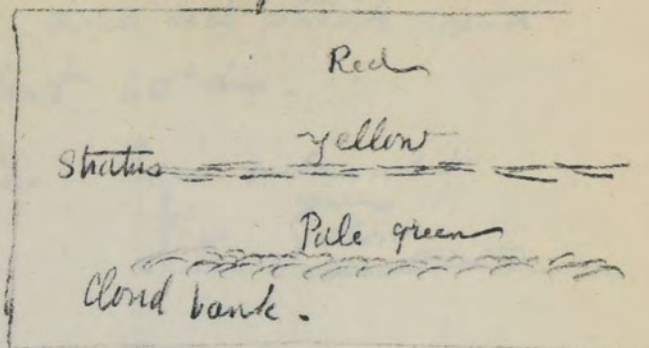
at 7 p.m. the Small bulb was coated with ice, the others were free - It was the one to windward. The instrument was not examined again till 5 am on 30th when it was found to be thickly covered with snow crystals & quite unreadable - It was therefore taken it. Dry bulb temperature at 5 am 22.1.

1883

Dec 30 - Fine day. with wonderful colour effects -

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at Sunrise the
Zenith sky was
very blue. The



Sun rose from
cloud bank - about 3° above which was a
layer of dark Stratus - Colours as indicated
in diagram - To the NE sky at horizon was
a dirty-green colour - Sun shone brightly
all day with curious reddish or copper colour
under it, increasing in intensity downward
to horizon - Sun shone brightly all day. Max.
reading of Black Bullin vacuo $47''$ above sea
 73.8 at 1 P.M. Shade temp. at same time 19.5

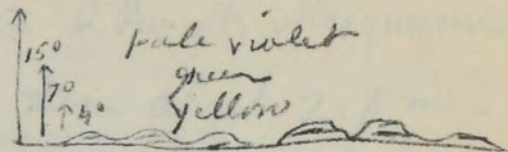
Meteor seen at 8-0 p.m. - Started from
Orion & went downward at an angle
of 70° to Horizon to Westward.

Clear starlight night - very fine -

1883

Dec 31 - At 7 am. dark red streak round
Eastern horizon for about 60° -

At 8 am colours a
shown in figure -



At 9 am colours disappearing -

Sun shone all day = dull reddish colour round
horizon under it = greenish colours at opposite
azimuth -

Sunset Red passing into Blue above SSE sky
Copper colour - NE dark Blue-green, becoming at
4-30 a yellowish-green - Above Sun after
Sunset sky Red, passing into Blue & that into
Green still higher up - Above the Green a
curious Mauve tint - These colours gradually
died out from above - The Moon was
green & continued so as long as observed -
Clear starlight night -

Bonfire at 8-15 p.m. : seen at Inverloch.

Mr Colin Livingstone came up I spent

night at Observatory -

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Jan 1. Misty day - Several people visited Observatory including Mr N.B. Mackenzie & Rev Mr Macquarrie - Mr Livingstone left with them about 2 p.m. -

Jan 3. at 7 am Blood red colour on Eⁿ horizon Red & green to E² at 8 am. Sunrise Red very fine - Day dull but with green & copper coloured sky to N² Southern sky clouded & dark - Wind was S.E. & it was noticed when fog blew up over the top from Glen Nevis that the wind had lulled as the fog came up - Dark clouds were hanging about all day & in evening they formed a canopy over hill, leaving horizon clear -

At 5-35 p.m. Sun's Halo - Diameter 34°. colour white, very faint.

Macleod & two others brought up extra stove pipe & other stores -

Barograph always stops on Thursdays as yet. Thermog. works well -

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Jan 5

Very Stormy. At 7 28 am wind southerly blew lamp of observer out several times. This is the first time this has happened. At 2 pm the first extra joint of chimney was put up.

Jan 6

Everything covered with ice, either solid or crystalline. At 4 am Thermometer Box was frozen so fast that it needed chisel to open it. Copper wire stays grew to 4 inches diameter of solid ice. At 10 am some snow flakes about 1 inch diameter were ~~observed~~ observed.

Jan 7

At 9 am there was more than an inch of solid ice on Thermometer Box & on Thermograph (tin) Box. At 8 pm mist & cloud driving over hill fleeting coronas (Red outside) forming as they passed.

Jan 10

9th 2 10th very stormy
at 2.35 pm Indicator of telegraph instrument moved by earth current.
At 8 pm fixed up second extra joint of chimney can. Wind W-S Very

1884

cold work; feeling gone out of hands for a time, in fact very nearly being case of frost-bite with J. Duncan in one finger. When pipe was half up had to leave off work for a time because of the cold; in consequence pipe blew over & bent flange in a violent squall. But it was finally got up & securely fixed by stays. -
 Deer once seen about 8-20 pm -

Jan 11 Heavy drift all forenoon. Thermometer Box had to be cleared several times -

Jan 12 Thermometer Box shifted. Taken in after Noon observation. Max & Min put out at 12-31 But Dry & Wet were so hard frozen in that they could not be got clear of the old box till 3 pm when they were put out. At 7 pm the Bulbs of Thermometer were 36 inches above snow - at 9 pm the Box was covered with ice.

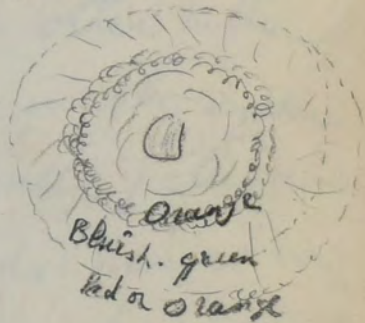
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Jan 13 A small rat found drowned
in pail in coalcellar -

Jan 14 - This last two days everything has
been covered with ice; the Thermometer
Box needed to be cleared several times,
the ice being hacked off with a chisel -
The Box taken in at Noon on Jan 12 took
about 40 hours to thaw although it was
standing in a large pail about one yard
from side of stove. At 7 am Therm -
Box 36" above snow -

Jan 15 - Between Midnt (Jan 14) & 1 am Lunar
corona seen - Distinct
Orange ring 5° diam. inside
of which is the true corona
with blue next Moon. Outside
orange ring a Bluish green space
edged with red or orange rim (X) This
space did not look like a second
corona; the colour was too uniform.
Diam. of outer Red ring 10°. This green



1884

in the outer ring strongly resembled the green tints seen in the recent sunsets - Moon ~~gave~~ ^{gave} usual continuous spectrum, but as the spectroscope was moved aside just after leaving the outer edge of all a pale lilac colour appeared at the green part of spectrum - ?
 at 2 pm the Moon was surrounded by a very faint corona entirely Blue -

Jan 16 at 10 am put out sunshine Recorder for first time - Sun was at times obscured by thin haze; a thick bank of cloud or fog lay over the other hills - Reddish Brown copper colour in sky under sun all day, with, more faintly, pale green at Northern horizon - Towards sunset a Rosey haze to NE - The sunset was fine though the colours had not the peculiar tints of the sunset lights at the beginning of the month - As the sun sank into the low lying

1884

cloud bank to Westward the South - 28
western horizon was colored copper & redish
while the Northwest was Bluish green
with pink clouds above it.

After Sun had set
columns were as in
diagram - The Reddish
column was apparently
on a cloud very

Reddish

Green

Orange

Cloud or Fogland

fine filmy cloud, above it sky was
purple passing into blue at zenith -
The reddish glow died down from the
top, & the lower columns turned into
pale yellow, smoky to South & pale
green to Northwest. Finally a dark
red streak was left in S.W. passing
into yellow green & blue above - Venus
appeared shining with bluish light -
By 7pm the columns were all gone -

Black Ball thermometer (No 1862) was
put out at 1-35 pm highest reading
73.3 corresponding shade temp. 32°.

1884

Moon rose soon after 10 pm & till
 Mdn't. was surrounded by a greenish
 blue colour for about 15° on each side.
 Below this a reddish hazy colour
 near horizon. ~~Red~~ Colour near moon
 gave faint green & nothing else in spectro-
 scope -

Jan 17

Mist from 4 am onwards all day -

Jan 18

Put a third pin in snow near
 edge of cliff for measuring forward
 creep over precipice -

Jan 19

Very fine in Forenoon - Southern
 horizon yellow, Northern faintly green; no
 copper colour seen - Black Bull (1862)
 put out, ~~light~~ highest reading 76.2 Shade
 temp. - 26.5 - at 2 pm clouds began to
 appear, at 2.40 sky was entirely overcast
 (Pall. 10) & at 4 Top was covered with
 mist - Wind very high at night from
 SW

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Jan 20 Very stormy all day. At 9 pm Mr Omond & Mr Rankin went to take observation roped together -

Jan 21 Very stormy in ^{early} morning & evening. at 7, 8 & Midnt. Mr Omond & Mr Rankin took observation roped together, No temperature observations taken at 9, 10 & 11 pm. At 7 pm a bright light was seen along the edge of the cliff, forming a white glare about 10 feet broad & lighting up the whole top of the hill. May have been due to snow blowing over & getting illuminated from below.

Jan 22 No temperature observation taken at 1 am but after that wind moderated & ordinary observations were resumed. About 9 inches of fresh snow lying over old hard surface. At 7 pm Ground Coffee was sprinkled on the old surface & covered up: about 150 inches ENE of ladder at cage.

1884

Jan 23 Very stormy with heavy snowdrift -
 at 2 pm Box so choked with drift that
 Wet & Dry were unreadable, temperature
 taken from Spirit of Minimum. At 3 pm
 the porch was so blocked with drift
 that exit was impossible, but at
 4 pm observations were resumed.

Jan 24 at 1 am the door of the Thermom-
 -eter Box ~~was~~ was found torn off its
 hinges lying on the snow - Boxes were
 shifted at 1 pm, the first hour
 at which it was practicable, but
 Dry & Wet was not put out till
 7 pm - In spite of constant drift
 the fresh snow was very much blown
 away.

Jan 25 2 pm. Box 39 inches above
 snow.

1884

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Jan 26

In forenoon wind backed from S to SE & blew hard. At the drift made it impossible to read thermometer. at 1 pm Mr Omond & Mr Rankin went out tied together, but found it impossible to go further than the end of the snow patch with safety: at 4 pm they got as far as the box but could not see instruments as the drift blew up into their faces. No temperature observations were taken till 10 pm when wind moderated & observations were resumed. There was thus a gap in the temperature observations from Noon to 9 pm inclusive. Quarter & Half-hourly Barometric observations were taken in afternoon. Lowest recorded reading (corrected to 32°) 23.173 .

Jan 27

The fresh snow was so much blown away that at 5 pm the ground coffee put out on Jan 22 was visible

1884 Jan 28 At 9 am the Thermograph was taken in completely covered with fine snow. It was nevertheless working as usual.

From 9 am till Noon the top was ^{clear} & the Sun shone very hotly at times. At Noon fog was observed coming on from N.W.

Jan 29 at 9 am Thermom - Box was 37 inches above snow.

Jan 30 at 1 am Thermom Box 17 inches above snow - at 2 am shifted telegraph indicator putting up space one - During the day the wind veered to N.W. & at 8 pm the fire smoked so badly that the observers had to leave the house. I stay outside for nearly an hour till it moderated - One flash of lightning seen at 8-30 pm. At 10 pm the needle of telegraph indicator was found at D.

Jan 31 Top cleared at Noon - Copper column under Sun & seen to N; but not strong.

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Feb 1 at 9 am Thermom. - Box was 14 inches above the snow - In evening the wind was very squally - observers needed to be roped at times -

Feb 1. at 5 am fog cleared off leaving cumulus (5-) & sheering a filmy arch of light extending from $W E^n$ to $S E^n$ horizon. at 7 am the eastern horizon was pale green & yellow below, & pink above. At 8 am the pink yellow & green had risen ~~like~~ higher & a red band was seen at horizon - By 9 am the Sun was shining with a brownish haze under it - sky bright & clear - At 10 am the sky was hazy, & a ~~for~~ very fine misty or dusty matter was passing along above Glen Nevis; it was only visible when the Sun shone brightly on it - At 10-15 everything was clear & the colonies in the sky very strongly marked, but at 10:30 the other hills were buried in fog -

1884

The fog continued gathering on 2 driving over the lower hills, & between 4 & 5 pm the top of Ben Nevis was covered again - At 11 am the Thermometer Box was taken off ladder & placed on a stand 17 inches above snow, while extra joint was being fixed to ladder - After 4 pm observation the Max & Min. were put into fresh Box on ladder 54 inches above snow while the old box was taken in - The Dry & Wet were frozen hard into it & while taking them out at 11 pm the Dry Bulb was broken - At Midnt. Wet Bulb No 7. was put out as a Dry Bulb -

Feb 3 At 4 am crystals of ice & sheet fell - By 3 pm the Thermom. Box was thickly covered with ice - This was cleared off at 7 pm & no fresh ice formed till 7 am on 4th

1884

Feb 5 Put up two pins at first gorge from Observatory to measure movements of edge of snow -
5 PM Box 60 inches above snow.

Feb 7 About Noon two Birds thought to be hawks were seen flying backwards & forewards over the ridge to NE of Ben -
Black Bull with Radiometer put out -
Highest reading 97.5 - {48" above snow}

Feb 9 - at 3 pm hill tops round were seen with very little snow on them - a weasel (white) seen at window next Mr Omrod's room -

Feb 10 Very stormy - In forenoon Zinc pail blown over cliff by SW. wind while Mr Rankin & Duncan were getting snow -

Feb 13 Not much snow on other hills; apparently none below 3000 feet -

Feb 14 Nos 50198 & 50199 (Negretti & Zamboni turnover registering thermometers) put out as

1884

Dry 2 Wet respectively - Temperature found
 by subtracting readings from constants -
 at 4 pm fog disappeared off Ben Nevis
 leaving white mist rolling about below
 round the other hills, but sky clear -
 Faint copper colour to SW where horizon
 was hazy & very faint yellow-green
 to NW - at 5 pm sun was setting
 into thick bank to SW; fog had
 partly cleared off other hills & was
 diving over top of Ben at times -
 at 5-40 just after sunset there was
 a pale crimson streak above bank of
 cloud, then belt of Stratus dark red, then
 yellow green passing above into pale green,
 then a purple glare passing into the blue
 sky above - At 5.50 only streaks of
 yellow & red above cloud bank, above
 this crimson, above that a peculiar
 yellow-red passing through a whiter-green
 into the blue of the sky -

1884

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at 6 pm - Red streak to WSW with belt of dark stratus above it & pale green above that - Dirty yellow to NW & SW - No colour to NE - Other hills clear of fog & stars coming out in clear sky -

at 7 pm - still a faint greenish glow low down to W at 10 pm Moon rose yellow in colour - at 11 pm there was a reddish or copper colour under her -

Feb 15 - Very stormy - When taking pails of rubbish to edge of cliff nearly blown off our feet = if not "anchored" by pickaxe & long rope would have gone over - Every thermometer observation except the one at 9 am taken by two observers roped together -

Feb 16 - Very stormy - Every observation from 9 am to 7 pm inclusive taken by two observers roped together - at 8 pm as soon as Mr Omond went outside door of snow porch

1884

39

he was lifted off his feet & blown back against Mr Rankin who was knocked over. Therefore no thermometric observations were taken at 8 or 9 pm.

Feb 17. Very stormy. Every observation from 9 am to 9 pm inclusive taken by two observers roped together.

Feb 18. Snow porch almost entirely blocked with drift, no observation taken outside at 10 am; every other one from 9 am to 9 pm taken by two observers roped together. at 5 pm fog began to break into very dark sand flying close over hill. Top remained clear till 5 am next morning.

Feb 19. Very stormy. Every observation from 9 am to 9 pm inclusive taken by two observers roped together. The snow crystals formed on ladder etc for last few days have been of a greyish colour with an ~~oil~~ oily taste.

Feb 20. Wind lulled ~~at night~~ in early morning, but rose again at night.

1884 21 Feb - Very stormy in morning; hilled
in middle of day - Top clear, at Noon
Cir-S men forming to S & SW - No special
colours at horizon, but at 7 pm a pale
glimmer to W.

Feb 22 - Top clear - No colours in sky
except faint copper colour under
Sun above white fog - lying over Southern
hills -

Feb 23 - Thermometer Box shifted at
11 am - ~~Two of New thermoms - with~~
~~porcelain scales put out~~ - One new
thermom with porcelain scale put out
mounted on board along with old
Wet Bulb No 7 -

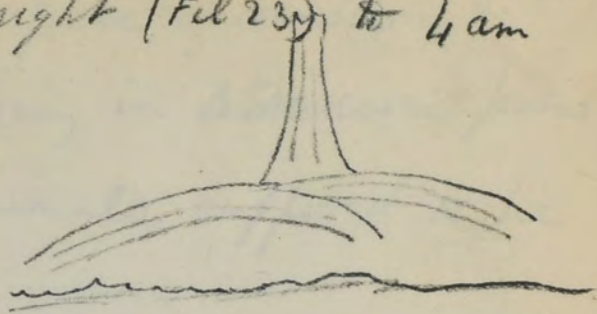
at 7 pm - Whitish green glow to NNE -
Dark red low down to Westward -

Barograph working very badly with as
to clock-work & pressure apparatus -

1884

41

Feb 24. From Midnight (Feb 23) to 4 am
Aurora seen -
at Midnight
are as in diagram.



Got gradually

fainter up to 4 am - Only one steamer
observed rising at intervals from the
same part of arc - Are very low
down, not above 5° to top - No colours
or sounds -

at 9 am. top clear & hills round
free of fog - Copper colour under sun;
other sky normal - At 1 pm white
fog formed on hills ~~ENE~~ E & W of
Ben & by 2 pm top in fog - Fog only
lifted once during afternoon - Upper
sky had some cirrus on it lying
NW & SE, moving probably from NE -

1884

42

Feb 25 In morning piece of mutton & bladder of lard lying in storeroom found knawed by some animals, supposed to be weasels -

at 11 am it was found that owing to the pen not having been put down on to the drum the Thermograph had left no mark for last week -

Feb 26 Meat in store was put in biscuit box pierced with holes all round as a safe - In morning this safe was found knocked down from shelf onto the floor & burst open - ~~minimum~~ Top clear glories seen occasionally seen at cliff - Black Ball put out 45 inches above snow - Thermometer Box 50 inches above snow -

Feb 27 Minimum Thermom. - laid on cotton wool on snow all night - Reading at 9 am 17.7 Corresponding Minimum in Box, 17.1 -

1884

Feb 29. Stormy in early morning; door almost blocked with drift. At 11 am. took down extra part of chimney as fire was drawing too strongly -

Feb 29. Shifted Thermometer Box at 10 am.

March 1. Thermometer Box 49 inches above snow. at 11 am put up extra part (just two joints) of chimney as fire was smoking -

At Noon roofed over new part of porch with packsheet. Porch is now about 33 feet long with a rise of about 12 feet in its floor -

Mar 2 Box 37 inches above snow -

Mar 3. Stormy - Canvas roof of porch found blown away by wind getting under it. Snow blocks of 50 lb weight jerked off wall -

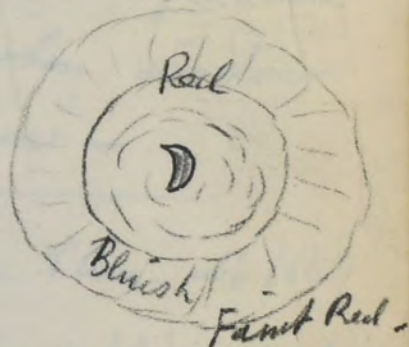
1884

Mar 4 at 10:50 am Solar Halo observed -
Red inside - Colours very faint. approximate
measurement of Diameter by Stefanome, 44° -

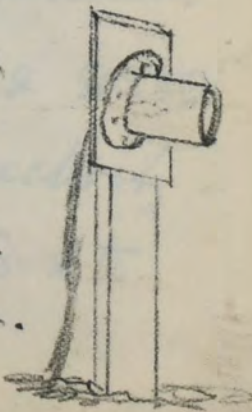
Between ~~on~~ 122 pm noise like distant thunder
heard, supposed to be guns firing at Fort George.

at 8 pm Lunar Halo observed, white -
Very faint, approximate Diameter $47\frac{1}{2}^{\circ}$ -

at 9 pm ~~Halo~~ ~~the~~ corona
observed - Double. Usual
colours from Moon out to
first Red ring. Then Bluish
annular space tinged with Red outside.
as in diagram. (Diam of first Red 4°
— — second — 80)



Today thermoelectric junction of
German Silver & Iron was put
out, mounted as in sketch
inside a cylindrical tin can
 $4\frac{1}{2}$ inches long $2\frac{1}{4}$ inches diam.
with flange by which it is



1884

45

screwed air tight to board - The whole placed on post so that junction is 31 inches above snow - Post stands 46 in. W & 40 in. N. from SW corner of hole dug in snow at large window - The can points North - Ratio between inside & outside coils 1-16, the inside being the more sensitive - Temperature results will only be used when window is entirely blocked with snow -

Mar 5. Mounted Min. Ther. No 1449 in coal cellar 54 inches above floor & about 40 inches below level of top of cellar door - On wall opposite door -

Mar 6 Box shifted ^{6 PM.} New porcelain scale thermometers Nos. 50852 & 50850 put out as Dry & Wet respectively - By 7 pm coating of ice on Box to Windward -

1884

Mar 7. During the watch not having been wound up observations from 3 am to 9 am inclusive were taken 2 mins 30 sec. before the hour.

Mar 8 at 1 am Box 44 inches above snow -
at 1-15 am Mr Omond went to East end of level part of hilltop & heard waterfalls of Glen Nevis distinctly -

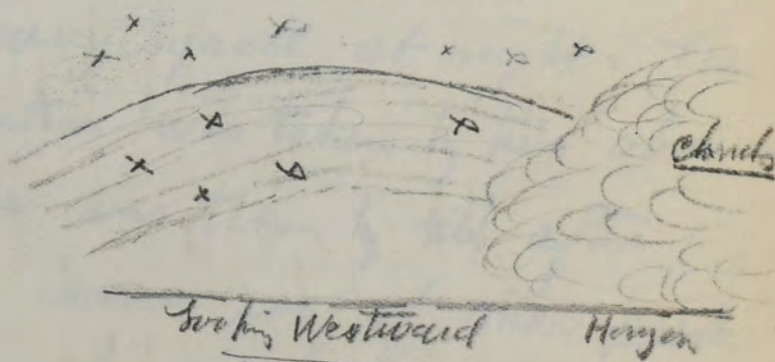
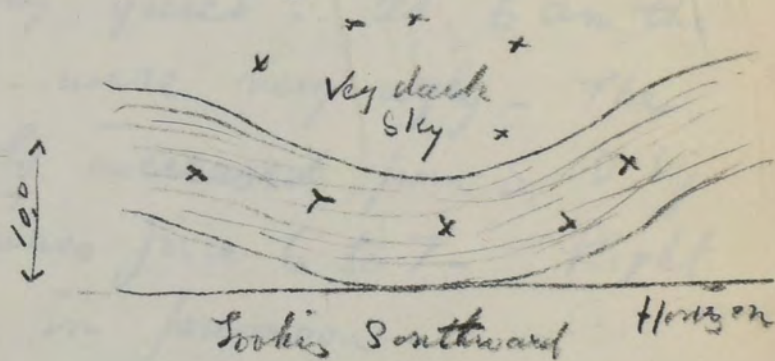
at 5-10 am
a peculiar glow
was observed
all round horizon.

To N. & E it
was partly hid

by banks of
Stratus, but
to S & W
it took the

form of an

arch or belt of light, white in colour
& dipping down to Southern horizon -



1884

The breadth of the belt to S. was about 10° - ~~the~~ The height of top, at highest point to W. about 30° . The upper edge was distinctly marked, the lower one plain & indistinct - The Stars were seen through it, and the sky above the dip to S. was very dark - It was calm at the time, cloudy & very quiet - at 6 am the clouds to S. were very ugly - The wind slowly increased from S & by Midnight was force 6 to 7 - slight snowshower in forenoon -

Mar 10. Heavy squall at night. The 9 pm observation was taken by two observers & none other was taken ~~by~~ till after Midnight - Canvas roof of snow ~~front~~ porch torn off about 11 pm; large blocks of snow being thrown down into the passage - Two wooden bars 3 inch

1884

$4\frac{1}{2}$ inch snapped across, one piece of canvas blown over cliff, another with two pieces of wood attached found wrapped round one of the chimney stays.

Mar 11. Fine all day. at 5 am detached thin clouds passing under moon formed coronas at times. at 6 am Eastern horizon coloured yellow, blue & violet. Though the sky was pretty clear the atmosphere was scarcely ever dry, and detached masses of cumulus ~~to~~ were observed floating above ~~the~~ most of the surrounding hills.

Mar 15. at 8 pm the sky where not obscured by clouds was of a milky white colour, through which the stars were seen. at 11 pm just before the Moon rose there was a cone of misty whitish green light rising from Eastern horizon.

Mar 17 at 10 pm Thermometer Box was 54 inches above snow.

1884

49

Mar 21 at 5 pm shifted Box -

Mar 26 - Fine all day - Sky blue without any unusual colonies in it except a hazy haze round the Sun. For most of the day there was white fog or stratus ~~one~~ over the Southern hills, while all the Northern & Western horizon was hid by a low lying dark purple haze - Sky became overcast & fog came on in evening -

March 28. At 9 am Thermometer box was 49° above snow. At 4 pm put some soot on snow about 11 yards NE of chimney can. Sky overhead was cloudy but Sun was seen shining on the Atlantic -

Mar. 29. In forenoon began to dig tunnel from West door round side of coal cellar in search of bags of coke known to be there.

April 1 at 2 pm thermometer box was shifted -

1884

April 4 Today & on several other occasions when the temperature was above 32° the Ozone papers were found torn away from their hold. Those sent by Dancer being composed of stouter paper than Cassell's ones stood the wind better -

April 6 The roof of porch having thawed away down the centre this morning a canvas roof was stretched over it held up by spars of wood laid across & ~~weighted~~ weighted with blocks of snow at the sides -

April 7 at 3 am Lunar halo observed not well defined, white - Diameter by Stellanome 44° to 46° -

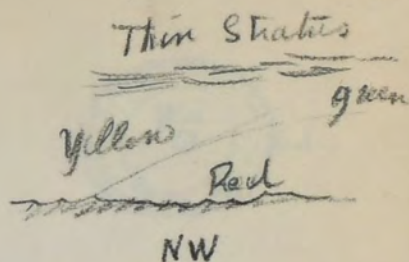
at 11 am Thermometer Box shifted -

April 8 at 3 am a double corona seen round Moon = and at 3-5 a meteorite -

all day Cumulus fog over surrounding hills -

1884

at sunset at 8 pm the sky to NW was coloured as in diagram, the yellow coming down to the horizon to Westward -



Today James Miller came up along with some men carrying parcels & John Duncan went down -

at 11 pm a Blue Lunar corona observed, diameter about 8° - $50'$ by Stefanome -



April 9 Lunar Blue corona seen up to 3 am - Very fine morning, but later cumulus fog formed over Southern hills & in valleys passing over Ben Wris at times - By 3 pm fog was ~~was~~ completely covering hill top -

The Barometric reading at 11 pm on the daily sheet of this date was filled in by interpolation -

1884

52

April 10 at 2 am Lunar
corona observed - Inner space
Blue, then green ring, and
Red ring inside all.



Diameter of Red ring $8^{\circ} 30'$ -

at 5 am Sunrise colours of
Sky seen as in diagram

Blue

purple

green

yellow

Red

East.

Hazy all day;
at night haze rose higher &
Moon was seen through it of a blood-red colour.

Today Mr Omond went down to Fort
William leaving Mr W M Whyte in charge.

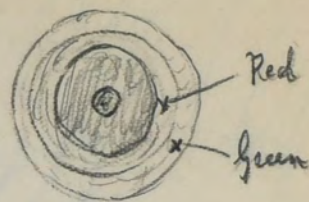
April 11 In morning heavy Cumulus fog
over surrounding hills, occasionally passing
along sides & over top of Ben Nevis. Top
in fog from 11 am to 3 pm. at 11 pm heavy
cumulus fog all round & red glare under
moon.

at 5-20 pm an Earth current moved
needle of telegraph indicator six letters
on round dial.

1884

April 13

At 4 am Sunar
 Corona observed, very misty
 looking with Red ring
 inside an outer green one -



Cumulus cloud & fog round horizon all day -

April 14

Heavy dark clouds & fog round
 horizon all day -

April 15

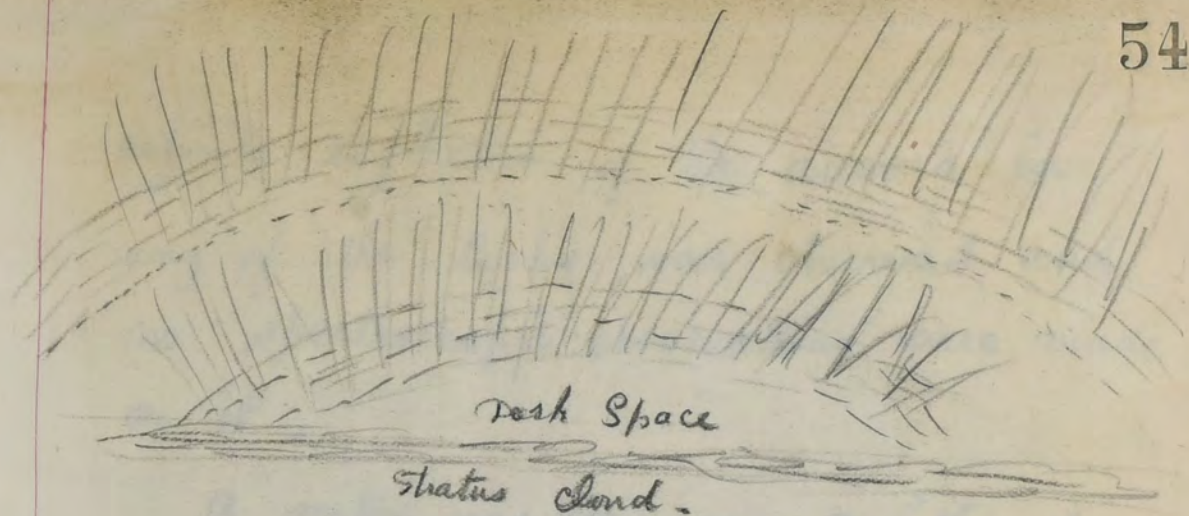
Dark Cumulus round horizon all
 day -

April 17

Stratus and Cumulus hanging about
 horizon all day. Sunset very
 fine, showing all the spectroscopic gradations
 of colors -

At 10 pm a magnificent aurora
 was observed - It formed a double
 arch of light with dark space under
 it - at 10-5 streamers were shooting
 upwards from all parts of both arches
 and at 10-12 the two dissolved into
 one broad badly defined arch -

1884



The centre of the upper arch was about 20° above horizon & of the lower arch 10° .
 The upper extended from WNW to ENE;
 and the lower from NW to NE.
 After 10-15 the aurora consisted mainly
 of horizontal waves of light rolling
 upwards to nearly the zenith, & appar-
 ently converging there. Mingled with
 these waves were long rays shooting upwards
 towards the zenith & reaching to within
 about 15° degrees of it.

By Midnight it had disappeared;
 but the upper edges of the clouds on Northern
 horizon were still luminous - No

1854

definite reflection of the aurora in any of the locks was observed, and no spectroscopic observations were made on it.

A meteor was seen near Zenith at 10 - 20 pm.

{ Quiet, fine, but rather dull weather followed for the next few days -

April 21 at 8 am with light fog, overcast sky & temperature of 25-8 ~~and~~ small soft crystals of snow fell - Dead Calm at the time.

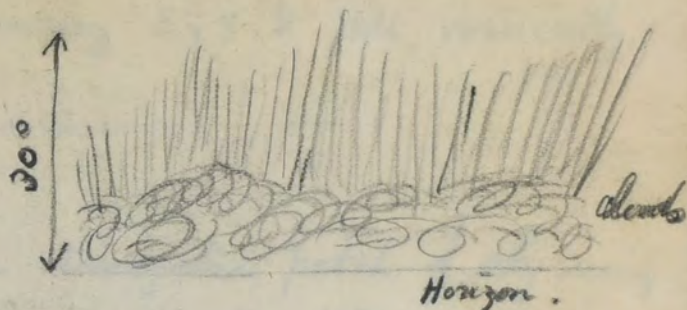
April 23 Grey crystals of snow forming - Some an inch & half long on glass bulb of Radiometer attached to B.B.

April 24 From 10 pm to Midnight a ~~few~~ luminous appearance in sky & clouds, especially to NE.

April 25

1884

at 1 am a faint
aurora seen; no
arch visible but
streamers, very
bright at times



were observed rising to a height of about 30° -

at 2 am faint glimpses of the aurora were
seen through fog -

at 3 am neither arch nor streamers were
seen but spasmodic flashes of light rose
apparently from quite close at hand in
the fog towards the zenith.

at 3.5 am fog cleared off & a cone of
light with its base along horizon
from NNE to ESE & its vertex 5°
East of Cassiopeia was seen.

at 4 am the cone was larger reaching
to within 20° of Zenith.

The needle of Telegraph Instrument was
moved on three letters by an earth
current at 3.5 am.

1884

at 3-5 am bright meteor seen - started at 30° elevation bearing E.S. & fell vertically downwards -

April 28

At 3 am triangular patch of sky rising from NE horizon as far as Cassiopeia of a milky aspect. Very few clouds at the time. Sun did not rise till after 6 am.

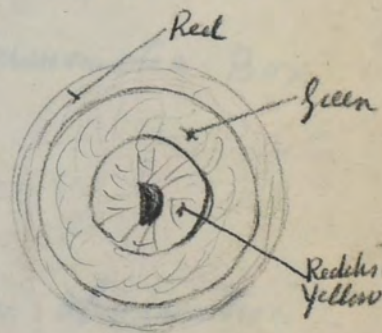
April 30

At 1 am doorway was almost choked with drifted snow - at ~~10~~ 10-30 am a heavy shower of very large hail fell -

May 3

At Midnight brilliant Solar Corona observed; Colours as in diagram -

It disappeared suddenly at 12.5. before there was time to take any measurements -



1884

May 4

The hills round Ben Nevis were seen to be covered with fresh snow for a great part of their height.

At 2.45 pm heavy hailstorm with thunder. The needle of telegraph indicator moved on 3 letters. The instrument was much injured, & was almost useless for receiving messages, but the transmitting part of it remained undisturbed.

May 5

Mr Ormond returned to Observatory & Mr Whyte went down to Fort William. Cairn completely covered. Thermometer Box 32 inches above snow.

May 6

Box shifted after storm observation. Maximum Thermometer taken in as it was not registering at all. At 8 pm Box was 49 inches above snow.

Badly defined Lunar Corona seen at Midnt. Diameter of Red ring $6\frac{1}{2}$ deg.; of Blue 4 deg.

1884

Today the new arrangement of watches by which Mr Omond is on duty from 9 pm to 4 am and Mr Rankin from 5 am to Noon was begun -

May 7

At 8 am a Solar Halo observed Red inside, Bluish colour outside. Fog was passing at the time & when came the Halo disappeared but a corona was seen formed on the fog -

At Noon Snow came on & drifted heavily. At 3 pm the door way was blocked at the upper end, the canvas being jammed down by snow, & no temperature observation was taken then or at 4 pm. But at 5 pm a hole was made vertically upwards above roof of coal cellar. By this means the observations were continued, the hole being covered when not in use by sacking & boards to keep out drift -

1884

May 9 Clock for Observatory mounted on well above Telegraph Instrument and set going.

May 11 Solar halo observed at 10 am. Well defined; Red inside - Diameter by Stefanome 45°

Thermometer Box shifted at 7 pm - Old Box 63 inches and New Box 41 inches above snow.

May 13 Faint Solar halo, Red inside, at 10 am. After 7 pm repaired canvas roof of porch.

May 16 Put Thermoelectric junction into a large Stevenson Soudre Box - The end of the wires were left inside the tin {see page 44.} & the whole thing put inside the box, the port being left ajar for the cable to come out. The Box was placed standing on the snow on its ~~own~~ dwarf ~~legs~~ logs. It has given much the same results as when exposed in tin.

1884

May 18 At 11 pm Thermometer Box was covered with feathery snow crystals, particularly on the upper edge at the West side -

May 19 at 9 am Huge Masses of Cumulus cloud above Southern Hills - At 2-30 pm Thermometer Box shifted - New Box 44 inches above snow - This evening the Toboggins were tried on the first steep above the large plateau -

May 22 at 1 am the canvas roof of porch was found lying in ruins; the weight of snow lying on the top had broken in the framework of spars & torn the canvas to pieces -

In the afternoon a tourist accompanied by a horse visited the Observatory - This was the first horse up this year -

May 23 at 11 am the higher clouds to Northward were observed to be whirling round & getting torn to bits -

1864

at 1 pm Solar Halo observed - Diameter about 40° . Colours very brilliant Red inside, Blue outside, yellowish in centre. Horizon hazy with Cumulus above it all day - A Robin Redbreast seen singing near the second gorge from Observatory in afternoon -

at 7 pm the N.W. horizon was brownish yellow in colour, & the sea near the Isle of Rum fiery red -

May 26 Very fine, sky almost cloudless but thick haze all round horizon - Before Sunrise & after Sunset a dense fog filled the valleys among the more distant hills to North and East -

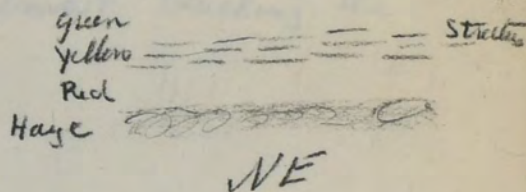
May 25 Very fine, but more fog hanging about the surrounding hills than yesterday - at 8 pm a drop of water was hanging

1884

below the large bulb of Black Bulb thermometer.
The readings of Dry & Wet at the time were
36.0 and 34.7.

May 27 at 3 am

the North Eastern Sky
was coloured as in
sketch -



at 10 am a green belt was seen above
the horizon from SW to NW with dark
objects appearing and disappearing in it.

Hardly any snow to be seen except on
Ben Nevis, on the flat-topped hill to the
East ward and on the Cairngorms -

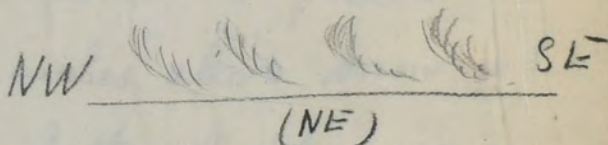
May 28

a level sheet of fog filled all
the Northern valleys coming as far South
as the head of Loch Lochy from 3 to
9 am -

1884

May 29 at 9 am the large bulb of Black Bull was covered with a film of moisture to windward - The readings of Dry & Wet were 39.7 and 39.1; clouds were passing overhead almost touching the hill -

at 11 am
Cirrus to NE
seen lying as
in sketch -



May 30 First horse-loads of coal this year brought up to observation in afternoon -

May 31 at 5-10 pm Barometer 1252 taken out of glass case & Barometer 1385 put in instead -

The stones on the roof of Wragge's hut were visible today for the first time -

In the Month of May about 30 tourists visited the top of the hill - This does not include guides, or persons on the business of the clergy.

1884

June 2

at 8 pm Thermometer Box 62 inches
above snow -

June 3

Solar corona at 9.5 am Red
inside, Blue outside -

at 3 pm Thermometer Box 54 inches
above snow - After 3 pm the Box
was removed from ladder & placed on
wooden stand 13 inches above snow while
the upper joint of the ladder was
taken off - at 4 pm a fresh Box was
fixed on remaining part of ladder,
45 inches above snow - The following
are readings of the Thermometers in the two
Boxes -

| Hour | 45 in. above Snow | | 13 inches above Snow | |
|-------------------------------|-------------------|------|----------------------|-------|
| | Dry | Wet | Dry | Wet - |
| 5 pm | 41.9 | 38.9 | 40.5 | 38.7 |
| 6 - | 41.6 | 39.3 | 40.5 | 39.0 |
| 7 - | 41.0 | 39.2 | 39.9 | 39.0 |
| Lowered to 4 inches from Snow | | | | |
| 8 - | 39.8 | 38.9 | 37.7 | 37.5 |
| 9 - | 39.7 | 37.9 | 37.8 | 37.3 |
| 10 - | 38.9 | 37.9 | 37.0 | 36.9 |

1884

at 11 pm the sky was overcast with Stratus
and the clouds were observed to be thinner
just above the top of Ben Nevis than elsewhere

June 7

At ~~11~~ 7-15 pm the glass ball of
Sunshine Recorder which was standing on
roof of Observatory was jerked up by the
flapping of the tarpaulin clean over the
brass rim of the recorder - It was not
damaged - Wind force at the time was 3.

June 8

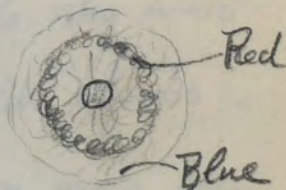
at 11 pm Snow crystals began to form
on Thermometer Box -

At Midnight lunar
Corona seen Red outside
with Blue margin beyond.

Diameter of Red ~~1/40"~~ = 5°

Very misty, size apparently varying -

N.B. This arrangement of colours probably
explains the entry on page 65. of a
Solar Corona with Blue outside Red -



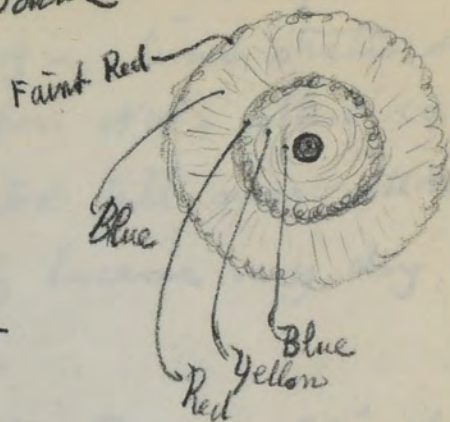
1854

June 9 at 1 am Double

Lunar Corona observed.

Coronae as in diagram.

The inner one had all the gradations of Spectroscopic coronae, the outer only Blue & faint Red.



Diameter of Inner Red ring 4°
 ——— Outer ——— 8°

When Scud passed over the hill-top the corona was hidden.

At 2 pm the inner ring observed as before. Diam. of Red 4° ; but the outer Blue & Red were not visible.

During the afternoon the whole sky was covered with a Pallium of Cum-Str clouds. The horizon was clear & the Sun was seen to be shining on the western sea & islands. Rum, Canna, NW of Mull & the Outer Hebrides looked as if they were slightly raised by refraction.

1884

June 10 at 7 am all the surrounding hills were buried in white fog - Cirrus stratus seen at 8-10 am moving from NW - Mist came on at 1 pm & lasted till near Midnight when the air suddenly became very dry, with a strong SW wind -

at 10 pm Thermometer Box was 52" inches above snow -

June 11 Short period of cold & drought with strong South Westerly wind up to 3 am - Dry & Wet at 2 am beyond Glaisher's Tables -

Old Barometer cañon in sight -

In afternoon James Miller found a flower growing on the rocks at the edge of the North cliff opposite the large cañon -

June 12 all night the Thermometer Box was covered with glazing of ice -

at 4 pm the cage for instruments was seen for the first time -

at 6 pm Max. Ther. No 138590 was put out on trial -

1884

June 13

Thermometer Box shifted at 3 am;
old Box 62 inches, new Box 40 inches above snow.

June 14

all night the Thermometer Box was
covered with ice crystals.

at 6-30 am Mr Osmond went down to Fort
William - Mr Whyte came up in the evening.

June 15

The Black Bull Thermometer was
frozen so hard to its post that it could
not be set. Very light ^{fog} in afternoon,
only on hill-top.

June 16

at 11 pm Thermometer Box 49 inches
above snow.
Very misty, the mist being thicker on sides
of hill but wetter on top.
Mr Osmond returned to Observatory in afternoon
& Mr Whyte went down.

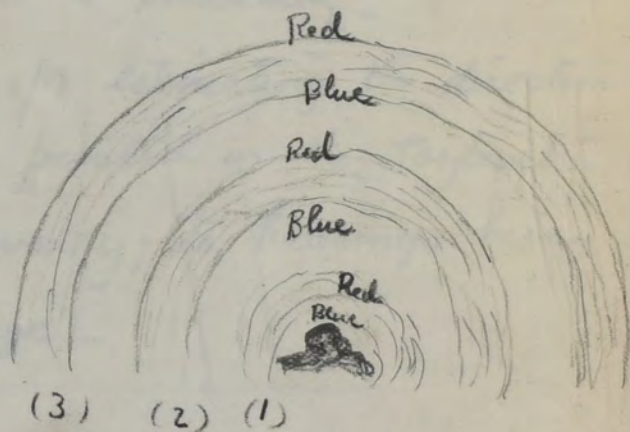
June 17

Foggy till 5-30 pm when top cleared &
mist sank below 3000 ft line - all the evening
nothing was to be seen except a few hill-
tops rising through the clouds. This cloud was

1884

very level as a whole on its upper surface
but broken into many small billowy ridges -
after sunset the sky just above this cloud
to NW was blood red, with yellow, green & blue above.
These colonies continued all night following the sun
round from NW to NE & only disappeared at
sunrise.

At 7 pm double or
triple glories seen
at East end of
hill top. Colonies
as in diagram -



No 1. was very ~~faint~~
indistinct, a mere
blotch of colour. No 2 was the lightest of them.
No 3. was not so bright as No 2. and some-
times was not seen; but when visible was quite
sharp & distinct.

The following measurements were taken by Stefanome.

| | Red (2) | Blue (2) | Red (3) |
|--------|---------|----------|---------|
| R.T.O. | 3° 50' | 3° 40' | 6° 20' |
| A.R. | 3° 50' | — | 7° 0' |

The ^{glories} were formed on the upper surface of the cloud
layer mentioned above.

1884

This afternoon Telegraph Inspector came up & jotted on a resistance coil of 275 Ohms to wire - He also slackened the screw of the Transmitter so as to remove armature ^{further} from field magnets & weaken current sent.

Wragges Hut was opened today & some bottles of chemicals removed to Observatory.

A North mark for estimating the direction of the wind was painted on the Tarpaulin on roof of Observatory; its bearings being taken from the cage -

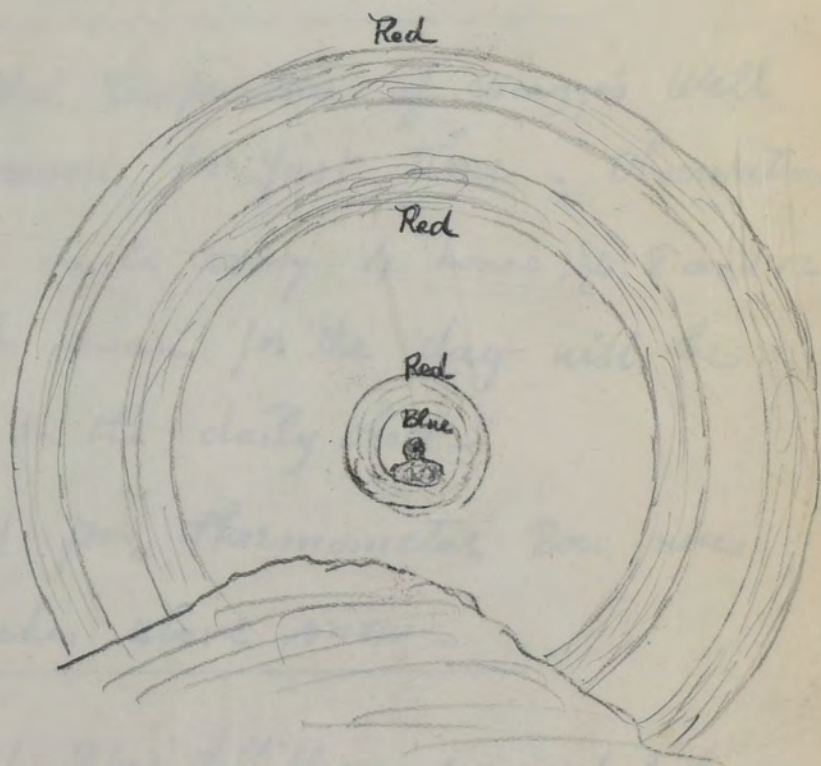
June 18

At 1 am the T shaped hollow bulbbed minimum radiation thermometer was put ^{into} ~~at~~ It had been kept standing for some months in house to let a detached portion of spirit drain down into the main column.

The upper surface of the cloud layer surrounding hill was very ~~to~~ level, and it came flush up against the sides of the hill without rising or falling, just like a sheet of water.

1884

About 7 am this cloud ~~was~~ was rising
bodily, & just before it reached the level
of the hill top a thin wet mist came
over the top from the N^o at the same
time ~~till~~ glories were seen.



At 8 am Double Fog Bow with faint glory and
shadow of observer in centre seen - about $\frac{3}{4}$
of the circles were visible {270°} the rest
being cut off by the shadow of the hill -
Colours as noted in diagram - The

1884

73

Inner Bow was narrower & not so distinctly coloured as the outermost.

These Bows were too large to measure by Stefanome = they looked about the size of Rainbows -

June 19 Today the temperature of Wragge's Well was observed for first time. Observations ~~at~~ are made every 4 hours, $\frac{1}{4}$, 8 and 12 $\frac{1}{2}$ and the mean for the day will be entered on the daily sheet.

at 11 pm Thermometer Box was 54 inches above snow -

June 20 at 3pm the hill was surrounded by fog standing high above the top, but not resting on the sides of the hill - at 11pm the sky cleared overhead the clouds apparently thinning away gradually with out moving -

1884

Temperature of Wragge's Well 20 June 1884.

| | | |
|--------|------|--------------|
| 4 am | 33.9 | } Mean 34.0. |
| 8 - | 33.9 | |
| Noon | 34.1 | |
| 4 pm | 34.5 | |
| 8 - | 34.0 | |
| Midnt- | 33.8 | |

June 21

Heavy dew & hoar frost in early morning -

Temperature of Wragge's Well -

| | | |
|-------|------|-------------|
| 4 am | 33.7 | } Mean 34.4 |
| 10 - | 34.2 | |
| Noon | 34.7 | |
| 5 pm | 34.7 | |
| 8 - | 34.7 | |
| Midnt | 34.5 | |

June 22

at 11.30 am the Rain gauge near the cliff was found & taken in. The receiver was full of ice & ~~was~~ cracked.

at 12.20 pm the Thermometer Box was shifted from 62 inches to 43 inches above snow.

Temperature of Wragges Well -

| | | |
|-------|------|-------------|
| 4 am | 34.3 | } Mean 34.3 |
| 8 - | 34.4 | |
| Noon | 34.6 | |
| 5 pm | 34.3 | |
| 8 - | 34.0 | |
| Midnt | 34.1 | |

June 23

At 4-15 pm a 5 inch Rain gauge
was put out about 700 inches ENE from cage -
to be read hourly -

Temp. of Well.

| | | |
|-------|------|-------------|
| 4 am | 33.7 | } Mean 34.1 |
| 8 - | 33.7 | |
| Noon | 34.4 | |
| 5 pm | 34.7 | |
| 8 - | 34.1 | |
| Midnt | 34.3 | |

June 24

Today the Notice board to the West of
the house was seen for the first time -

Temp of Well

| | | | | |
|------|------|-------|------|-------------|
| 4 am | 34.4 | 4 pm | 34.5 | } Mean 34.2 |
| 8 - | 34.0 | 8 - | 34.1 | |
| Noon | 34.5 | Midnt | 33.8 | |
| | | | | |

1884

June 25

76

all the early morning the wind was Northerly and pretty strong - Coming up over the cliff it broke into eddies, the back-swirls of which, though not as strong as the true wind, were very distinct.

Temp. of Well -

| | | | | |
|------|------|-------|------|-------------|
| 4 am | 33.6 | 4 pm | 33.7 | } Mean 33.7 |
| 8 - | 33.6 | 8 - | 33.9 | |
| Noon | 33.7 | Midnt | 33.8 | |

June 26

At 8-20 pm top cleared leaving sky with cum S (10) over it. Dense white fog covered Western hills & filled valleys to E - The sky ~~to~~ gradually cleared but fog came on again at Midnight -

Temp of Well - { Began today to make better path to Well. }

| | | |
|-------|------|-------------|
| 4 am | 34.0 | } Mean 34.2 |
| 8 - | 34.1 | |
| Noon | 34.1 | |
| 4 pm | 34.1 | |
| 8 - | 34.2 | |
| Midnt | 34.5 | |

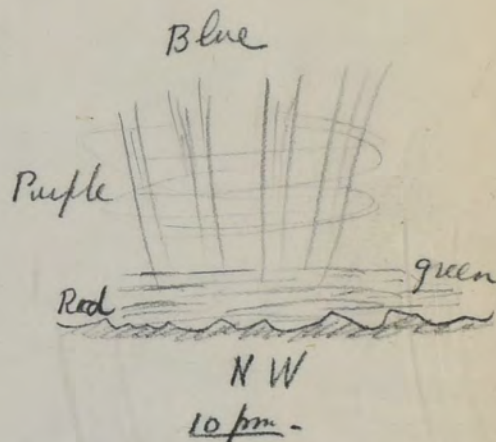
1884

June 27

The 1. am observation was taken
at 1-10 am -

at 3 pm Thermometer Box 59" above snow -
it was shifted to 50" immediately after the
3 pm observation -

at sunset the sky
was colored as in
diagram. The rays
shooting upwards
were of pinkish color
I rose about 20° -



at Midnight the Northern
sky was still Red, yellow, & green above the
haze - No fog in valleys -

June 28

Thick haze all round - at
Midnight the sky was scarcely colored to
the North at all -

June 29

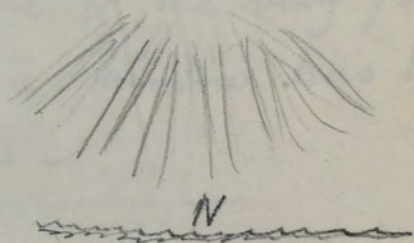
Though the sky was clear the
sunrise colors were very faint -
in afternoon wind blowing up from Glen
Nuis formed fog ~~at~~ a little below Wragges
Well -

1884

June 30 at Midnight observed very
low-lying white fog in Glen Nevis -

July 2

at Midnight long
streamers radiating
from the zenith were



observed - They seemed to be composed of
filmy cirrus, but looked almost like an
auroral arch. They were about 45°
long & reached from NE to W -

July 5

Lightning at 2-25 am - Needle of
Indicator moved - Thunder at 2-45
and rain at 2-48 -
lightning again at 10-25 pm -

1884

July 11

Thunder heard at ~~4 pm~~ - 4-15 pm -
 Hail at 5-15 pm while fog came ^{on} for a
 short time at 5-20 -
Faint badly defined corona at Midnight -

July 17

Mr Hay came up today I laid
 off foundations of new buildings -

July 19

Small fragment of Rainbow seen
 at 5 pm - This is one of the very few
 occasions on which a rainbow has been
 seen from Ben Nevis -

July 20

Very fine morning with clear views -
 The sea below dead calm = detached cumulus
 above other hill tops - at 9 am the
 formation of this cumulus from fog rising
 perpendicularly out of the valleys was
 noted - at 6 pm rain was seen to be
 falling at the moor of Rannoch -
 at 9 pm ugly heavy cumulus seen to the SW
 and at Midnight ~~now~~ ^{snow} came on -

1884

July 24

From 11 am to 4 pm the Observatory was never clear of tourists.

July 25

Mr Wm White came up to Observatory for a night while Mr Omond went down to Fort William to arrange with Building committee about transport of materials for new buildings.

July 26

The spirit of T minimum (No 4900) got detached; no further readings with it were taken from this date -

at 10 am Solar Halo observed, colours quite distinct, red inside. Diameter of

Red by Stefanome

Mean $45^{\circ} 47'$

| | |
|-----------------------------|------------------|
| 1 st measurement | $45^{\circ} 30'$ |
| 2 nd | $45 - 0$ |
| 3 rd | $46 - 0$ |
| 4 th | $46 - 10$ |

July 27

Fine all day - fog rising from valleys & forming cumulus above hills. Sea below quite calm.

1884

July 28 Today the first loads of timber etc. for the new buildings were brought up - at 9 pm the sky was covered with a pallium of stratus & the valleys filled with fog but to the west there was a distinct edge of light shining between the two layers -

July 31 at 11 pm & midnight rain in curiously large isolated drops -

In the month of June about 200 and in July about 700 tourists visited the observatory - This is exclusive of guides, pony-boys or persons coming up on the business of the Observatory.

1884

August 1

at 2 am the top 2 surrounding hills were clear but fog lay over the moor of Rannoch - at 4 am fog hung in patches on the Southern hills and ~~at~~ ~~6 am~~ the clouds seemed to be closing down on Ben Nevis - at 6 am light fog was passing over the top & for the rest of the day it was covered with dense fog or mist.

at the 11 pm observation one of the Rain-gauge glasses was broken -

August 6

From 10 pm to Midnight the Moon shone brightly; the sky under it down to the haze that hid the horizon was of a brown colour, similar to the hazy Moon colour seen round the Sun.

August 7

at 6 pm a few drops of "Thunder Rain" fell -

1884

August 8

At 8pm Thermometers 50852 & 50850
 were put out in large box (old clock-box)
 as Dry & Wet with Max 117293 & Min 116918
 at 9-45 Max 138590 & Min 138533 were taken
 in from small box on ladder: ~~but~~ the Dry &
 Wet in cage being left as before -
 at Midnight badly defined Corona -
 Faint lightning seen from 11pm to 1am on 9th.

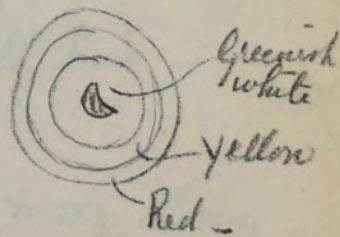
August 9

Heavy Cumulus and Haze round
 horizon all day - at 7pm fog came up
 from Glen Nis & covered the top -

Today Mr Wm Whyte came up while Mr
 Omond went down for the day to pay
 the ceters an installment of their money
 for carrying building material to the drey -

August 10

at 2 am a dim lunar
 corona observed - Corona as
 in diagram -
 200 am - fog at horizon & over lower
 hills all day -



August 12

1884

at 3 am badly defined lunar corona
 red outside - Diameter of red = $5^{\circ}40'$

August 13

Faint sheet lightning at 1 am.

August 14

Mr H. N. Dickson came to Obsey -
 and Mr Rankin went down -

August 17

In early morning dense fog in valleys;
 at 8 am this fog was observed to be rising
 and covering the hill tops -

August 18

Mr Wm White came up to Obsey
 and Mr Omond went down to Fort William -

August 20

at 6 am the sky was clear except
 for some light cirrus, the lower hills almost
 completely buried in cumulus fog, & the sky
~~to~~ below the sun of a purple hue -

August 22

Mr Omond returned to the Obsey
 & Mr Wm White went down -

1884

85

August 25

The two following extra observations
were made -

| | Bar | D _s | Wet | Wind | Face | Cloud |
|----------|-------|----------------|------|-----------------|------|---------------------|
| 10-30 pm | 5.573 | 32.0 | 32.0 | SE ^s | 1 | mist. |
| 11-30 pm | 5.567 | 31.9 | 32.0 | NWE var | 0-1 | mist ^o . |

at 11-30 pm heavy ^{gusto} were heard at the East end
of the hill, not coincident with & evidently
much stronger than those passing the Obey.

August 27.

at 2 am faint aurora observed about 30°
above Horizon to Westward. at 3 am the
aurora was flashing all over the Western sky -
Meteors observed at 2-19, 2-23, & at 2-12 am.

The ozone test paper that should be read
at 9 am was today left lying for an
hour outside window-sill before being read.

August 29

at 3 am five experiments with Prof. Chyrtal's
Hygrometer gave dew points from 36.2 to 37.0 -
at 2, 3 & 4 am air was saturated & the
temp. 32.6 - (see Daily sheet.)

1884

August 30

Today Mr Rankin returned to the Obseg - and Mr Ormond went down to go to Edinburgh -

The four-daily readings of the temperature of the well were stopped & in future its temperature will be only read twice a day; at 6 am & 6 pm or some other convenient hours.

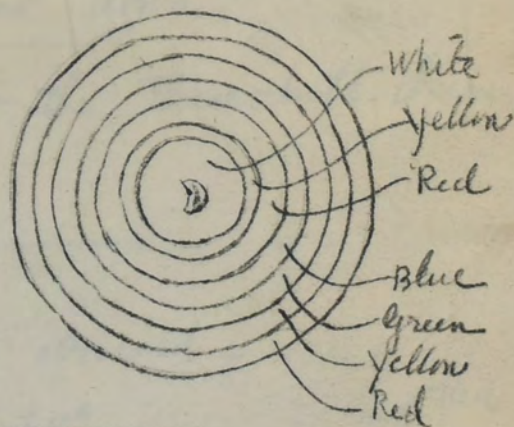
August 31

at 9-12 pm a double lunar corona & a lunar fog bow were observed -

Colours of corona as
in diagram -

Diam of outer red = $9^{\circ} 5'$

- - inner + = $4^{\circ} 30'$



During the month of August more than 1500 tourists visited the Obseg -

1884

Sept 3^d

at 3pm the three-bulb thermometers
were put out in box at East side of Ther. Box.

at 11 pm a large double lunar corona
was observed -

Sept 4th

Thunder was heard at 2-4 pm ;
at 6-2 pm ; & below in valley to SE at 6-7 pm.
Heavy hail fell at 6-32 pm.

Meteor seen at Midnight.

Sept 5th

Mr Omond returned to the Obseq.
and Mr Dickson went down.

Sept 9th

at Midnight the Three-bulb thermom.
eters were taken in.

Sept 11th

at 1 am Corona observed -

Diameter of red ring 6°-45"

yellow inside the Red ring & having
outside the Red a Blue margin -



This corona was formed on thin
scud passing over the hill - the
margin was only seen when the scud
was vely thin -

Sept 13

1884

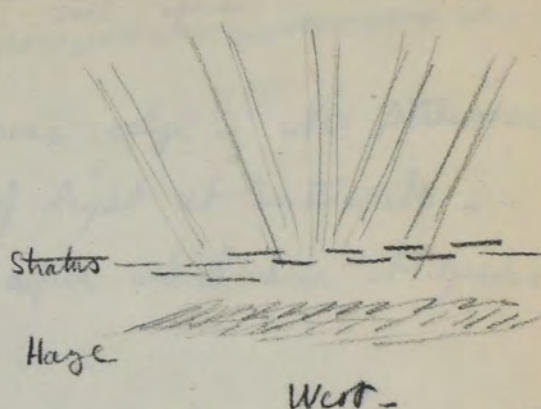
At 7-20 - pm

The sky after sunset
was crossed by streamers
radiating upwards, of
a mauve colour -

Before this there had

been merely Red, green

and violet above the haze to W⁵ & a mauve glow to E⁵



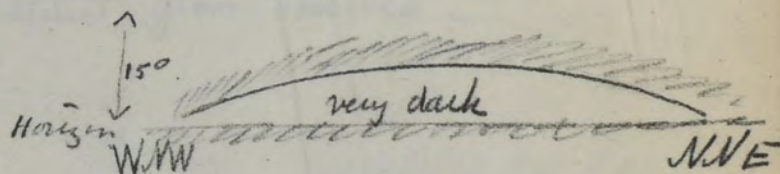
at 9 pm aurora

observed - single

arch, no streamers,

~~giving~~ giving green

band in spectrum distinctly -

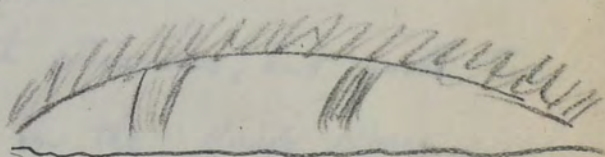


at 10 pm the aurora

had no streamers but

had two pendants hanging from it, sloping westwards -

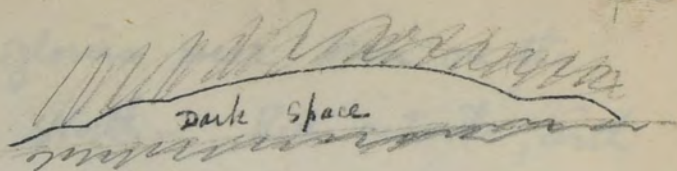
at Midnight the lower edge had greatly lost
its sharpness of definition, but streamers were
rising from the Western part of it to a height
of about 60°. These streamers appeared to
be very long & thin.



1884
Sept 14

at 1 am
the aurora was

^
20°
↓

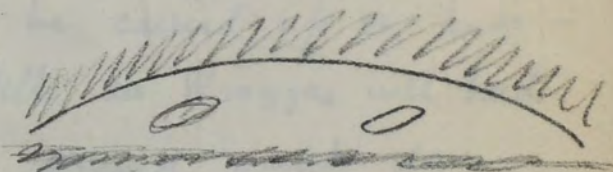


well defined, with a wavy lower edge - No streamers
but waves or pulsations of light at intervals -
This continued till 4 am, after which hour it gradually
faded away -

very fine & clear all morning, but with a reddish
brown haze round & under sun, forming a rude
corona at times - Beautiful sunset but no
streamers or distinct glow observed -

aurora again
visible = at 10 pm
it formed a single

↑
15°
↓



well defined arch, without streamers, but with two
bright patches below it in the dark space -

For the rest of the night it was seen dimly
through fog & apparently did not alter in
character -

Sept 17-

Meteor seen at 1^h 7^m am, about 40°
above horizon to the SSE -

1884

In the afternoon glories were seen on the
 fog in the valley to North - Red outside, with
 yellow, green Blue inwards - at times a
 faint outer one seen; but they all were
 too evanescent for measurement -

Today Mr H. N. Dickson came up to the
 Observatory -

Sept 18

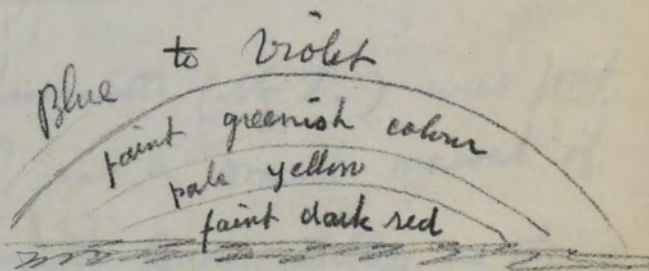
at 1^h 3^m am telegraph indicator was
 moved forward 4 letters -

at 10 am Solar halo with coronae observed
 Diameter roughly about 39° -

Today water had be carried up on horse -
 back from Buchan's Well as Wragges well had
 run dry - Mr Omond went down
 the hill -

Sept 19

at 5 am the
 eastern horizon
 was coloured as



indicated in sketch - Sun rose at 5^h 55^m
 at 8 am Red haze round sun of about
 20° diameter -

1884

at 9 am Sky hazy round sun, pale dirty white at horizon and deep blue at zenith. Water was again today carried up from Buchanan's well on horseback.

Sept 20

at 3 pm Glories seen on fog very similar to those observed on Sept 17th (sep 90) at about 10^h-5^m pm a large round black cumulus cloud came up from the SW with velocity 5, and when almost directly over the top of the hill spread itself out forming a pallium (9). Water carried up again.

Sept 22⁵

Began to experiment with new Rain gauges with ~~open~~ opening in side (screw plug).

Sept 23

a thermometer (No 7-) was put out on Sept 21st in a small vessel of water in the Thermometer Base, today as the temp. fell the readings of this thermometer went up rapidly - It read 40-1 at 6 am when the temp. was 29-3 - It was then taken in.

1884

Oct 4 - Fine morning, Red and Purple
colours in sky between Sun & Horizon -
While the Moon was partially eclipsed a strong
double corona appeared round it -

Oct 5 at 1-15 am fog low, double, observed.
Diameters approximately - 73° and 65° -

at 1-30 am Triple corona observed -

Diameters $1^{\text{st}} \text{ ring} = 4^\circ - 0''$

2 - = 6 - 10

3 - = 8 - 40

These numbers are only rough: the more accurate
measurements were given in Nature -

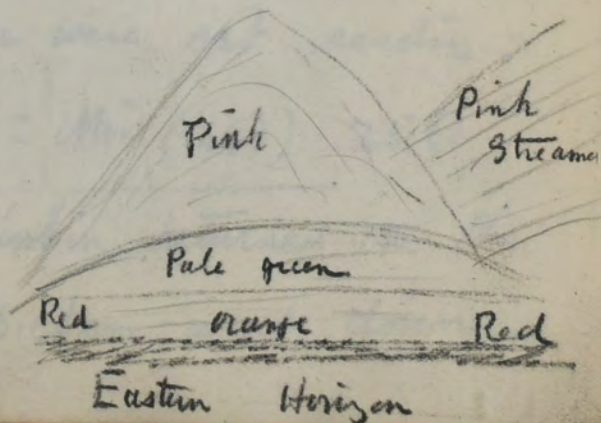
all day the lower hills were buried in a level
sheet of fog - Reddish haze under Sun & Moon -

Beautiful sunset - Meteor seen to SE at Mount -

October 6

at 6 am Eastern
sky coloured as in
sketch -

Day very quiet & warm -



1884

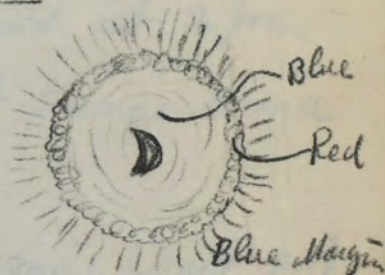
after sunset at 6 pm Orange, Yellow, Green
and pink colours to Westward - Some streamers
in the pink - At 7 pm dark red & pale
green showing = apparently no after glow -
at 2 pm a wasp was seen on the top -

October 10th Mr Omond returned to the Obsey.
and Mr Rankin went down -

Oct 12th

Sunar Corona at 5 am -

Colours as in diagram -



The outer blue in coronas of
this type forms a distinct margin or glaze -

This corona was formed on passing fog &
seid; its size appeared to vary -

At 8 am the thermometers in Box in Iron
cage were taken in & a Max & Min put
out, at 5 pm these were set readings:

Max (108) 27.3 : Min (1449) 25.0 -

Oct 13 Today Mr Rankin returned to the
Obsey - & Mr H. V. Dickson went down -

1884

October 16

at 1 am bright light seen low down to Northward - Might be Aurora but no green line was visible in spectrum -

In the afternoon the Tarpaulin was taken off Wragge's Hut & stowed in shelter -

October 24

at Noon sky to NW dirty yellow, at 1 pm greenish & brown and at 2 pm bright red - at 7 pm faint Lunar Corona visible -

In the afternoon Carboy for Cosmic Dust put out near path to Wragge's Well -

Barometer 1252 was today hung in large case in office -

Today Lord MacLaren and Mr John Murray visited the Observatory staying over the night -

October 25

at 11 pm the outside ladder leading to the top of the tower was found partially blown over & the lower fastening having given way -

1884

October 27

Put up several posts to indicate the road near Obeng - all were afterwards blown down except one at the top of McLean's steep -

October 31

In the early morning the old tarpaulin on kitchen roof was badly torn by the wind - In the afternoon the remaining pieces were nailed down to the snow boarding.

1884

November 1

at Midnight the clouds (Pall. 10) above the hill had a very misty look, and seemed to hang down clear of the hill on each side -

November 3

at 11 am Fog horn observed with columns = red inside -

Today Mr Sydney Mitchell arrived at the Obeng. He stayed till Nov-5, having been delayed by stormy weather -

1884
November 6

At 3pm the receiver for Cosmic Dust was taken in and placed in the bottom room of tower to settle -

November 7 - Owing to the strong wind it was impossible to manage both Rain gauge & lamp at 4 & 5 am: the reading at 6 am therefore gives the fall for 3 hours - At 7am the same was the case & so the reading at 8 am is for two hours -

at Mount Joint misty corona observed; red outside. Diam of red = 5°

November 8 Mr Wells from Milne & Co Edin and Fint William plumber came up today - The conductor & some of its fittings had to be left near Buchanan's Well as the horses stuck in the snow -

November 10 at 3pm there was heavy cumulus round horizon but no fog in the valleys - Near the Sun the sky showed a brown

1884

glaze while the Northern sky was pale green -
 at 10^h-10^m pm clouds were observed blowing across
 from the Southern hills, but vanishing before they
 reached Ben Nevis -

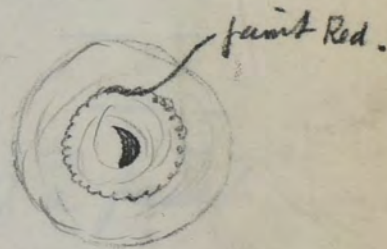
Today the lightning conductor was carried
 up by men from Buchans Well -

November 11

at 3 am Bar 1252 was mounted
 on board-stand hung on wall near passage
 to tower in office -

November 13

at 6 am faint
 corona seen, no distinct colonies,
 but a faint red ring with
 white inside & blue out.



at Noon ~~glory~~ glory & fog low seen in
 valley to Northward -

sky beneath sun at Noon light yellow -
 at 7 pm dark belt all round horizon
 about 5° high, darkest to Westward =
 the rest of the sky milky looking.

1884

at 5 pm Small Box put out on ladder
stand with 50945 as Dry 2 192677 as Wet -
Lightening conductor finished this afternoon;
tested earth contact by using it as the
earth for the telegraph to Fort William and
found it satisfactory -

November 14 at 7 am the eastern horizon was
lightly colored; the order of colors being,

| | | | |
|--------------|----------|-----|---------------|
| Red & yellow | to about | 30° | above horizon |
| Green | — | 11° | — |
| Blue | — | 50° | — |

The sky to the west being of a faint
purple hue -

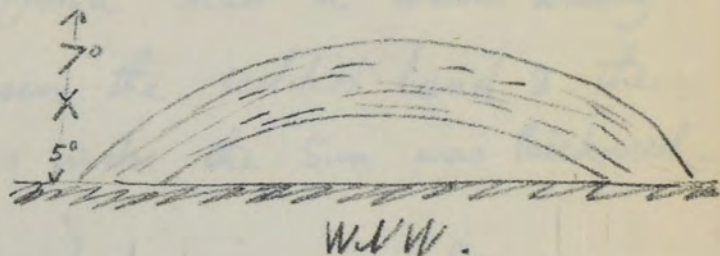
Among these colors were streaks of filmy
cloud, sky otherwise clear -

Three times at intervals of about 5 minutes
a very small cloud shot up from the
horizon to ESE like a puff of smoke
from an ~~engine~~ engine chimney, & then fell
& disappeared - at 7:40 am the

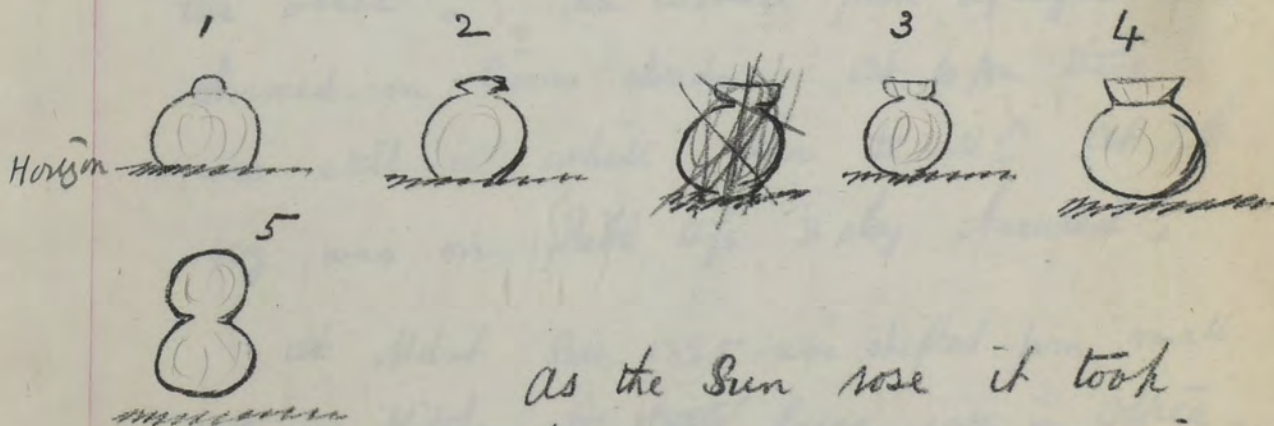
1884

columns to ESE got watery looking, the streaky clouds increased, & the sky for about 8° above the yellow part was almost white.

At 7-44 am
a Purplish Pink
arch appeared
to the WNW.



The arch was about 7° broad, & clear space underneath, some 50 was pale sea green in colour. It lasted till the sun rose.



as the Sun rose it took the above forms in succession as it passed through the streaks of cloud. The streaks of cloud were invisible except when ~~it~~ brought out by the sun & the columns in the sky. At 8 am the sky under the sun was brick red in colour.

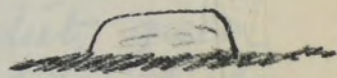
1884

In the forenoon the sun was surrounded by a dusty looking Red Corona, the inside diameter of which was about 22° .

at 11 am this corona had a white watery look inside between the reddish band & the sun. The haze under the sun was brick-red.

At Sunset the sun had a flat topped look, as

Sun



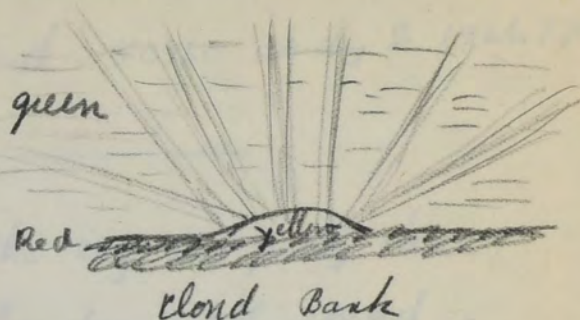
shown in sketched white passing under the horizon the northern limb being slightly higher than the other. A distinct pink afterglow was observed on Cirrus clouds. At 6 pm there was still a white glow to W. At 7 pm fog was on hill top & sky obscured.

at Mdnt Bar. 1385 was shifted from small case in Kitchen to ~~small~~ large case in Office. For check readings see extra sheet of Nov 15.

Nov 15. Light fog on hill top in early morning clearing off about sunrise, but leaving detached patches on hills round.

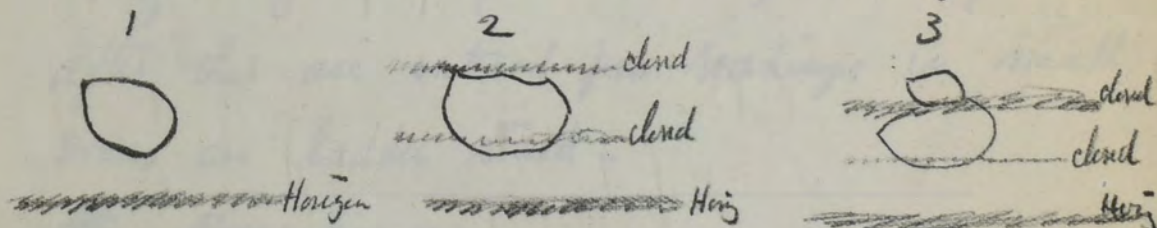
1884

at 7-20 am,
before sunrise, pink
streamers appeared
to SE - Just
above a heavy cloud
bank there was, just



a narrow belt of ~~red~~ red, then a patch of
yellow & orange, above that dirty green
colour - The streamers shot up through
this, apparently, sloping towards the observer.
The sky at zenith was deep blue, while
to westwards there was a murky, watery
pink glow -

As the sun rose it assumed these forms -



These figures are copied from tracings made
by focussing the sun's image on a sheet of
paper from a telescope & pencilling the
outline -

November 20

at 4 am Small Ther. Base

put out on ladder stand with 50945 as dry & 192677
as wet -

November 21

at Noon the sky was pretty clear
(cum-s 4) but fog low down all round -

The movements of this fog showed a descending
current on the south side of Ben Nevis and
an ascending to Westward out of Glen Nevis -

Wind N+E force 4 to 5 -

at 7 pm the Moon was shining through haze
to SW looking very red & with a glare like
what surrounded the sun during the day -

at 10 pm Therms 50852 & 50850 were taken in
out of large Box (old clock-box) The temperatures
after this are entered from readings in small
Boxes on ladder stand -

~~at~~ November 22

at 9 pm Max No 138590 and Min No. 138533
were put out in small Box on ladder stand -

Max was set at 10 pm -

1884

November 23

at 6 am faint glow to SE

near Horizon - At 7 am Yellow, Green, Blue, and Violet colours at SE horizon - At 8 am still light colours to SE and splendid sunrise - at 9 am glories observed on fog to N^W apparently about 2 miles distant showing five red rings - These continued all day, the number of rings varying from 3 to 5 -

At 2 pm measurements were taken,

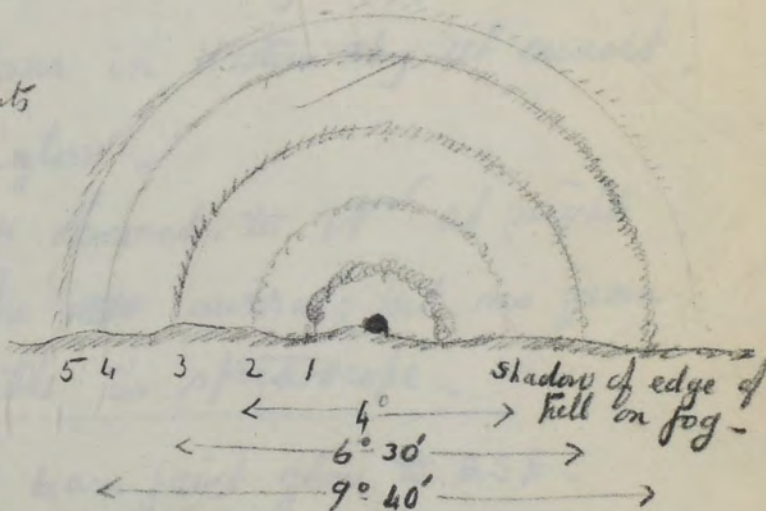
1st red too small to measure.

2^d - $4^{\circ} 0'$

3^d - $6^{\circ} 30'$

4th - $9^{\circ} 40'$

5th - Too faint to measure.



The 1st ring was blurred & indistinct looking -

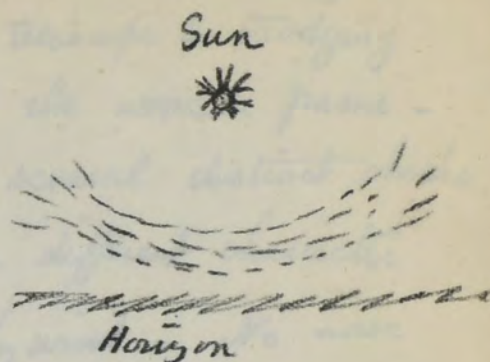
The 5th ring was incomplete and very faint -

In each ring Red outside and Blue inside -

at 8 am church bells (? Fort William) were heard from top of tower -

1884

At Noon the red haze
under the Sun to the
form of a wide partial
halo - Diameter of inner
side $21^{\circ}-20'$: of outer
 27°



at 2 pm the level top of the fog round the
hill was at about 3000 ft. By 3pm it
had risen almost the height of Ben Nevis.
Very little colour in Western sky at sunset,
and no after-glow.

a faint light observed to N at night
which might be ~~the~~ auroral; but no green
line was visible in spectroscope.

November 24 at 6 am faint glow to ESE.

at 7 am colours
above cloud bank
at Horizon as in
diagram.

at 8 am sky 2 clouds
to NW pink.

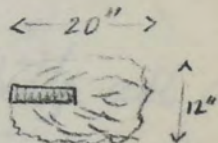
Purple -
Faint blue
green
yellowish green
yellowish red
Eastern Horizon -

1884

at 7-15 am while Mr Rankin was looking out of the tower door with a telescope & steadying it by holding it up against the wooden frame-work of the tower, he felt several distinct shocks or tremors more ^{intense} of a different character from the vibrations caused by wind. No noise was heard outside but a faint humming in the wood-work of the tower. It seems to have been due either to earthquakes or to the tower settling a little.

November 26 Thermometer Bore shifted at 5 pm
 Ther 192660 put ^{out} as Dry & 192672 as Wet =
 also Min 138545 - Max 138590 not working.

at 11 pm the Snow Post
 near Rain gauge (A) was



found to be thickened by snow crystals to
 a size of about 20 inches by 12.

November 29 at 2 am small
 corona seen - very yellow looking
 inside red, with blue margin outside
 Diameter of Red 3°-50'.



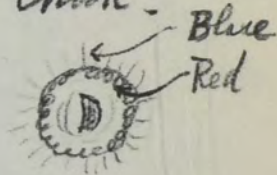
1884

at 4 pm fog all over Northern hills but visibility to southward - sky faintly red to SSW, yellow & pale green to SW, and dark to Eastward might be earth shadow - No afterglow -

at 5 pm Moon ~~strong~~ was shining brightly with under it a reddish-brown haze -

at 6 pm faint blue corona round Moon -

at 10 pm corona as in diagram, colonies inside red not distinct -



Diameter of Red $3^{\circ}-50'$ - The outer blue is not always seen -

at Midnight very faint halo -

November 30

at 1 am faint halo, no colonies, inside diameter roughly $36^{\circ}-40'$ by Stefanome = probably halo of 22° radius -

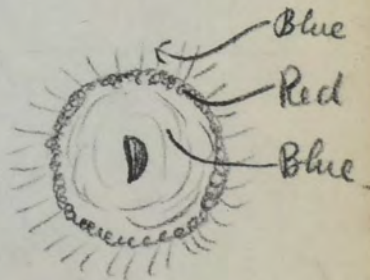
White snow crystals forming rapidly all afternoon

1884

December 1st

Corona with red inside but blue margin formed on road passing over hill - Diameter of red 8° -

Space inside red blue-looking - when the



1884

scud clears off this corona disappears,
but the Moon is seen surrounded by very
much smaller one, very yellow looking inside
the red -

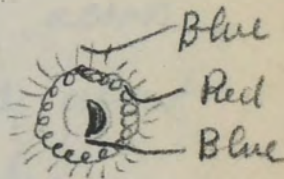
at 3 am Misty corona formed on scud -
Red outside - Diameter of red 5° - $45'$.

December 3

At 3 pm the chimney in tower
was found to be choked at the cowl with
snow crystals.

December 4

at 1 am Corona
Red outside, Diameter of red = 4° .
Blue margin seen at times -



December 5

at Noon Sky watery looking round
sun and Red & yellow in colors under it -
Horizon dark blue to NW -

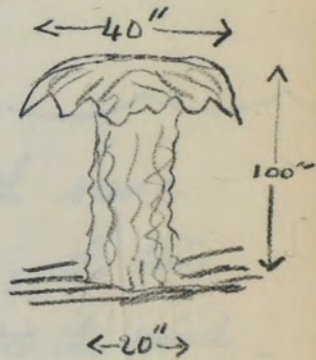
at 3 pm Thermometer Base shifted - Ther. 192677
put out as Dry and 50945 as Wet -

Today began to build porch at dock with
timber and tarpaulins -

1884

December 6 First day that lamp had to be lit in kitchen at dinner (1 pm)
In evening put up pulleys in tower -

December 11 The snow post at Wragge's Hut after being covered with snow crystals got glazed over by rain falling while the temp. was below 32° . The top was buried in an umbrella of snow about 15 inches thick by 40 to 50 inches across. The diameter of the shaft was about 20 inches ^{whole} & the height 100 inches. The post ~~was~~ itself measures only about 6 inches by $2\frac{1}{2}$ -



December 12

In the forenoon posts were stuck in snow marking the track from the head of Maclean's steep to the Observatory -

1884

December 17

At 5 pm the rain gauge (side screw) was found about 20 yards from its place choked with snow -

The snow near

the Observatory was

observed to be lying in waves with some 50 or 60 inches between the crests: the line of crests running perpendicular to the wind.

December 20

at 3 am Thermometer Base shifted - old Base 28 inches above snow
New - 51 - - -

Ther. No 192672 put out as Dry and No. 192660 as wet - with Min. 138545 -

December 21

at 3 pm the depth of snow at Wragg's Hut was 83 inches: at the notice board 25 inches and at the head of Maclean's Steps 43 inches -

At 4 pm a heavy bank of cumulus hid the after-glow but some cirrus clouds to NE had a pale red glow on them. At 4.25 pm the cumulus cloud was almost gone & a glow visible extending downwards till it met the ordinary

1884

sunset colonies - The Moon was pale green in colour - The glow lasted till shortly after 5 pm.

December 22

Fine sunrise: at 7 am a pale green band appeared just above ~~SE~~ SE horizon. At 8 am sky to W^N purple with dirty sea green under it: while to E & SE it showed light red yellow and purplish pink. After 8 am this red & yellow extended in both directions forming a coloured horizon all round, above this the sky was whitish-green, and above that again was a band of pink showing all round but most lightly to NW. These belts extended to about 15° above the horizon all round: the zenith was blue. The sun rose at 8.42 am and these colonies faded away leaving a hazy red & yellow all round horizon. Before the sun rose the snow on the hills to N & NW was smoky green in colour when contrasted with the snow on Ben Nevis. The sky was cloudless down to the horizon. At 10 am hazy red corona round Sun. This continued most of the afternoon.

1884

Shortly after 3 pm one of the sledges was blown over towards the cliffs on the SE side of the hill; getting it back again took longer time than was anticipated, and therefore the 4 pm observation was delayed and only taken at 4-30 pm. The readings (corrected) of the instruments were —

Bar. 25.604 : Dry B. 18.9 : Wet 18.3 : Wind SW & S :

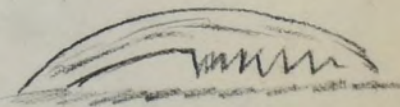
Force 3-4 : clouds None : Snow None :

The entries on the daily sheet at 4 pm were calculated by interpolation by means of curves —

at 4-30 pm there was a very faint pink glow to NW on cirri clouds = the sky below being bright red and yellow —

at 8 & 9 pm Aurora observed : single arch stretching from WNW to NNE : no streamers = height of top of arch about 20°

at 10 pm the eastern part of the arch had a wavy or toothed structure below —



December 23 Today the feathery snow crystals forming on exposed surfaces were grey-brown in colour.

1884

December 24 The new crystals forming today are white in colour & contrast strongly with those of yesterday -

At 3 pm the Gauge was found blown over.

December 25 Before Sunrise (at 8 am) sky dirty green to S^W with pale yellow above and a faint pink tint on cirrus clouds - At 10 am the sky below the sun was red - at 11 am triple glories seen to Northward - Very faint rosy corona round sun at Noon -

At 4 pm very thin scud was passing across the hill which "glowed" with the same colour as the usual sky afterglow - $\leftarrow 20^{\circ} \text{ to } 30^{\circ} \rightarrow$

| | | | | |
|----------------|-----|--------|------------------|--------|
| at 4-25 pm | ^ | | | |
| distinct patch | 10° | | | |
| | ^ | yellow | <u>Pink glow</u> | yellow |
| of afterglow - | 10° | Red | yellow | Red |
| other colours | v | Fog | | |

as indicated in diagram -

at 4-40 pm the glow was gone & the sky coloured orange & green, but fading gradually - all day the lower hills were hid in level-topped fog, rising to about 3000 feet.

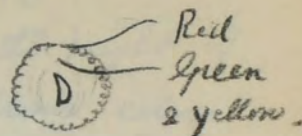
1884

at 5 pm Lunar Corona observed -

very misty - Diameter of Red 4° to 5° .

very green and yellow in appearance :

no blue & red faint -

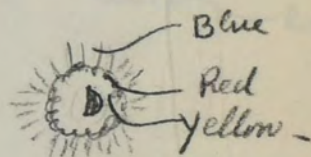


at 8 pm very faint blue corona around Moon -
No other colour visible, the diameter of blue
about 4° - $10'$ -

at 10 pm small corona - Red

to small to measure; Blue extending

to about 6° - $20'$ diameter -

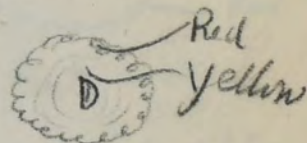


at 11 pm there was no corona but a ~~slight~~ slight
darkening of the sky under the Moon -

at Midnight corona without

Blue margin - Diameter of

Red 4° -



December 26

at 8 am the S.E. horizon was of a
bright golden colour - The valleys ~~with~~ were filled
with fog not rising higher than 2000 feet -

at 9 am a Raven ^{was} seen near the second gorge -

at 1 pm Solar fog low and 10 pm Lunar ditto
observed; too large for Stefanoma -

1884

December 27 In ^{the middle of the day} ~~early morning~~ dense fog over all the lower hills rising nearly to the height of Ben Nevis, say about 4000 feet - Also brown colour under Sun - Sunset colours faint; no afterglow -

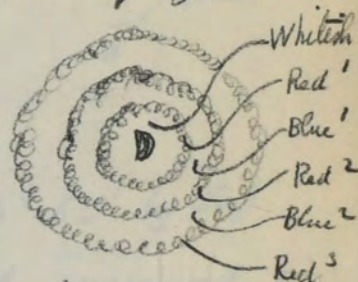
at 6 pm Lunar corona observed -

Colours as in diagram -

Diameter by Stef. of blue' $3^{\circ} - 40'$

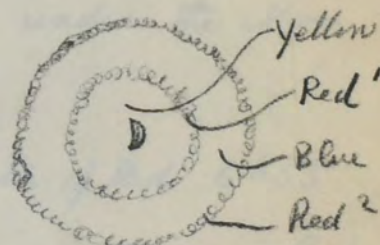
— — Red² $4^{\circ} - 50'$

— — Red³ $9^{\circ} - 0'$



at very faint Halo seen at 5 pm -

at 8 pm Lunar corona with colours as in diagram -
outlined rather faint -



Diameter by Stef. of Red' $4^{\circ} - 5'$

— — — Red² $8^{\circ} - 10'$

at 9 pm double corona still seen - its size appeared to vary, being small when the sky was clear of low clouds and enlarging as the cloud passing over the hill thickened -

December 28 at 10 am lower hills buried in fog to about 3000 feet - By noon the fog was broken up into detached pieces in the valleys & ~~was~~ mixed with haze - copper colour under Sun all afternoon -
at Sunset (4 pm) sky was Orange & yellow to SW -

1884

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and Blue-Black to NE. No Afterglow -

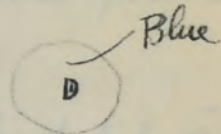
At 9 pm the Moon was surrounded by a white glare about 10° diameter - No halo or corona.

This glare lasted all night -

but at 11 pm I think there was also a faint Blue corona - No other

coronae visible - Outside diameter $6^\circ 50'$ by Stef.

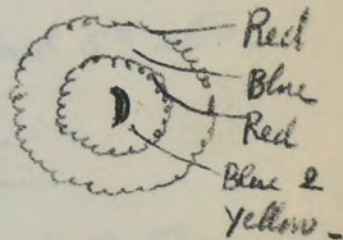
The glare at the same time had increased to about 30° diameter by Stef.



December 29 At 3 am the sky under the Moon was copper colored -

Corona at 8 pm Red outside diameter of Red $6^\circ 55'$

At 11 pm double corona coronae as in diagram, outer red very faint - Rather misty looking the size appeared to vary -



Diameter of Inner Red by Stef. - $\begin{cases} 7^\circ 20' \\ 7^\circ 50' \end{cases}$

Note Up to this time the angles measured by the Stefanoni have been given as diameters, in future they will be given in radii for halos, coronae etc. - Thus the entry above (Dec 29) ~~with the~~ would be -

" Radii of Inner Red by Stef. - $\begin{cases} 3^\circ 40' \\ 3^\circ 55' \end{cases}$

1885January 1

Began today to use 24 hour time instead of am and pm counting the hours from 0 to midnight -

Snow crystals forming all day at pm 1 to 2 inches per hour - The tower chimney was several times choked by crystals forming under the small inside comb -

January 2

Very wild sunrise - at 8^h the SE horizon bright red & yellow with cirro-stratus above tinged with brown red on lower surface - at 9^h this colour a glow had disappeared except to W.W. The sun was about 5° above horizon, clouds dense and watery -

January 7

At 22^h put up guide rope to Thurman - Box and Snowgauge - The office stove had to be let out in afternoon the back draught was so strong -

January 8

at 2^h raingauge not found, probably blown over the North cliff - after this the other side screw gauge (see p. 91) and an

1885

117

ordinary funnel with the bottom of pipe corked
were used.

January 10 - Very stormy. Reduced back draught
in office stove by fixing piece of canvas in windward
side of cowl.

January 11 at 9^h Rain gauge blown away.
at 11^h Thermometer Box shifted = ~~wet~~ Dry Ther No
192677 and Wet Ther No 50965 and Min
No 138543. put out.

The rubbish buckets were not carried to cliff today.
Mr Rankin made observations on the pumping
action of the Barometer = see extra sheet.
The snow drift blown up the cliff near the
plateau of Storms was seen to rise from 100
to 200 feet in the air, and pass away to
leeward in clouds, resembling ordinary small
seed clouds.

January 12 Thermometer Box shifted at 14^h
Dry Ther No 192660 and Wet No 192672 put
out. Min. left out.

1885

January 14 Bright sunrise colors but no upper glow in sky. At 10^h Hazy rose colored corona at Sun. At 16^h E. sky showed colors like afterglow, at 18^h however there was a faint red and pale green glow above W horizon. Today the new gauge (round bottom pattern) and the tracing paper for the drum of crystal anemometer (Direction) were brought up -

January 15 Began to use new gauges - No upper glow at sunrise - During the day Brown haze round sun, strongest below it. At 16^h-30^m No afterglow to west by faint glow to ENE. At 6^h-40^m the Wst afterglow began - and the Eⁿ glow disappeared. At 6^h-50^m the afterglow was distinct to Wst at 7^h it was fading.

January 19 at 17^h after sunset Red yellow and Green to Wst No upper glow. At 18^h Pale Blue glow to Wst at 19^h Pale Blue glare round moon -

January 20 In morning fog all over lower hills - at 8^h Bright Pink upper glow

1885

above Red and yellow colonies to SE.

at 10^h & 11^h red haze below sun and white
glare round it. at 12^h Hazy red corona
round sun with white watery looking core.
The red or copper colour under the sun got
fainter ~~out~~ in the afternoon. No afterglow
at sunset.

January 21

Sunrise colonies very bright but no
upper glow. Copper haze at sun all day.
Passing fog prevented sunset from being observed,
but apparently there was no afterglow.

January 23

Valleys filled with haze rising to a
definite level.

Depth of snow at rain gauge post. 56 inches

at Wharfedale Hut 98 -

at Notice Board 38 -

at 18^h Sun's corona observed. Red outside

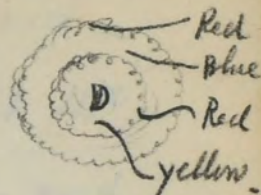
Radius of red 2°-36'. Again at 23^h faint
misty blue look round moon, no other colonies.

January 24

at 22^h faint misty corona, red
outside. Radius of Red = 2°-30'.

January 29- at 1^h 2^h very small misty corona.

At 4^h misty corona. Colours as in diagram - Outer red very faint, making the blue look more like the margin often seen than a part of corona proper.



Radius by Stef. of Inner Red = $2^{\circ} - 14'$

outer Red = $3^{\circ} - 38'$

at 21^h faint Bluish corona formed on sund.

January 31- Fixed cistern screw of Bar. 1252 & began comparison readings to determine error.

Both today & yesterday Thermometer Box badly choked with pine dust.

1885.

February 2 Thermometer Box shifted at 14^h

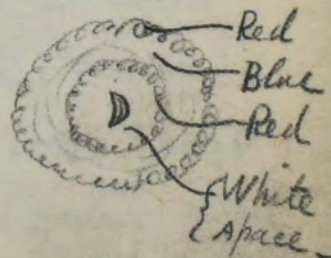
Dry No 50851 and Wet No 50945 put out.

Min No 138533 put out at 15^h

at 22^h St Elmos Fire observed on tips of lightning rod. Each tip having a spark like a match when just struck on it.

February 4 at 7^h 5^m double corona observed. Colours as in diagram - Radius of Inner Red = $2^{\circ} - 36'$

Outer Red = $5^{\circ} - 10'$



1885

at 8^h upper glow to SE. forming an arch with a watery core. The arch measuring about 14° inside radius and 30° outside by Stef. and being colored the usual pinkish brown. ~~h~~ hue -
at 10^h Rosy corona round sun -

Feb 6th Drift very bad all day - at 14 ^{hours} a wave of drift formed between the thermometer box & the tower - The box was half buried, although at 13 ^{hours} it had been 30 or 40 inches clear of the snow, and the point of the wave formed a steep ~~bank~~ ^{bank}, almost vertical, about 30 inches high ~~with~~ ^{which} in the afternoon gradually advanced almost to the tower - at 14^h the rain gauge was also buried with 6 or 7 inches of snow over it -

February 7 as the thermometer box was on the highest joint of the ladder stand it could not be shifted till 17^h today, when the wind having moderated, an extra joint was fixed to ladder and the box set 50 in. above snow -

1885

February 8- at 14^h Barometer pumping with long slow motion, falling during gusts -

February 9 at 7^h double corona in cloudless sky - Inner ring too small for Stefanome & outer too faint - at 9^h Thermometer Box shifted 192680 put out as dry & 192672 as wet -

at 17^h fitted extra joint to Snow post A at gauge, 66 inches high, making total height 200 inches -

February 10 In morning snow crystals white, but at 8 17^h brown ones began to form -

February 11^h Put extra joint to snow-post C at Notice Board 69 inches high, making total height 190 inches - Depths of snow -

at Post A (Rain gauge) 126 inches -

B (Wrugges Hut) 98 -

C (Notice board) 117 -

February 12 at 22^h Depths of snow -

at Post A (Rain gauge) 120 inches

B (Wrugges Hut) 94 -

C (Notice Board) 111 -

February 16

1885

At 5 hours. four lighthouses seen - Probably Barra head, Dhucheartach, Phladda and one to the East of Jura not identified -

at 6^h a cone & a triangle of green lights to E^S rising to about 30° from a base reaching from NE to SE. Air very clear all morning.

at 9^h copper colour under Sun.

at 10^h Beauty fifth seen distinctly -

The copper colour at the Sun formed a rude corona -

Sun set at about 17^h 34^m: the sunset colours were weak, but the sky above them was smokey green, while to E^S it was deep blue. No afterglow except at 20^h when a faint white glow was seen to W^S possibly the zodiacal light.

Faint badly defined aurora at night.

February 17 Sky very hazy & watery in early morning - no upper glow before sunrise - Fog came on during the day, occasionally rising and forming a pallium overhead -

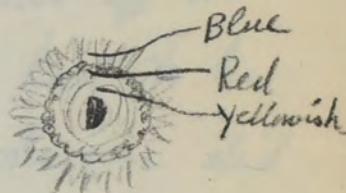
1885

February 18

Faint copper colors below him all day - at 23^h & Mdnt. faint auroral arch from NE to WNW = badly defined, no streamers.

February 19

at 21^h Solar corona observed, colors as in diagram - Radius of Red by Stef. - $2^{\circ} 30'$.

February 20

Sunrise colors rising to about 10° at 7^h with Purplish band above them -

The snow drift today formed waves or rolls

at 21^h small yellow corona with blue margin, the margin being faintly tinged with red.



Radius of this red by Stef. - $4^{\circ} - 3'$.

February 21

at 13^h rain gauge found blown away to near the edge of the cliff & not put out again today - at 16^h the note-book for the observation was torn at the hinge & blown away - after 17^h no temperature

1885

readings were taken as the lamps could not be kept alight & the observers could not stand against the wind - at 18, 19 & 20 hours Mr Ormond & Mr Rankin went out ~~of~~ at tower door with a long rope & had to be hauled back: after that the observer did not go out - at ~~21~~ 22^h the outer glass of South window in tower was seen to be broken, probably by a flying piece of ice, many of which were heard rattling on the tower like stones -

February 22. First temperature reading taken at 8^h Box found badly choked with drift & with about half its back ^{upper} louvers smashed - The extra joint to snow port A (see p. 122) was also broken - The snow was much blown away by the wind, the general height being lowered several inches: even the moderately hard crust on top was broken up - The fog crystals formed during the storm were very long & somewhat hard & very in texture -

February 23

1885

Thermometer Box shifted at 14^h 192677
and 50851 being put out as Dry & Wet respectively
at 15^h Min 138545 put out.

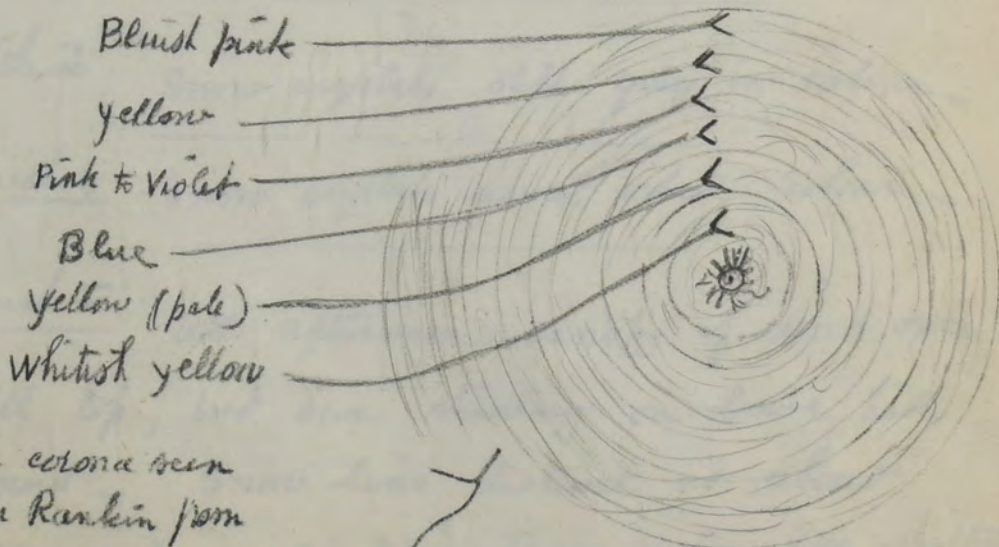
at 19^h faint corona formed on upper clouds.
One red ring rather broad, Radius inside
1° 45', outside 2° 40'.

February 26

Rubbish buckets not taken to cliff -
Began to use lantern with cover - {Rankin's patent}

February 28

Thermometer Box shifted at 14^h put out
192660 as dry and 192672 as wet - Min
138533 put out at 17^h



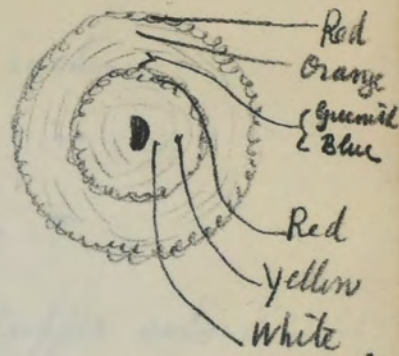
Solar corona seen
by Mr Rankin from
Plateau of storms at
about 16^h 15^m
Formed on Scud.

Flashing circles seen only
for a short time. Colors
not determined.

1885

March 1.

at 3^h Lunar corona -
 Colours as in diagram - Formed
 on seed - Radius of inner
 Red = $3^{\circ} 18'$; of outer Red $4^{\circ} 49'$.



at 4^h Brown glare under Moon
 and very faint blue corona -

at 7^h the Sunrise colours appeared very dusty
 looking - Sky hazy all morning.

Solar halo at 14^h 23^m faint red inside, Radius
 about 18° - No sunset colours observed.

March 2

Snow crystals today greyish in colour -
 Began measurements of amount of crystals formed
 on bottle - (See large note book -)

March 3

Snow crystals still grey in colour -

March 4

Snow crystals usual white colour -

March 5

all afternoon canopy of cloud over
 hill top, but sun shining on lower hills
 round - Snow line distinct at about
 2000 feet - at 22^h Thermometer Box shifted
 50850 as Dry and 50852 as Wet put out -
 also Min - 138545.

1885

March
~~February~~ 6

128

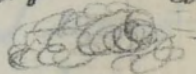
Depth of Snow.

at port A (Rain gauge) 118 inches -
 B (Wragges Hut) 101 -
 C (Notice Board) 117 -

clear views round all day. Copper colour in sky.

March
~~February~~ 8

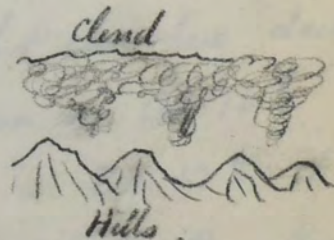
At 11^h when sun was
 behind large cumulus cloud
 strong copper coloured glare
 round it, in sky not on the cloud itself -
 at 20^h. 35^m the kitchen chimney took fire;
 no damage ~~done~~ done.

strong copper colour

 Cumulus

March 9. Horizon very clear in middle of day;
 no fog in valleys; hazy glare round sun and
 faint copper colour in sky.

March 13

at 10^h columns
 of cloud observed ascending
 from above the valleys
 & Southward & mixing with the
 cloud above. Sochiel dead calm all morning.



1885

In afternoon haze at horizon but no fog
in valleys - at 16^h haze was dark brown to
E and W but milk-white, like cloudy milk & water
under the sun to SW. It was cut off by a sharp
line on its upper surface all round; above this
line to SW the clouds were of a faint brown colour.
at 18^h smoke of burning heathes near Upper Socheil
showed NW⁵ wind - No afterglow at sunset;
only dirty yellow & faint red above haze -
From 9^h to McInt. faint whitish light to W⁵,
not auroral apparently -

March 14th

at 6 am thick haze all round horizon
the eastern sky a blaze of red, scarlet & yellow -
The sun rising through the haze was much elongated
horizontally - During the forenoon the haze had a
distinct sharp upper edge; under the ~~sun~~ sun
it was whitish-blue in colour, but elsewhere dark.
Copper coloured corona round sun - At 10^h
the haze was mixed with fog - By 12^h it
had risen to the level of the top of Ben Nevis
& all afternoon the hilltop was covered
with fog -

1885

March 15 In forenoon grey snow crystals forming on exposed surfaces. In afternoon thick haze ~~and~~ mixed with cumulus fog at horizon; dark in colour except to SW under the sun ~~where~~ where it was blue-white.

March 18 all yesterday & this morning the Thermometer Box was badly choked with hard ice. It was shifted at 14 ^{hours} No 192660 being put out as dry, and No 192672 as wet. Min 138533 was put out at 15 hours.

March 20 Wind very gusty all day, blowing in great swirls especially at night. At 10 hours straws and pieces of fern observed flying about on the hill top. Ice forming all day on all exposed surfaces, but not in regular definite crystals.

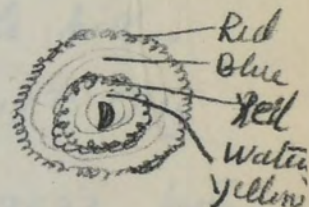
March 21. at 17^h a large bird, probably a kite, was seen flying above the hill top. at 20^h Lunar halo observed, Radius by Stef = $23^{\circ} 15'$. stopped readings of Bar 125.2 (see p 120. Jan 31) & shifted screw, the readings not being satisfactory.

1885-

March 22 Faint brown corona in sky near Sun

in afternoon, clear views except where clouds hung lower than the hill top. At 18^h the str. 2 cum. clouds were of a dusky yellow blue. At 19^h sky cloudy to W^d but under it horizon yellow with pale green above. The under edges of the clouds purple, 2 locks Eil 2 Linne green in colour. At 20^h still faint red to W^d Double corona round Moon - coronae as in

diagram. Radius inner Red 10.53'
— outer Red 4°-40'



It was formed on passing cloud, but when the sky was clear a faint blue glare surrounded the Moon.

Thermometer Base shifted at 22^h Dry 50852
Wet 50850 and Min 138545 being put out.

Depth of snow 22^h at post A Rain gauge 125 inches
— B Wreaggs Hut 104 —
— C Notice Board 119 —

March 23. at 6^h no upper glow but cirrus clouds all of reddish purple in colour. The Sun as it rose was greatly distorted. Brown haze.

1885

in sky under Sun all forenoon, V. to N. & E. but haze gradually coming up from SW. at 11 hours cirrus clouds lying WSW & ENE but moving from W to E. In the afternoon while sun was obscured by clouds, ice formed on the cardboard of sunshine recorder in the focus of the lens -

March 24

at 23 hrs sky cloudless but fog still covering the East end of the hill -

Thermometer Box shifted at 23^h 18^m Dry

192660 ; Wet 192672 ; Min 138533 hms

put out - Old box 37 inches above snow ; new box 59 inches -

March 25

Haze mixed with increasing amount of fog came on from Western horizon in early morning. At 6^{hours} Eastern horizon red & light yellow = under surfaces of upper clouds of a soft reddish hue. at 14^{hms} the paper for the hour was torn in two by the wind, half of it being blown clean away out of the book.

1885

March 26

at 21^h. 15^m when preparing daily report for newspapers found that communication by the cable was broken. Tested ~~the~~ the wires inside the Okey. I found them all right, but no signals could be got from Fort William all night.

March 27

at about 6^h. 50^m telegraph cable tested I found to be working all right, the signals to I from Fort William being perfect. Double weather report sent this evening -

Thermometer Box shifted after 18^h observation. Dry 50852 and Wet 50850 put out. Minimum 138545 put out at 19^h

March 29

From 21^h yesterday to 7^h today no gauge was out, the quantity of drift flying about making its indications useless -

at 21^h today the door of thermometer box was found standing open -

at 23^h the sky to Northward looks a little showing blue sky -

1885

March 30

Haze round horizon 2 in valleys all day, but without any definite, marked upper limit. Brownish colour near sun getting fainter in afternoon -

Thermometer Box shifted after 9 hurs

Dry No 192660 and Wet No 192672 put out. Min 138545 left out.

Top joint (to replace broken one) put on snow post A. {Rain gauge} at 10 hurs Total height from ground 196 inches = mark at 150 inches.

Sunar halo at 22 hours on cirrus clouds.

Radius by Stephanome 18° at 23 hurs very faint brown colour under Moon -

March 31^d

The wind and snow-drift were so bad today that the ~~the~~ sublimic brackets were not taken over to the cliff.

1885

April 1st

after 9 hurs observation Thermometer Box was shifted No 50852 put out as Dry and No 192677 as Wet. Min. not shifted. at 10^h faint purple corona around Sun -

1885

at ~~the~~ 22 hours Depth of snow at A = 135 ⁻¹³⁵ inches
at B (Wragg's Hut) = 106 —

April 4. At 8 hours the Sunshine Recorder was found buried in drift. Ice formed, in focus, on cardboard all day. Thermometer Bose shifted at 14 hours No 192660 being ~~put~~ put out as Dry and No 192672 as Wet. Min. 138533 put out at 15 hours. Light dry drift, rising to some 5 or 6 feet only, was blowing about thickly all day. Faint copper colour in sky near Sun in afternoon; dense haze mixed with cumulus at horizon & filling valleys. No sunset colours except a faint dirty yellow at western horizon.

April 5. No gauge was out today, as the high wind cutting away the surface of the snow made it dangerous to expose it: but no snow was observed falling. In the morning the fog-crystals were grey, ~~but~~ but later were of the usual white colour & very loose in texture.

1885

April 6

Fog crystals, white, forming peely all day - No gauge was out but no snow was observed falling -

April 7

all the daytime great masses of Cumulus hung about the hill and at the horizon -

At 18 hours red haze to W^S; radiating beams from Sun coming out under cloud - Wind on Pocheut NE -

Depth of Snow at A {Rain gauge} = 135 inches.

at B {Wragg's Hot} = 114 —

Post C (Notice board) buried = over 121 —

April 8

at 2 hours pillars of white light observed to NW rising above dark haze or cloud bank.

at 4 hours horizon to ENE faintly red with pale green sky above. ~~the~~

Solar halo at 10 211 hours - Red inside -

Radius by Stefanome (doubtful observation) = $25^{\circ} - 50'$

at 11 hours the top & bottom of the halo were brighter than the sides -

Haze at horizon in afternoon; coffee coloured to W^S but bluish looking elsewhere -

at 23 hours faint white light to W^S seen through fog -

Depth of Snow at post at Maclean's steep = 67 inches -

1885

April 12

Depth of snow post A (Rain gauge) 136 inches

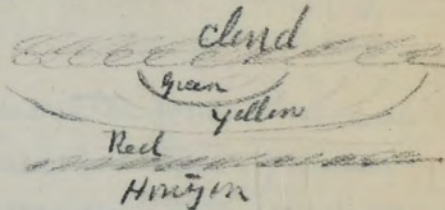
B (Wrasses Hut) 114 —

Post C (Notice board) out of sight \therefore over 121 —April 13at 4 ^{hours} very clear, with delicate sunrise

sunrise colours, to NE.

At 5 ^{hours} colours of Eastern

sky as in diagram -

at 8 ^{hours} faint coffee colour in sky under sun.at 20 ^{hours} thin greenish haze over Loch Linnhe,
blood red streak under clouds to WNW.This afternoon the Vane and rod were taken out
of the kitchen chimney -April 14Pallium of Cumulo-Stratus all day,
not extending far to Eastward however -

Horizon & valleys got very hazy in afternoon

Depth of snow at post A (Rain gauge) 135 inches

B (Wrasses Hut) 113 —

Post C (Notice board) out of sight = over 121 —

To Mr H. N. Dickson came up to the Obey.

1885

April 15. Sky completely overcast with pall. 138
 of cumulostratus till 8 p.m. when an
 easterly breeze sprang up and the sky cleared—
 heavy densely packed clouds all round to W & S.
 Depth of snow at A (Rain gauge) 135 inches

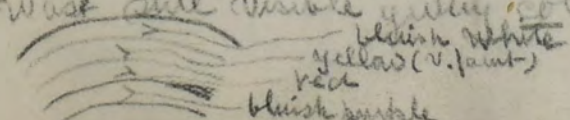
Mr Omond went down the hill on his way to
 Edinburgh

April 16. At 14 h. Robinson anemometer was cleared
 of snow. Readings were taken between 17 h. and
 19 h. At 20 hrs. the instrument was very stiff - and could
 not be moved by the light winds which prevailed.

Depth of snow at A 135 inches.

April 17th Sky remained cloudless till just before
 sunrise. At 4 hrs sky was dark red on eastern horizon
 with greenish tints above - Two long shafts of stratus
 cloud stretched from about N $\frac{E}{2}$ to S $\frac{E}{2}$ pretty low
 down - and filmy cirrus clouds appeared.

At 6 hrs. faint solar halo was observed which
 vanished at 6^h 10^m except two very bright spots with
 red towards sun one on each side of sun and at the same
 height above the horizon. Stefanome gave radius of 24°
 At 7 hrs faint halo was again observed; at 8 hrs the highest
 part appeared brightest and at 9 hrs only that part remained
 visible. At 11 hrs the halo had entirely disappeared.

At 13 hrs the halo was again visible and five observations
 gave. ~~radius 23°~~ $22^{\circ}45'$ (ambiguous) $23^{\circ}40'$ $22^{\circ}15'$
 23° , $22^{\circ}15'$ of red ring (inside). At 14 hrs upper part of arc
 was still visible giving colours as shown

 bluish white
 yellow (v. faint)
 red
 bluish purple
 Spectrometer
 Radius of red 23° , $24^{\circ}15'$, $23'$

diameters

"
1885

139

Thick haze lay on the surrounding hills nearly all day. At 18 hrs this was of a blue colour except to W^{as} where it was yellowish. At 19 hrs the western horizon presented a very wild appearance the lower clouds moving very fast and heavy very ragged edges.

Robinson anemometer was cleared again at 8 hrs and continued working throughout the day.

At 18 hrs water cistern for wet-bulb was put out. Taken in at midnight - partly frozen.

Depth of snow at A 135 inches.

April 18th Anemometers going all day.

Depth of snow at A 134 inches - original post-just-level with surface.

April 19th Wind strong at night with considerable drift. Rain gauges taken in at 21 hrs. very filled with drift. Put out at midnight when rain began to fall.

Depth of snow at A 131 inches.

April 20th. At 3 pm it was found that the solder of the connecting wire joining the Robinson anemometer with the revolution counter had given away. As the weather looked rather threatening it was not repaired.

High temperature at night with rain: snow melting fast.

Depth at A 130 inches.

1885

140

April 21st Rain till 4 p.m. snow thawing fast.

Top of observatory was visible near tower in the morning and at 3 p.m. 15 hrs top of post at edge of cliff was level with the surface. All little snow fell about 17 hrs.

Depth at A 10 a.m. 127 in
22 126

April 23rd. Robinson anemometer repaired.

Hills very clear in the afternoon - Cumulus clouds hanging only a short distance above top of Ben Nevis and spreading in level sheet all round.

Depth of snow at A (Rain gauge) 128 inches.

~~April 24th~~ Thermometer box shifted at noon

Dry 50832

Wet 192677 put out.

April 28th Thermometers changed ^{a 5 hrs.} - 192660 (dry) and 192672 (wet) put out. 50832 and 192677 were found to work badly the wet usually reading from .1° to .4° above the dry.

Sky very wild at sunrise - fiery red to 8th low down - with dense black cumulus to Westwards.

In afternoon the ice crystals forming from the fog were at times of a very dark grey colour occasionally almost black. These were overlaid with pure white.

April 29th Robinson gave way again in same way as before - Not repaired

1885

141

1st May. Telegraph. Lineman brought up Needle Instrument No. 4180 with single needle and extra sounder - weight 16 lbs. Also battery No. 7185. weight 30 lbs. These were fitted up and found to work satisfactorily.

4th May. At 20 hrs. v. to N^W and NW^W below heavy cumulus clouds. Sun set behind Skye Hills - single streamer rising almost vertically up above cumulus - visible against some thin cirrus which began to form about 20^{hrs} 10^{min}. At 21^{hrs} dark fiery red band extending from about WNW to NNW. Sky of sickly green colour above this. At 22^{hrs} this red band was still visible.

6th May. At 3 hrs small quantity of cirrus was seen almost directly over hill top apparently coming from WNW - but disappearing shortly after passing zenith. At 4 hrs quantity of cirrus had increased and formed a tolerably compact flecky mass - still directly over hill top but being blown about in all directions for short distances without moving away much from its place. At 5 hrs direction was NE.

5th May. At 7 hrs a sudden fall of temperature was followed immediately by a shower of snow - a fall of snow was reported from Fort William about the same time.

7th May. Thermometers shifted at 9 hrs. 50852 (dry) and 192672 (wet) put out. 192660 (dry) and 192677 replaced at 21 hrs.

Mr Omond returned to the Observatory.

1885

May 8 Today Mr H. N. Dickson left the
Observatory. One A.B.C. telegraph instrument
and spare needle of Single Needle instrument were sent
down.

May 9 Today Jas. Maclean & half a dozen men
came up & dug out stone left by him last year
lying alongside of Observatory.

May 10 This morning the ozone test paper was accident-
ally shifted at 8 hrs instead of 9. The one put
out at 8 hrs was shifted again at 9; it read
2-3.
at 10 hrs strong copper coloured corona around
Sun

May 10 at 13 hrs halo, red inside, seen
on blue sky where no cloudiness was
apparent. Horizon clear in afternoon but no
strong sunset colours seen.

May 12 Depth of snow at A. {Rain gauge} 134 inches
B. {Wraggs Hut} 120 -
Post C {Notice-board} out of sight \therefore over 121 -

1885

May 13 at 122 hours fog crystals forming though the fog was not very thick -
 at 7 hours copper column under sun -
 Very clear views in afternoon. but at 16 hours dark shower over upper Socheil & Banavie -
 Telegraph instrument affected by earth currents from 21 to 22 hours - apparently a ~~steady~~ continuous current in cable varying in strength rapidly but constant in direction -
 aurora seen at 23 hours, faint light to NNE & waves of light passing across zenith.
 Telegraph instrument worked quite well after 22 hours - Earth currents were felt in all the wires at Fort William office -

May 18 Thermometer Box shifted at 11 hours 50852 put out as Dry and 192677 as Wet, also Min 138545 - In shifting it the ozone test paper was left in old box & brought into the house = this not being observed there is no reading of ozone at 21 hours -

1885

144

In afternoon heavy cumulo-stratus
pallium over all the main land lying
just higher than the hill tops: to the west
over the sea greenish yellow hazy light.

May 19

Sent Thermometer No. 50850 to Edinburgh
today to be fitted with new scale. Received
Mr Cunningham's (Dundee) chart of hygrometrical
curves.

May 20

Fog crystals falling freely all day, rather
icy in texture. Took fitting for tracing print off
crystal anemometer to send to Edinr for alterations,
put corresponding piece of Brun's Anemometer in
its place. No weather report sent tonight.
~~Tele~~ Telegraph instrument not working after
17^h - 30 ^{min} apparently earth contact somewhere
on line.

May 21

Telegraph instrument found to have
connection again at 7^h ^{min} cause of failure
last night not ascertained.
Tower clock stopped at 8^h - 30ⁿ, hence
crystal anemometer record imperfect.

1885

May 22ndat 22^{hms} fog breaking to Northward.at 23^{hms} light fog passing, sky half clear; misty corona (red outside) with blue margin.

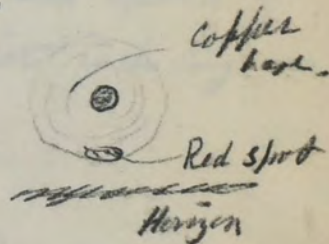
At Midnight sky cloudless. Double corona inner one a greenish yellow look inside the red; outer one very blue inside red no yellow. No margin. Northern sky colored orange & yellow at horizon, green & blue above, all night.

May 23rd

Shifted Thermometer Box at 0^h-20^m, No. 192672 put out as Dry and No 192660 as Wet. Min 138533 put out.

all night the northern horizon was tinged with orange & green. Fog & haze in valleys till 4^{hms} Heavy cloud bank to E^s at sunrise.

At 7^{hms} copper colored hazy corona round Sun, at the lower edge of which was a bright red spot.



Up to 10^{hms} dense cumulus hanging about lower hills. Fog came on at 13^h.5^m.

In forenoon estimate made of depth of snow near first gorge — see extra hourly sheet.

1885

May 24

Depth of Snow at A (Rain gauge) 138 inches.

— — B (Wraggs Hut) 124 —

Post C (Notice Board) out of sight = over 121 —

May 25At 21 ^{hrs} ~~Snow~~ just set, NW horizon red with yellow above it = no after-glow.At 22 and 23 ^{hrs} double misty lunar corona formed on bend, inner ~~one~~ one yellow inside the red, outer one blue. Fog driving past all the time but shy clear except for Cirrus.May 26

Misty lunar corona observed in early morning and again at night.

~~The~~ Today the doorway at Coalcellar was opened by digging away the snow. Five tourists including one lady visited the Observatory.May 27

Depth of Snow at A (Rain gauge) 131 inches.

— — B (Wraggs Hut) 118 —

The snow is standing 10 or 12 inches clear of the walls of the house all round but arches over to join the snow lying on roof.

1885

The snow on the roof of Office has a few inches of clear space under it; all today it has been dropping heavily down in large pieces on to the roof as the thaw weakened it. Dug out second office window.

May ~~27~~ 30 Shifted thermometer Box at 0^h. 10^m.

Dry No 50852 and Wet No 192677 put out - Min 138533 left out - Box put one stage down for the first time this year. Began to go out for observations of the low-level down.

Icey fog crystals forming out of mist in early morning; none at night.

May 31

| | | |
|---------------------------------|-----|--------|
| Depth of snow at A (Rain gauge) | 125 | inches |
| — — B (Wagge Hut) | 112 | — |
| — — Maclean's Stoop | 50 | — |

During the month of May 8 tourists visited the Observatory -

1885.

June 3

Today the Black Bull Max. thermometer was put out on bracket stand at Snow-post A.

June 5

Ozone papers torn & blown away both at 9 and 21 hours observations. Took tarpaulin off porch at coal cellar door today.

June 6

at 12 hours a bird, species not determined seen on roof of office.

at 14 ^h 10 ^{min} Thermometer Box shifted - 192660 put out as Dry and 192672 as Wet - Min 138533 left out - Height of Box not altered.

No unusual colonies in sky except faint dusty red corona around Sun: no afterglow at sunset. Northern horizon orange coloured all night.

| | |
|---------------------------------|------------|
| Depth of Snow at A (Rain gauge) | 105 inches |
| — — B (Waggies Hut) | 94 — |
| — — C (Notice board) | 123 — |

June 7

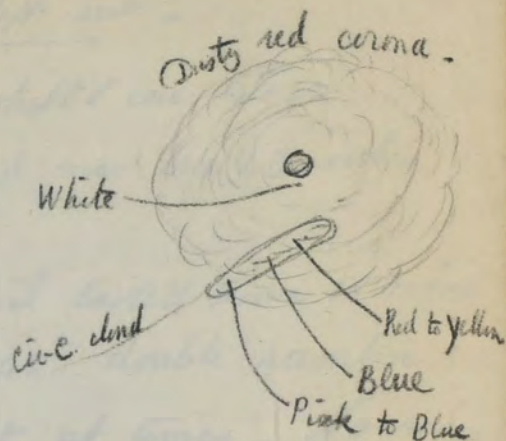
at 122 hours the sky to NNE above where the sun was, was covered with very thin cirrus clouds coloured, peachy grey and pale green. Dull orange at horizon.

1885

149

From 5 to 9 hours fog ~~observed~~ observed coming over the southern hills from the SE.

at 8 ^{hms} sun surrounded by usual dusty red corona but a clnd seen for a few minutes in the corona was colored as in diagram -



Dense haze at horizon all day rising above level of hill top and cutting off sunset view. No afterglow.

June 8

No unusual colours in sky at sunrise, sunset nor during the day - The usual dusty red corona at sun ^{was} almost absent - at 18 & 19 hours rain & hail fell, but in very small quantities; rapidly ascending columns of clnd & fog observed to E & NE of summit -

June 9

In evening loose detached fog in valleys - Dark blue haze & heavy clouds to W at 21 hrs with loose fog blowing past the Ben -

Depth of sun at post A (Raingange) 99 inches

— — — B (Wragges Hut) 88 —

— — — C (Notice board) 121 —

1885

June 12

Thermometer Box shifted at 0^h-15^m one stage lower - same thermometers left out -

June 13

at 2^h Black Bell shifted one stage lower; old place 60 inches and new one 43 inches above snow -

at 20^h 10^m Hail shower which lasted some 15 mins at the same time & till 20^h 45^m double rainbow seen, both arcs very perfect at times - No rain fell here -

at 21^h 10^m fog in valleys especially to W. Heavy pallid of cum-s. The sky to NW between the fog & the clouds orange coloured - at 22^h rather gloomy to SW, the cloud & fog mixing over Loch Linnhe -

Depth of snow at A (Rainganz) 91 inches

— — — B (Wagges Ind) 80 —

— — — C (Notice board) 112 —

June 14

dry in early morning, but rain falling in large or moderately large drops up to 2 hours -

June 15

Today Stewart came up with Observatory horse accompanied by another man with a hired horse - They were unable to get further than the

1895

second gorge - Mr R. Whyte of Imperial Hotel
 Fort William was also up surveying the site
 for his building -

June 17

at 0^h. 15^m Box shifted to admit of mesh
 on wet hill being renewed - 50852 put out as Dry
 & 192677 as Wet - Min left out - at 2^h. 10^m
 Box shifted again - 192660 put out as Dry and
 192672 as Wet - Min 138533 left out - The
 height of the Box above the snow was not
 altered at either time -

| | |
|---------------------------------|-----------|
| Depth of snow at A {Rain gauge} | 85 inches |
| — — B {Waggies Hut} | 74 — |
| — — C {Notice board} | 107 — |

June 18

at 0^h. 15^m Thermometer Box shifted one
 stage lower and top joint taken off ladder
 stand - Same thermometers left out -

at 23^h. 10^m cistern screw of Bar 1252 reset &
 a new set of comparison readings begun -

June 20

very squally at night, the top almost
 clear of fog between the gorges -

Today two horses were up with the first of
 the wood for Whytes building -

1885

June 22

Depth of Snow at post A (Rain gauge) 79 inches
 " " " B (Wragg's Hut) 69 -
 " " " C (Notice board) 104 -

Today Mr Robt. Whyte, his son, & two men came up to begin building his house. They helped to clear out the Tentist shelter & spent the night there.

June 24

Thermometer Box shifted at 10^h-10^m. No. 50852 put out as Dry and No 192677 as Wet. Min 138533 left out.

at 10^h huge masses of Cumulus rising from valleys all round Ben.

at 14^h heavy showers to Westward -

at 23 hours horizon to WNW colored as in diagram above haze or cloud-bank -

Blue with small cumus -
 White { 5-503
 Thin cloud { 10-2000
 Smokey green {
 Dull orange {
 NNW

at Midnight faint brown colour in sky under Moon - No distinct edge to it.

1885

June 25

at 8 hours very corona round sun -

at 19 hours pinkish colour above sun & dirty yellow below it - Almost no colour in Northern sky at night - Very fine with clear views all afternoon -

June 26

At 4 hours, the sun being very low, double ringed glories were observed on the thin fog blowing across the hill top. From the top of the tower complete circles, except where cut by the observer's shadow, were seen - Too evanescent to measure, coronae rather blurred.

at 11 hours a cloud descended vertically just above the Ben with great velocity - It did not ~~however~~ however reach the hill -

at 22 hours hills round deep blue in colour -

Sudden rise of temperature at 22 hours -

June 27

Thin fog on hill top in early morning - detached fog in valleys all day, & denser fog over Atlantic from Skye to Mull - air very clear except for this fog - In afternoon thin fog hanging about the hill sides & rising vertically from Glen Head -

1885

Dense cumulus pallium above all the land but apparently shy clear above the fog on western sea - at night clear red or orange streak under this cloud to N^W

Thermometer Box shifted at 11^h - 10^m - 192660 put out as Dry and 192672 as Wet. Min 138533 left out.

Mended Robinson Anemometer in afternoon, soldering flexible shaft where broken. Fitted new carrier for tracing point on drum of crystal anemometer at Midnight.

June 28

Up to 4 hours dense low lying fog in valleys north of the head of Loch Lochy - Haze and detached cumulus fog on other hills all day - also over Atlantic.

Black Bull shifted on stage down at 22 hours. Thermometer Box shifted one stage down after Midnight - Old position 57 inches above snow

New — 36 — — —

Same thermometers left out.

N.B. June 27

Depth of snow at A (Rain gauge) 68 inches

B (Wragges Hud) 60 —

C (Notre board) 110 —

1885

June 30

At 5 hours ice forming on all exposed surfaces. At 17^h 30^m cosmic-dust collector put out about midway between Thermometer Box and Wragges Hut.

after 21 hours dense level topped fog filling all valleys. At 23 hours cirrus cloud bank to NW gradually approaching.

about 200 tourists climbed Ben Nevis during the month of June.

1885

July 1

Fog in valleys same as yesterday. No unusual colonies in sky all day. Beautiful pearly colored ~~cirrus~~ cirrus to Northward at 23 hours & Midnight.

Depth of Snow at A (Rain gauge) 54 inches

— — B (Wragges Hut) 50 —

— — C (Notice board) 75 —

July 2

Dense fog in valleys all day.

at 3 hours faint upper glow in sky to NE.

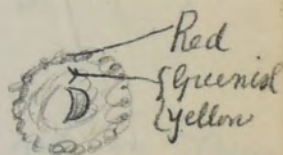
1885

No unusual colonies in sky during the day nor at sunset. Haze alone fog to W & NW all afternoon.

Today Mr John Murray accompanied by Mr Pullar visited the Observatory and made sundry arrangements for the ensuing summer - among these was the lowering of the price of horse tickets for use on the Observatory road from five to three shillings.

July 3

at 1 and 2 hours small misty corona observed - colonies as in diagram, with a very faint blue margin outside red.



Radius of red ring by Stef. $1^{\circ} 52'$

July 5 Black Bull shifted one stage lower at 22 ^h hrs

| | |
|---------------------------------|------------|
| Depth of snow at A (Rain gauge) | 35 inches. |
| — — — B (Wrappers Hut) | 36 — |
| — — — C (Notice Board) | 58 — |

July 6

This afternoon the post for the Black Bull thermometer was observed to have



its cross piece broken = showing that the snow had settled down after it had hardened.

1885

July 7

This afternoon Mr Whytes Hotel was formally opened - about 20 persons dined there at 14^h 30^m -

July 8

at 0^h 25^m Thermometer Box put one stage lower on ladder stand - The snow was cleared away round the foot of the stand, and about two square yards of rock exposed -

at 20^h The Max and Min put out in Ther. Box in iron cage on Oct 12th - 1884 (see page 93) were read - Max 49.2

Min - Index shaken down to foot of stem.

This evening the Visitors Book was sent over to Whytes Hotel.

July 9

Depth of snow at A (Raingauge) 21 inches

— — B (Wragges Hut) ground visible

— — C (Notice board) 46 inches -

Heavy squalls at night.

1885

July 10

At 3 hrs rain gauge found leaning over
about 20° to windward = no correction applied to
readings.

Black Bull shifted one stage lower at 22 hrs.

This evening two tourists came up and stayed
over night in Whytes Hotel. The first "lodgers".

July 11

Depth of snow at A (Rain gauge) 9 inches

— — — C (Notice Board) 35 "

Today a parcel of the new card road permits
came up.

July 12

after 1 hour fitted new end pieces on
connecting rod of crystal Anemometer (direction)
Azimuth of drum adjusted at 4 hrs.

July 13

Detached fog in valleys and over
distant hills all day, that in the glens
round Ben Nevis occasionally rising & enveloping
the top.

July 14

Depth of snow at A (Rain gauge) 8 inches

— — — C (Notice Board) 36 —

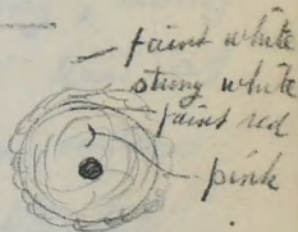
1885

July 17 Top clear at intervals & sky visible
for a short time, overcast with stratus or
cumulo-stratus -

July 18 at 6 hours solar halo observed - radius
by step. $22^{\circ} 48'$. Rather indistinct -
Today photographic views of the Observatory and
hill top were taken by agent from Valentine of
Dundee - at 18^h BB shifted to old stand -
Five tourists spent the night in the Visitors
room, Whytes hotel being closed -

July 19

at 9 hours solar corona coloured
as in diagram -



Loose thin fog hanging about the Ben all day
but no dense fog in valleys and no haze
at horizon -

July 20

Low fog in valleys to East and North in
early morning - Frost on roof till 4 hours -
During the day and at night no fog in valleys
but rolling masses of cumulus fog about the
hill sides -

Push with
Bar

1895

July ~~22~~ 21st

^{both}
 Fog [^] in valleys & on hills to Eastward in early morning
 Sent down A B C transmitter and alarm-bell -
 Today photographs of observatory and hill top taken
 by Mrs Johnston and Mason Glasgow.

July 23

Very many Fort William people up to
 see sunrise - Among them was Mackenzie the
 post office lineman who took down Indicator
 of A-B-C. telegraph instrument -

Dense fog in valleys in early morning, rising
 & covering the hill top for a short time at
 sunrise - In afternoon no fog in valleys
 but very thick looking fog over Atlantic -
 In afternoon painted old clock box & tanned
 tower -

at 23 hours faint horn column under Moon -

July 24

all morning dense level-topped
 fog in valleys rising to about 2000 feet -
 at 14^h 30^m Dy No 50852 & Wet No 192677
 put out in clock box - Max 117293 and
 Min 116918 put into clock box at 17 hours

1885

set at 21 hms During afternoon T. Min
 mounted on stand 19 inches above ground,
 and Radiometer Black Bulb 39 inches above
 ground - Both set at 22 hms -
 Took temperature of Well at 20 hms = $37^{\circ}0$ -
 Solar halo observed at 17 hms - Radius by
 Stef (mean of six readings) $22^{\circ}27'$ -
 Dry fog came on at 23 hms -

July 25

Dry fog till 6 hms 50 mins -

after 14 hours Dry 192660 & Wet 192672 taken
 in from small box on ladder stand, muslin
 of wet with brown deposit on it - At 15^h10^m
 Dry 192660 & Wet 192672 put out in clock
 Box in place of Dry 50852 & Wet 192677 -
 Observations made in clock box at 2 after
 15 hms today -

July 26 - At 2 hms fog in valleys all round
 up to about 3500 feet - at 4 hms it
 was sinking lower - Air very clear above
 the fog - at 8 hms this fog was breaking

1885

up. By 12 hours the valleys were clear and the hill tops in some parts capped with cumulus fog - At 14 hours the valleys to Westward began to fill with fog again & it came over the hills to the West of Loch Linnhe - In the evening all the valleys were full again up to about 3500 feet -

at Mount faint brown colour under Moon -

July 27

Thick fog in valleys till 4 hours rising to about 4000 feet. At 6 & 7 hours ~~thick~~ broken fog or cumulus over hills = Ben clear - Loose fog hanging about the sides of Ben Nevis all afternoon -

This evening a party of about a dozen, members of the Edinburgh and Glasgow Geological Societies, climbed Ben Nevis & waited on the top for sunrise -

July 28

at 1 hour faint brown colour under Moon - Dense fog over Mor of Rannoch

1885.

all morning.

at 3^h-30^m violet fore-glow in NE sky.at 4^h just before sunrise reddish glow above horizon to SW. Violet glow to NW at 21 hrs.

Temp. of Well at 20 hrs 42°-9.

at 23 hrs very faint brown column under Moon.

July 29

at 3 hrs heavy dew on all wood outside not on stones; this continued till 6 hours.

No upper glows before sunrise or after sunset.

Horizon very hazy in early morning and again at night - Began to take temp. of well

regularly at 8 and 20 hours, the mean

being entered on daily sheets.

During the afternoon several sudden and apparently rotary gusts of wind crossed the ~~the~~ hill-top = force about 2 = very local in action.

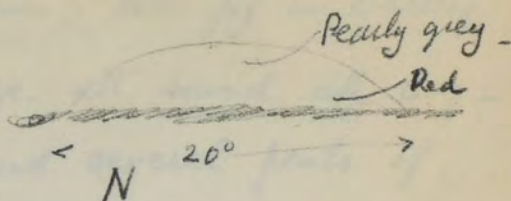
When standing at the thermometer box at night the upper part of the tower where it reflected the moon-light appeared dirty white, the rest showing its usual black.

1885

July 30.

164

At 1 hour the whole sky was dull blue above the thick haze that covered the horizon, except to the N & NNE where a distinct path of light, coloured as in diagram, ~~was~~ and bounded by a sharp well marked line was observed. This light was probably due to the Sun & was not auroral.



At 3 hours, before sunrise, the white lock on tower referred to yesterday was very distinctly seen. {Black velvet} at same hour very low-lying fog over Caledonian Canal valley. At 4 hours, just before sunrise, reddish glow to SW above haze.

At 21 hours faint purple a violet after-glow observed in sky to NW.

Thick haze all round all day quite shutting out the distant view.

July 31 at 2 hours it was observed that the dew was lying heavily on the top of the Thermometer Box, but not on stones, nor on either lead or wood of roof. Radiometer Black Bull taken in at 17^h 15^m. Painted ladder stand today.

1885

August 1

Before Sunrise, at 6 hrs, low fog in valleys to N and E. Thick haze all round all day - at 20.50 Mr Rankin heard several peals of thunder when standing at Maclean's steep - none heard at observatory - Faint after-glow at 21 hrs. At 20 hrs T. Minimum was put on stand 39 inches above ground - Today the stands for the two Black Bulls & for the T Min were painted, as was also the upper joint of ladder stand & the door, windows & steps of tower - The tarpaulin on roof was also sorted & nailed down - Heavy dew at night -

Note

about 1000 tourists climbed Ben Nevis during the month of July -

August 2

at 1 and 2 hrs denser fog in valleys to SE rising to about 4000 feet - At three hrs misty corona round Moon = columns rather blurred = red outside = Radius of red = $3^{\circ}.16'$ at 4 hrs faint violet fore-glow to NE - At 11 hrs glories on fog in valley to N Radius by Stef. $3^{\circ}.36'$ - after Midnt T min put on its own stand -

1885

August 3 Wragges Well almost dry before the rain and snow came today. Had to use temporary well made by Whyte from drainage of snow near first gorge.

August 4 In early morning all exposed surfaces including bulbs & stems of exposed thermometers thickly coated with ice. Robinson Anemometer working stiffly from the same cause. Fog distinctly sank under hill top at night.

August 5. Faint after-glow at sunset. At Midnight Northern horizon bright but scarcely coloured.

August 6. At 4 hours Radiometer Black Bulb put out. Today Mr H. K. Dickson came to Observatory bringing hygrometrical instruments for working with here.

August 7. at 20^h 10^m Black Bulb with Radiometer was taken in and Mr Dickson's Black Bulb (Not maximum) put out on the B.B. Rad. Stand.

Today two men were up making paths near the Observatory.

August 8

At 4 hours Rain gauge put in new place at end of path, so as to be clear of any interference from snow post A. In afternoon the men employed making paths near Observatory were paid off & sent down. Today Mr Buchan and his son arrived at Observatory to stay till Monday.

August 9

The inside tube of Kitchen chimney was found to have dropped a little - the chimney was secured by rope stays.

August 10

Today Mr Buchan and son left the Observatory - Mr Omond accompanied them to Fort William leaving Mr H. N. Dickson in charge of the Observatory.

August 11

Today Mr Omond returned to Observatory.

August 12

High wind at night, northerly & very squally - Back swirls distinctly marked. Thermometer Box covers badly choked with snow all the afternoon and night.

August 13

Today Mr A. E. Mitchell came up to the Observatory.

1885-

August 14 Today Mr Rankin went down -

Aurora seen for a very short time about 22^h--35^m
Stars very clear and bright at night.

August 15

T. Minimum taken in at 14^h to remove
air bubble from stem = put out again at Midnight.
Sky ugly at 20 & 21 hours, and low fog over
Loch Linnhe -

August 17

Three Bull Thermom. put out in small
Box on Ladder Stand at 9^h.30 -

No unusual colors in sky in afternoon, but
at sunset ~~at~~ the clouds all over the sky
were crimson & yellow -

At 23^h.45^m the Three Bulls were put out
as Wet Bulls in same Box as before.

August 18

Fog in valleys till 3 hours = clear at 4^h.
but level-topped cloud & fog on hills to North
at 5^h Very little fog in valleys all
day, but at 17^h cloud-fog over hills
to W^d and later fog on Atlantic.

1885

at 20^h - 20^m afterglow with pinkish streamers - very clear sky at night.

Today photographs of the Observatory etc were taken by Wilson of Aberdeen -

August 19

at 4^{hms} fog in valleys far to N! Blue haze on hills round all morning: no fog in valleys after 6 hms. Very faint afterglow at 20 hms. Haze in valleys getting thicker at night -

August 20

at 4 hms the haze in valleys was mixed with detached pieces of fog. In the forenoon fog from the hills to Eastward came rolling all round Ben Nevis, occasionally even brushing the top.

at 20^h Violet or pink after glow well marked. At same time the sound of the waterfall in Glen Nevis distinctly heard at Wagges Well. Silver shield placed above Radiometer Black Bull all day.

In afternoon faint brown colour in sky near sun, and at night below moon.

1885

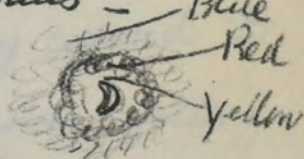
August 21

at 2^h bright light to Northward
possibly Aural -

Hazy all day, but no fog in valleys or on hills
round till 22^h when it gathered on the
hills to E^d and afterwards sank into the
valleys mixing with the haze.

August 22

Haze and low fog in valleys all
morning - Fog passing over hill top all
afternoon, but about 23^h 30^m it sank below
into the valleys forming a dense billowy sheet
over almost all the surrounding hills - Blue
Misty corona at 23 hours - Red
Yellow



columns as in diagram, the

blue margin being well marked -

Radius of red by Stef. about 1°.50'.

Faint brown column under Moon at Midnight.

August 23

Faint brown column under Moon at 1^h
Dense level topped fog or cloud over all the
hills round all night up to about 4000 feet.
Faint upper glow at 4^h 30^m -

about 14^h the fog rose & covered the hill

1885.

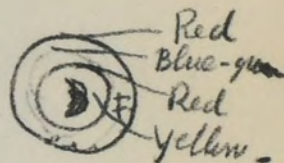
top. at 16 & 17 hours the fog had cleared to N^W but was still hanging above Glen Men to S^E. Fog or cloud on hills to W^E at 20 h. At Midnight low fog and haze in valleys & cloud-fog on hills to S^E.

Double corona at 21 hours

Colours as in diagram.

Heavy dew at night.

Put out new 8 inch rain gauge at 17 hours.



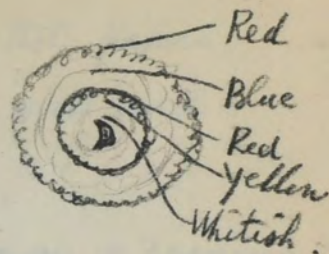
August 24 Fog, level-topped, to 4000 feet all round till 11 hours: rain & fog reported from Fort William. At Noon fog covered the hill top and lasted till 22 hours getting gradually wetter. Slight drizzle at times, 0.009 inch in all in 8" gauge, 0.000 in 5" at 22 ~~hours~~ fog began to sink and top was clear about midnight. Double lunar corona from 22^h to midnt. Rather misty looking - colours same as last night.

Wraggers well almost dry at night.

1885

August 25

Double lunar corona
observed at 1^h Colonis as
in diagram.



Radius of outer red about $9^{\circ}4'$

" inner red " $5^{\circ}14'$

" yellow " $3^{\circ}36'$

Rather too misty looking to measure accurately.

August 26

At 23^h tied Robinson anemometer up.

Today water was carried up from Buchanan Well.

Prof Faring visited the Observatory & spent the night in Whytes Hotel.

August 27

Robinson Anemometer set agoing at 13 hours, but tied up again at 20 hours.

At 20 hours B.B. Radiometer taken in.

White fog crystals forming at night.

August 28

Robinson set agoing at 14 hours, but tied up again at 20 hours.

At 15 & 16 hours heavy cloud bank over Mull.

At 21 hours new ozone paper from Casella put out.

August 29

Began to test new oxoni test papers sent by Casella. Water tanks for well and extra oil tank came up today.

Very slight showers of snow in afternoon & evening. Nothing in 5" gauge: 0.017 in 8" gauge.

Mr. H. V. Dickson stopped his kindly hygrometrical readings.

August 30

Robinson anemometer set going at 13 hours. Thick haze mixed with fog in valleys all round at night.

August 31.

Thick haze all round in forenoon - fog on hills to South and West at times, clearer in afternoon but thick haze again at night.

Tank at Well put up today.

About 1200 tourists climbed Ben Nevis during the month of August.

1885.

September 1st

Thick haze in valleys all morning and fog
on hills cleared in forenoon -

Faint upper glow at 5^h; before sunrise -

September 3rd

Today Mess Harcourt and Dixon (Exon)
came up to carry on experiments on hydro-
carbon flames - They spent the night in Whyte
Hotel and worked all afternoon and evening
in the observatory -

September 4th

Mess Harcourt and Dixon worked
during forenoon in Observatory and went down
about 13^h - 30^m -

In afternoon examined kitchen chimney and
found the inner pipe separated about half
way up, the crosspieces connecting it with
the outer pipe being all broken -

at 20^h. Earth currents observed on telegraph
(Nadler) instrument - Constant in direction,
keeping the needle over to Dash -

September 5

Mr. Dickson's thermometer with long
bulb (No 37469) put out at 15^h - 30^m in

his stand G with silver thimble and side-boards surrounding it coming down about one inch below the bottom of the bulb -

September 6th. Mr Omond left the Observatory -
Mr H. N. Dickson remaining in charge

September 7th. At 0^h. 30^m thermometer No 37469 was replaced by No 39779 - ordinary thermometer with silver thimble on bulb, in stand G - the boards remaining as before.

In the afternoon a sharp shower of rain fell the hill top remaining clear. At 17^h. 30^m a rain-bow was seen over the east end of the hill - about 250° of arc being visible. The colours of the primary bow were intensely bright and inside was one strong spurious bow - and a second distinctly marked. The secondary bow was also bright - what appeared to be faint traces of an outer secondary bow were seen on the north side - but these are doubtful.

September 9th. At 22^h a very heavy shower of hail fell, the hailstones being of considerable size. During the shower the tips of the lightning conductor and the point of the vane of Chrysalis anemometer were tipped with St Elmo's Fire. At 22^h. 15^m the shower was over and the Fire had disappeared.

Today Mr Rankin returned to the Observatory and Mr A. C. Mitchell went down.

1885

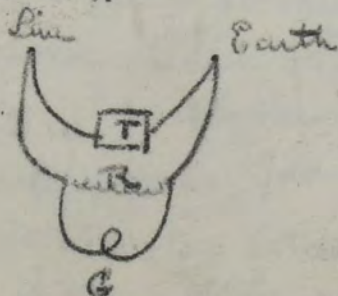
Sept. 17th - Hill top clear after 10 hrs. 176

Thick fog all round and sky covered with cumulo-stratus which clear off gradually in afternoon. Fog sank after 18 hrs. Sky pale yellow to W at sunset with rose after-glow high up. Greenish blue color to South and faint-lunar corona formed by very thin almost-invisible sand.

At 22 hrs 7^m: a meteor was observed to E - described about 10° of arc. Not very bright.

Sept. 19th. Today Professor Chuyatal and Mr. Chumay with Prof. Adams and party visited the Observatory.

Sept. 20th Before some experiments on earth-currents in telegraph cable. Galvanometer first put on in simple circuit - current was found sufficient to keep mirror permanently hand over; but not strong enough to deflect a compass needle inserted in a coil of wire - to any sensible amount. Double shunt arrangement made by leaving in telegraph instrument and putting in additional coil of iron wire (resistance unknown). Currents found to vary greatly in intensity but constant in direction for considerable periods. Before hourly observations at 5^{hrs}.



T. telegraph inst.
R. coil of iron wire
G. Mirror galvanometer

1895

177

Sept. 23rd. Readings of thermometer with silver thimble were stopped - as stand had to be packed.

Sept. 24th. Snow fell nearly all day - drifting slightly. Exposed thermometers could not be read or set. Snow about 4 inches deep at night.

Sept. 25th. Showers of snow occasionally - about six inches deep at night. Exposed thermos. still immovable. Top clear in afternoon and after 22 hrs. Ross-shire hills seen coated down to about 2500 ft. level.

Sept. 26th. Readings of Rain gauge doubtful all day as snow was drifting considerably. At 17^{hrs} Max. No 117293 found hanging by one hook index being shifted. Well frozen up at night.

Today Mr. Atkin's thermometer screens were sent down to Fort William.

Sept. 27th. Sun rose above at heavy bank of stratus at 6^{hr} 15^{min}. At 5.40 rosy coloured streamers ~~disappeared~~ were seen. These disappeared at 5.50 leaving rosy glow all over eastern sky. At 6.5 rosy colour disappeared from eastern sky and was seen to westwards - lower edge being sharply defined by dark Earth shadow.

1885-

178

Sept. 28th - minimum exposed thermometer
was found to have column broken.
Taken in at 16 hrs.

Sept. 30th. Very stormy after 4 hrs. Barometer
pumping heavily - and mercury surfaces much
disturbed owing to shaking of the house.

About - 500 tourists climbed Ben Nevis
during September.

October 1st 5th St. Elmo's Fire seen on tips of
lightning conductor and on Chystal and
Robinson anemometers. It was accompanied
by a sound similar to that of an electrical
machine - which continued after 5 hrs 3^m when
fire ceased. This sound was again heard
on lightning conductor &c - and also on top
of snowgauge (A) - at 14 hrs.

October 3 Mr Omond returned to the observatory
today -

October 4 at 12 hrs the Rain gauge was for
almost buried in drift. at 15 hrs it was
found with the snow cut away from under
it by the wind, & lying over about 20° to
windward - all the measurements are vitiated
by drift. Chystal's anemometer put up today -

1885

October 5 Readings of Earth currents in Telegraph cable stopped - Mr H. N. Dickson left the observatory today - Three new thermometric boxes came up for winter use.

October 6

New small thermometric box put on ladder stand at $15^h 20^m$ with thermometer No. 50852 as dry = 192677 as Wet = and Min 138533. Min. set 2 ozone paper put in small box at 21^h Max 117293 & Min 116918 taken in from large box at 22^h The Dry & Wet were so hard frozen in that they could not be got in.

October 7

Thermometer Box shifted one stage higher on ladder stand at $16^h 10^m$. Mr A. I. Rotch from Blue Hill Obsery. Boston U.S.A. visited the Obsery & spent the night.

October 8

Today J. Miller returned to the Obsery & John Dumas went down.

October 9

at 14^h Took in Dry 192660 & Wet 192672 from black box. at 22^h got in B.B. Old from its stand.

1885

October 11Thermometer Box shifted at 13^h-10^m.Dy 192660 & Wet 192672 put out = Min 138533
left out. Height above snow not altered.October 12At 5 hours glow in sky to E^S about
15° high. At 9 hours needle shaped crystals
of snow falling.October 15Thermometer Box shifted at 13^h-10^mDy 50852 put out and Wet 192677 = Min
138533 left out. Height of Box above snow
not altered.

Top clear in afternoon, no fog in valleys.

The increase in depth of snow as measured
at gauge {31" at 10 hours and 33" at 22^h} is
due to the fog crystals on the post falling
off with the thaw.October 16At 2 and 3 hours faint white glare at
Northern horizon, possibly auroral.At 6 hours bright sunrise colours; fog on hills
and haze in valleys. The haze remained all day
in the valleys but the fog cleared off the hills

1885 -

181

as the day went on, except to SW, ~~where~~
it looked dark & gloomy all day over Mull.
Blood red streak at W & NW horizon at sunset -

October 17

at 9 hrs faint white solar halo,
no colonies seen. at same time thin flat
sheets of cloud observed forming & vanishing
over adjacent hills & on west end of top
of Ben Nevis.

after 14 hrs mounted Crystal Hygrometer on
snow post A - Took half hourly readings till
Midnight -

October 18

Took hourly readings of Crystal
Hygrometer till 16 hrs - after that could
not get observations as dew point was too
low, so stopped the series -

In afternoon level topped fog all round
rising to about 4000 feet - Sky very blue
& clear with no unusual colonies -
after glow, broken by curious gaps observed
at 18 hrs

1885

October 19

at 6 ^{hms} Eastern horizon red below & intensely green above = faint pink glow at about 20° altitude -

at 8 hms the fog had risen to the level of the hill top = three ringed glory seen -

at 10 hms no trace of Rainbow visible from Zenith to Horizon -

Dry white fog crystals forming all afternoon & evening -

October 20

at 7 hms fog on hills to 3000 feet -

at 10 hms broken fog rising from valleys everywhere -

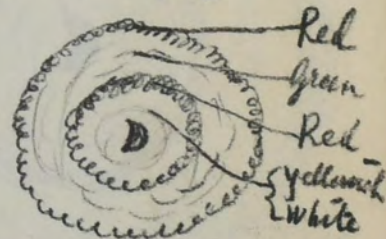
During the afternoon and evening fog all round, coming over the top of Ben Nevis at intervals -

at 22 hms double lunar corona with faint traces of outer ~~and~~ blue margin formed on this fog -

colours as in diagram -

Radius of Inner Red 10.45'

" Outer Red 3" 52 .

October 21

at 1 hms fog in valleys = Thickest to Eastward - At 3 hms no fog in valleys

1885.

none in valleys all day, but cumulus fog on distant hills in morning which lifted & cleared away about Noon.

Very little colour in Eastern sky at sunrise.

Thermometer Box shifted at $14^{\text{h}} 15^{\text{m}}$ height above snow not altered. Dry No 192660 = Wet No 192672 and Min 138545 put out.

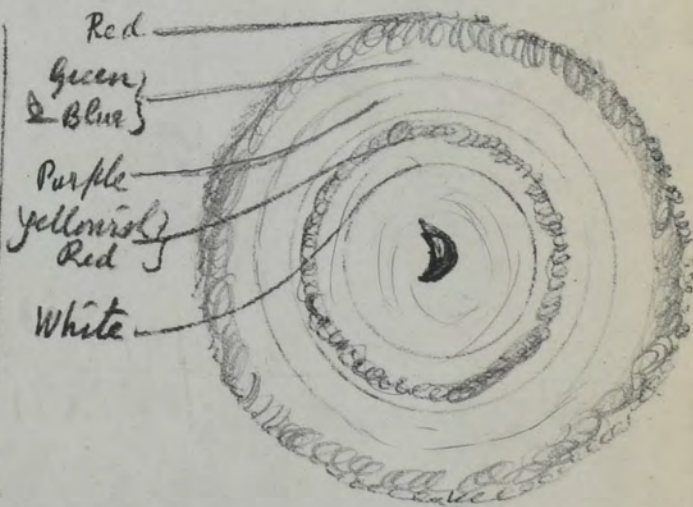
Wm. Stewart came up today & stayed over night at the Observatory.

October 22

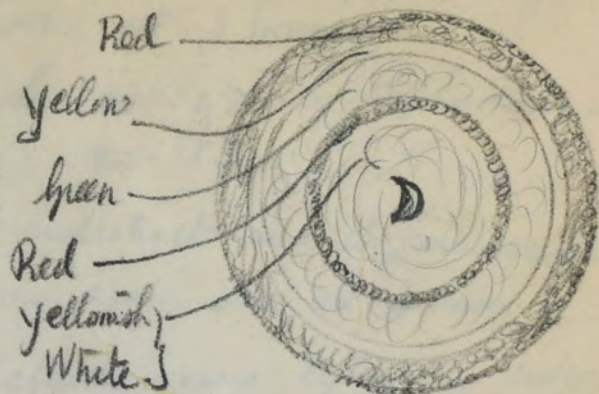
At 3 hours very faint brown colour in sky under Moon. Colours in sky at sunrise faint. No fog in valleys all day.

Double corona observed at 19^{h} colours as in diagram.

| | |
|------------------|------------------|
| Radius Outer Red | $10^{\circ} 53'$ |
| " Green & Blue } | $6^{\circ} 55'$ |
| " Purple | $4^{\circ} 40'$ |
| " Inner Red | $3^{\circ} 42'$ |
| " White | $2^{\circ} 25'$ |



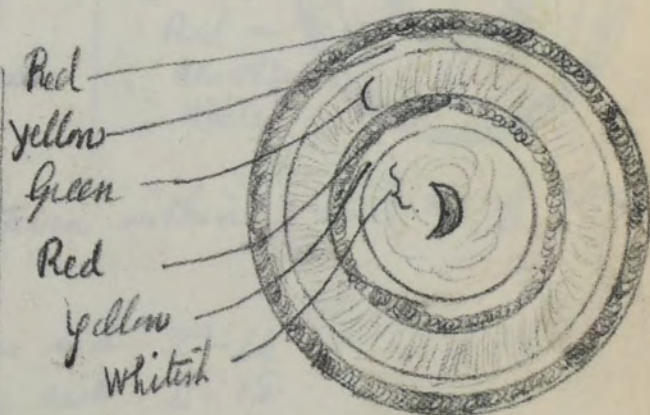
Similar corona
seen at Mdnt.
Colonies as in
diagram, the
outer yellow a
very narrow strip.
Occasionally traces
of a third ring were
observed.



| | | |
|---------------------|---------|-----------------------------|
| Radius of outer red | 4". 56' | } all good measurements. |
| " inner red | 2" 11 - | |
| " inner yellow | 4" 23. | |

October 23.

Double corona at
2 hrs, with at
times faint third
ring - colonies as
in diagram - No
blue or green inside
the inner red -



Yellow, both outer & inner, only a thin ~~the~~ strip;
Reds & Greens broader and not so sharp -

| | |
|---------------------|--------|
| Radius of inner red | 2" 29' |
| outer red | 4" 43 |
| inner yellow | 2" 4 |
| outer yellow | 4" 8. |

1885.

Lunar halo (colours) seen at 3 hours -

Radius to inside of halo $21^{\circ} 48'$ by stephanome -
 " outside " $25^{\circ} 13'$ "

The halo was somewhat indistinct and the measurements are rather rough. It was again seen at 4 hours -

At 3 hours the cirrus clouds were lying in ridges from WSW to ENE, motion not determined -

at 20 hours faint horn colour in sky under Moon -

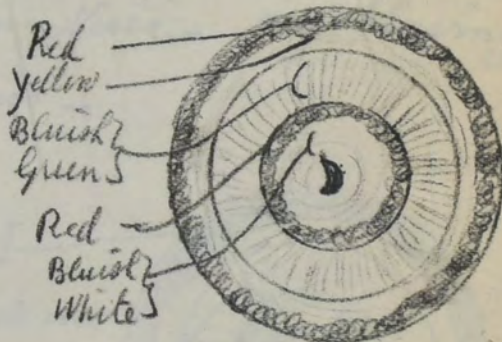
Double corona at Mdnst.

formed on driving sand -

The size varied according to the sort of cloud or fog it was formed on - The following

measurements were taken within 3 minutes of each other.

| | | | |
|-----------------|---|---------------------|-----------------|
| 1 st | { | Radius of inner red | $2^{\circ} 14'$ |
| | | " outer red | $4^{\circ} 18'$ |
| 2 ^d | { | inner red | $2^{\circ} 50'$ |
| | | " outer red | $4^{\circ} 49'$ |



October 24

At 2 hours sky cloudless and a faint white glow all round horizon. No fog in valleys, except over Loch Lochy, in early morning

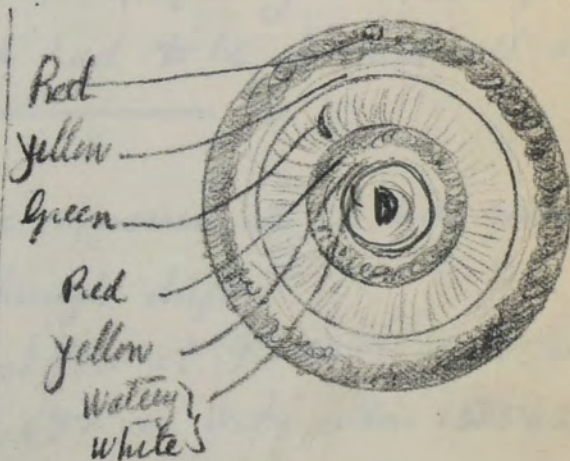
1885

but loose fog on hills round in afternoon -
 yellow, green & blue colonies in Western sky
 after sunset, and faint brown column under
 Moon at night -

October 25

At two hours sky cloudless except
 for a patch of Cumulus over Loch Linnhe
 below Ardgoon apparently ^{at} 4000 or 5000 ^{feet} elevation
 and approaching Ben Nevis - Fog blowing
 across top at 3 hours -

At 4 hours double
 corona with traces
 of third ring -
 as before the yellows
 were narrow and
 the Green broad -



Radius of inner red $2^{\circ} 10'$
 " outer red $4^{\circ} 20'$
 " inner yellow $1^{\circ} 45'$
 " outer yellow $3^{\circ} 50'$

white feathery fog crystals forming in forenoon

1885

October 27

Thermometer Box shifted at 0^h. 20^m. 50852 put out as Dry and 192677 as Wet : also Min 138533 -
 Height above snow not altered -
 St Elmo's fire observed on lightning conductor at 19
 2 hours. No sounds heard.

October 28

Thermometer Box shifted at 0^h. 20^m. 192660 put out as Dry and 192672 as Wet : also Min 138545 - Put one stage higher on ladder -
 The Kitchen windows were completely blocked up today, and the lamp had to be burned all day.

October 29.

Rain gauge measurements in early morning quite untrustworthy through drift.

Thermometer Box shifted at 9^h. 10^m. 50852 put out as Dry and 192677 as Wet. Min 138545 left out. Height above snow not altered -

at 14 hours Brown colour in sky under Sun -
 at 17 hours sky very watery to W^E
 at 19 hours faint glow to N^E apparently auroral -
 at 23 hours cir-s to Eastward on which dim Lunar halo was observed.

1885

October 30

Top clear at times in early morning showing very ugly sky above. Very great drift during the day: the whole surface of the hill top being cut up into great trenches wherever the skin of the last fall of snow got broken.

at 15 hours rain gauge ^{was} taken in and not put out again till 22 hours as it was only getting filled with drift and was in danger of being blown away. No snow fell apparently till after 20 hours.

November 1st

Thermometer Box shifted at 12^h. 10^m 192660 put out as Dry and 192672 as Wet. Min 138545 left out. at 23^h. 10^m set Robinson going.

November 3rd

at 0^h. 10^{min}. shifted thermometer box one stage lower on ladder stand: same thermometers left out. at 20^h. 10^{min} tied up Robinson. The thaw of the last two days softened the snow very ^{much} the Cañon for collecting Cosmic

1885-

Dust was dug round, but was frozen so hard into the stones round that it could not be lifted - The glass funnel was however taken in and the Carboy corked up -

November 5. Thermometer Bar shifted at 2^h. 15^m -
50852 put out as Dry = 192677 as Wet and Min
1385-33 - Height above snow not altered -

November 6 Started Robinson anemometer at 22^h hrs.

November 7. In afternoon dug up old earth plate and set it in snow near tower to serve as a temporary earth for any experiments -

November 8 Robinson anemometer tied up at 19 hours - Fog crystals forming freely at night -

November 9 At 7 hours fog very thick but of a faint red colour -
Fog cleared suddenly at 13^h. 10^m - sinking

1885

below Ben Nevis but still covering all the other hills - It continued blowing across the top at times all afternoon, but was quite below Ben Nevis at night -

Faint white light, possibly auroral to N & NNW at horizon all night -

November 10th

at 7 hours light yellow & orange colours at Eastern horizon, and faint glow on cirri clouds above -

Fog covering the hills to 3000 or 4000 feet all day - quite level topped - No unusual colours in sky -

Started Robinson Anemometer at 16^h. 5 m.

after 17^h observations screwed up Crystal Anemometer so as to work on lower hearing only -

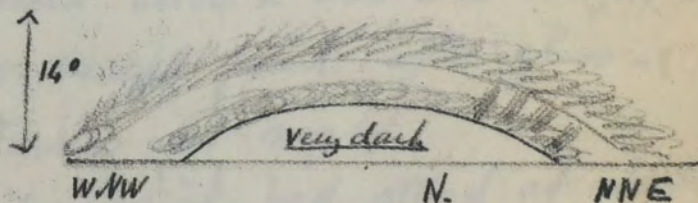
Aurora at night -

at 19 hours as in diagram -

It got gradually

fainter as the

night went on - no streamers were observed except one at 21 hours -



1885

November 11

191

at 6 hours deep scarlet colour at Eastern horizon.
 at 7 hours broad orange band fringed with faint
 purple above to E° also very faint upper glow -
 From sights taken during the night it was deter-
 mined the ~~the~~ aurora of last night extended
 from 2° above horizon to from 10° to 15°

at 9 hours glory with one ring observed -

Radius to outside of the red $2^{\circ} 21'$

" inside " $1^{\circ} 44'$

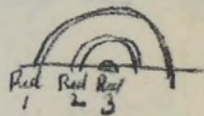
at 15 hours glory with 3 Reds

observed. The inner a mere

blotch = the next well marked
 ring with most of the columns:

intermost the same but much fainter.

Radius of Red 1. = $3^{\circ} 46'$ } (Red outside)
 " " Red 2 = $1^{\circ} 52'$ } (in both rings)



at $16^h 30^m$ pink band above E and NE horizon =
 no sunset colours except faint after glow -
 aurora with streamers at night.

at 22 hours the fog, which had stood at about
 4000 feet all day, rose suddenly higher than,
 & envelopping, the top. The temperature fell at
 once and the wind lulled gradually -

Today a hired horse was got up as far as the second Gorge - Among other things brought up was a sheep which was hung up on the north side of the tower to freeze -

After the Midnight observation the Robinson ~~anemometer~~ anemometer was tied up -

November 13

Very icy fog crystals on exposed surfaces -

Box shifted at $22^h - 20^m$ 192660 put out as Dry, and 192672 as Wet = Min 138533 left out. Height above snow not altered -

November 14

New 5 inch rain gauges with slightly rounded bottoms came up today -



One was put out at 15 hours instead of the old pattern with stop cock -

November 15

Haze and detached cumulus at horizon all morning - at 8 hours Reddish look all round

Horizon above the haze - No fog in valleys -

Red or Brown colour under Sun all day -

at 14 ^{hours} whitish-green colour all round horizon -

1885.

at 14^h 10^m Dg 192660 and Wet 192672 put out. The Bar was not shifted.

at 15^h hours cloud or Fog-bank on Atlantic beyond Hull.

at 19 hours faint corona observed: coronis hardly distinguishable. Outside ~~diameter~~ ^{Radius} $3^{\circ} 46'$.

At 22 hours low fog bank to SW and faint brown colour under Moon.

November 16

at 9 hours large glory on passing fog - coronis as in diagram. The inner red being close to the shadow of the observers head.



Radius of Red² = $7^{\circ} 38'$

Third Red too faint to measure.

During the day whitish glare all round horizon above the haze that filled the valleys = this turned brown at sunset, but was white again at night. Faint brown colour under Moon again tonight.

November 17

Thick haze in valleys all day, but thinning a little at night.

1885.

at 7 hours bright Red, Yellow and Green
colours at Eastern horizon - Brown colour under
Sun all day, and more faintly under Moon at
night -

at 16^h just before sunset Red look all round
horizon - at 16^h 35^m Red, Orange & Yellow
at Western horizon and pink upper glow reaching
to about 30° altitude -

at 17^h fog on Mull, and at night fog
all up Loch Linnhe -

at Midnight white ~~to~~ belt round horizon
from WNW to NNE and more faintly as
far as E. about 3° high, apparently very
thin cirro-stratus -

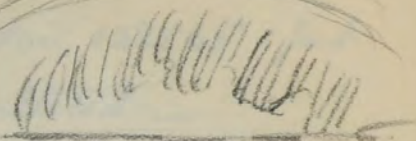
November 18

at 1^h fog lay down on Loch Linnhe
and Lochail, and haze in valleys to Northward -
at 3 hours fog on Loch Lachy - Fog on Lochail
continued till 10^h - at sunrise fog on Moor
of Rannoch, and haze over Atlantic & Moray Firth.
Brown colour under Sun all afternoon -
at 19^h, 20^h & 21^h aurora seen - Several arches

1885

the lowest being composed
of vertical wavy streamers -
the higher ones of simple
streaks of light.

17° 30'



Height to bottom of first arch 6° 12'

" top " " 17° 30'.

Green band in spectroscope very distinct.

Shortly before 22^h thin fog began to blow over
the top of Ben Nevis.

at 23^h double lunar corona, red outside -
The size varied very much - at times the
two sets of colonies merged into one misty
corona, ~~and~~ a second forming gradually
outside as these shrank into one -

November 19

Lunar fog horn (no colonies) seen
in early morning -

Loose feathery white fog crystals forming feely
all afternoon & night -

November 20

Dense fog blowing in waves over
the hill top till 18^h - very thick but not reaching
high up - Dark roll.c at Horizon at night -

1885

Thermometer Box shifted at $22^{\circ} 15''$

Dry 50852 = Wet 192677 and Min 188545 put
out. Height above snow not altered -

November 21.

Detached patches of fog on hills to
S^d all morning. The surface of the snow on the
hill top was found today to be all ~~rough~~
roughened by the fog crystals on it. They were
two to six inches ⁱⁿ length & quite dry -

November 22

at 8 ^h it was observed that the fields
near the sea level were white with hoar frost.
Sun much enlarged & elongated when rising -
the vertical & horizontal diameters appearing as
3 to 5. at 14 ^h brown column under Sun -
Haze & fog on Loch-eil & in Caledonian Valley -
rising higher at night & getting thicker to
Northward.

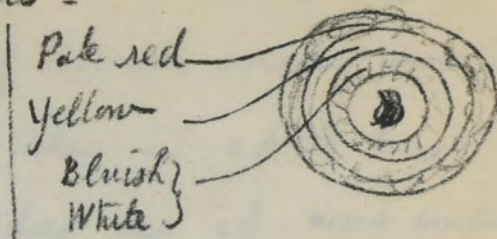
Earth shadow observed at sunset. Sunset
colours weak and little or no afterglow -
at 18 ^h brown column under Moon -
Sky covered more or less with cirro-cumulus
~~all night~~, till midnight. On this a

1885

197

faint, badly defined lunar corona was observed at 19 & 20 hours -

at 20 hms colors somewhat as in diagram but very badly defined -



at 19 hms only one reddish ring -

Radius to inside $1^{\circ} 54'$
 " " outside $4^{\circ} 18'$

at 20 hours

Radius of Red $2^{\circ} 54'$
 " Yellow $2^{\circ} 35'$
 " outside } $1^{\circ} 42'$
 of Blue }

Blue much broader than the Red or Yellow and with ~~no~~ no defined inner margin -

November 23

Double corona on cir-c at 4 hms

Badly defined, but of usual form -

Radius of inter red $6^{\circ} 48'$

" inner red $3^{\circ} 7'$

" yellow $2^{\circ} 42'$



Yellow a narrow line -
 Green a broad belt -

White fog crystals forming patch all day -

Fog very solid feeling as it blows past -

1885 November 26

at 9 hrs as it was blowing very hard
^{one} of the old rain gauges of heavier make was put
 out. The gauge was taken in at 14 hrs &
 not put out again today as it was impossible
 to manage it in the strong wind.

at 17^h hrs began to use lantern fitted inside
 an ~~oil~~ oilskin coat. At 22 hrs note
 book blown away when reentering tower
 door. At 2 after 23 hrs went out by
 Tourist Shelter door instead of Tower.

at 14 hrs it was observed that the upper
 part of snow-post A had been blown away.
 at 21 hrs the ozone paper was blown away
 as soon as it was put out. Another paper
 was put out at 22 hrs = thus the reading
 at 9 hrs on Nov 27. is for a period of eleven
 hours only.

November 27

at 1 hr old pattern rain gauge
 put out = at 18 hrs new gauges resumed.
 Thermometer Box shifted at 22^h hrs 20^{ms}.

Dry 192660 : Wet 192672 and Min 138533
 put out : height above snow not altered -

November 30

At .6 hrs St Elmo's fire observed on
 Lightning Conductor, both Anemometers & on top
 of ladder leading up tower outside. No sounds
 heard even when quite close to the Conductor -

December 1-

Heavy showers of snow, sleet and hail
 all day - Sources of Thermometer Box badly
 choked -

December 2^d

at 13 hours the Rain gauge was taken in as
 it was getting choked with drift. It was put out again
 at 15 hrs.

Thermometer Box shifted at 17^h 16^m 50852 put out
 as dry and 192677 as Wet : Min 138525 put
 out. Height above snow not altered -

December 3^d

at 20 hours the Rain gauge was

1885

found leaning over to windward, having been under cut by the wind, and full of drift. The flag staff at Whytes' Hotel was found broken off close to the roof today.

December 4th

Mended lock of Tower Door.

December 5th

Thermometer Base shifted at 2^h. 25^m

Dry 192660 & Wet 192672 put out = 1385-45 left out. Put one stage higher on ladder-stand.

December 6th

at 8 hours bright pink upper glow to E. Horizon yellow; no red colour visible.

Snow down to about 600 ft.

Sunset colours at 16 hours weak. No afterglow.

Well marked auroral arch all night; no streamers. Height of top of arch above horizon at 19 hours = 12°.

The Dry Ball readings at 15 and 17 hours being below 10° — the limit of Glaisher's Tables — the factor was assumed to be 8.8, and the Dewpoints calculated by that.

1895-

December 7

Faint aurora similar to last night visible from 19 hours to Midnight.

Wm. Stewart came up today & spent the night at observing -

December 9

Thermometer Box shifted at 16^h. 20^m.

Dry 50852 : Wet 192677 and Min 138533 put out - Height above snow not altered.

December 10

at 0^h. 5^m Thermometers shifted = same Box left out - Dry 192660 and Wet 192672 put out - Brown colour under Sun in afternoon -

December 12

Thermometer Box shifted at 15^h. 20^m.

Dry 50852 : Wet 192677 and Min 138545 put out - Height above snow not altered.

December 13

at 23 ^{hours} found that the carrier of the crystal anemometer had slipped down and ~~the~~ was making 1 km 41 ^{mins} slow -

December 14

Started Robinson at 16^h. 20^m but tied it up again just after Midnight -

1885

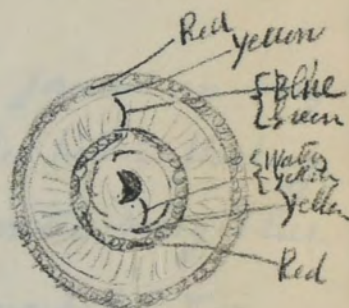
202

December 15

At 12 hours faint brown colour under Sun.
Dense rolling fog on hill tops all round.
At 17 hours Moon shining faintly through cir-
clouds but no halo visible.

December 16

Double corona at 20 hours
colours as in diagram. Outer
yellow very faint. Formed on Sead,
no corona when sead clears off.



Radius of Outer Red. $3^{\circ} 48'$

" Inner Red $1^{\circ} 58'$

" Outer yellow $3^{\circ} 38'$

" Inner yellow less than $1^{\circ} 40'$

Very faint traces of third ring at times.

Similar corona at 22 hours. When the Sead
got very thick the outer part was more yellow
& less blue looking.

Radius of Outer Red $3^{\circ} 33'$

" Inner Red $1^{\circ} 53'$

" Outer yellow $3^{\circ} 0'$

" Inner yellow $1^{\circ} 23'$

20 mins afterwards -

Outer Red $3^{\circ} 8'$

Inner Red $1^{\circ} 42'$

At Midnight Sunar Fog low, no coronas.

247

1885-

203

December 17 Faint after glow at 16 hours. At 17 hours western horizon still colored Red, yellow & green. Fog on hills to 3000 or 4000 feet all afternoon and night.

Double Lunar Corona at 20 hours = formed on very thin mist or sand blowing over the hill = flashing into sight & disappearing again = outer ring blue and inner yellow, both reds well marked. Too fleeting to measure.

Very faint Lunar Halo at 22 hours.

December 18 at 7 hours dup, soft, blood-red and scarlet colours at horizon to ESE.



At 8^h 20^m upper glow to SE & SSE as in diagram. The Northern side having well marked long streamers. Sun rose at 8^h 45^m.

at 8^h 40^m the upper glow was gone, but there was a

white glare in the sky above a rich-red streak at horizon - Sun rose egg-shaped long axis horizontal and took $4^m.20^s$ to rise -

at 9 ^h_{ours} the shadow of Ben Nevis was seen on pink coloured haze above the horizon to NW -

at 10 ^h_{ours} brown colour under Sun, and misty looking glare round it -

at 11 ^h_{ours} faint Solar Halo, white - One bright spot horizontally to E^S of Sun - Brown colour under Sun and faint pinkish hue above Sun inside the Halo - Radius of Halo by Stef. $23^{\circ} 3'$.

Brown colour under Sun all afternoon. Halo faintly seen till 13 hours -

at 16 ^h_{ours} faint glow all round horizon from about 50° to 150° Eastern horizon dirty green under this -

at 16 ^h_{ours}. 20^m distinct upper glow as in diagram - It had the appearance of a cloud of very loose texture lit up from below -

Pinkish
glow

Sun
Orange
SW

1885

205

Trace of this upper glow at 17^h and Red
 & yellow sunset colours - Sun set about 15^h 50^m
 No unusual colours in sky at night -

December 19

Dense fog above Loch Linnhe & in Caledonian
 Valley to about 4000 ft in early morning -

At 3 hours faint blue corona 3^h 4^m Radius round
 Moon - The edge of the corona was the brightest
 part; but the whole space was blue, & no other
 colour was visible -

at 4 hours similar corona 3^h 20^m Radius but with
 very faint ~~the~~ Red edge to it outside - at same
 hour brown colour in sky under Moon -

at 8 hours faint upper glow. ~~to 8^h 16^m this glow formed a pyramid, height~~

at 8^h 16^m this glow formed a pyramid, height
 about 20°, base 45°. The base line being 6° above

horizon - at 8^h 25^m this glow was almost gone.

at 8^h 40^m a white glare had taken its place -

at 9^h dense haze and fog in valleys with the
 shadow of Ben Nevis distinctly seen on it -

at 10^h and during the rest of the day brown
 colour under Sun -

1885

Sunset colors weak and afterglow very faint. The haze and fog rose higher at night and gradually covered the hill top -

Note The sun when rising was much elongated horizontally = it took 6 minutes to rise -

At 17 hrs Lunar corona = Red outside.

Radius to outside of Red $4^{\circ}.13'$

" " inside of Blue $2^{\circ}.55'$

~~at~~ after Midnight Robinson Anemometer was tied up.

December 20

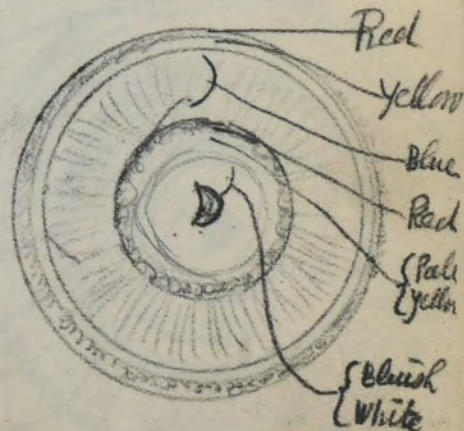
In early morning fog crystals were brown in colour & loose in texture. During the forenoon these were overlaid by white ones considerably harder & more icy. The former ones came with S. wind ^{and fog} the latter with SSW or SW and mist.

Double corona at Midnight:

Colors as in diagram, but very pale & faint.

Radius of inner Red $3^{\circ}.3'$

Fog to 4000 ft all round -



1885

207

Thermometer Box shifted at 23^h. 15^m

Dry 192660 : Wet 192672 and Min 138533
put out. Height above snow not altered.

December 21

at 5 hours triple lunar corona - Reds outside

Radius of inner Red 1^o. 5'

" Middle Red 1^o. 55'

" Outer Red 2^o. 55'

Plyt

also Solar fog - low -

very soft snow falling all afternoon -

December 22

Thermometer Box shifted at 15^h. 15^m

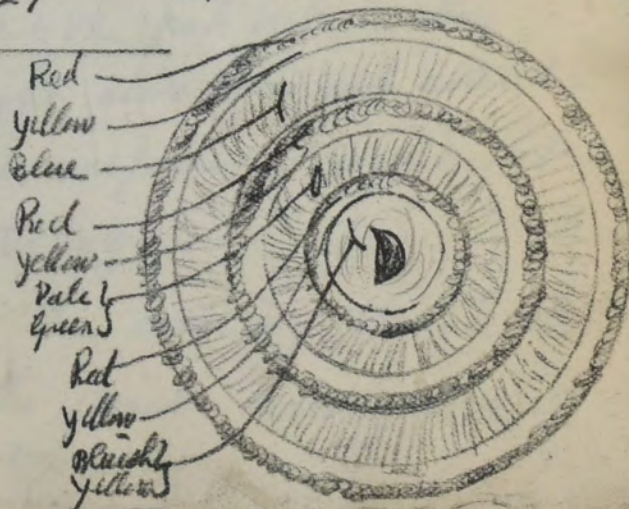
Dry 50852 : Wet 192677 and Min 138545
put out. Height above snow not altered -

Solar Halo, white, at 23 hours -

Radius to inside 20^o. 41' and 20^o. 16' } Two
" outside 27^o. 29 " 27^o. 23 } measurements.

December 23

Triple lunar corona at
4 hours - Colors as
in diagram - outer
ring very faint.



1885

| | | |
|-------------------------|-----|--------|
| Radius of innermost Red | --- | 1" 35' |
| " innermost yellow | -- | 1" 11 |
| " outside of green | -- | 2" 26 |
| " Middle yellow | --- | 2" 48 |
| " Middle Red | --- | 3" 12 |

P47

December 24

Robinson anemometer was started at 15 hrs, but was tied up again after midnight. Fog (or mist) in valleys to at least 4000 feet all evening -

December 25

all exposed surfaces and the lenses of the Thermometer Box heavily covered with solid ice all day -

December 26

Thermometer Box shifted at 8 ^{hrs} 10 ^m.
 Dry 192660 and Wet 192672 put out = Min
 138545 left out - Height above snow not altered -
 Ice forming on exposed surfaces at night but not so freely as yesterday -
 Drizzling rain fell in the evening though the sky was clear and the mist hardly rose higher than the hill top -

December 27

Ice on everything and covers of thermometer
Box badly choked = ladder outside tower impossible -
Thermometer Box shifted at 22^h. 30^m. Dry 50852
Wet 192677 and Min 138533 put out. Height
above snow not altered -

December 28

Thermometer Box shifted at 10^h. 30^m.
Dry 192660 and Wet 192672 put out: Min
138533 left out. Height not altered -

December 29

Thermometer Box shifted at 17^h. 15^m.
Dry 50953 = Wet 192677 and Min 138545
put out - Height above snow not altered -
at 18^h. 5^m Dry 192660 and Wet 192672
put out, the others being taken in. Box
was not shifted -
Very squally at night -

December 31

Robinson Anemometer started at 22^h. 10^m.

Note of instruments in use during 1885

Fair's Barometer 1385 Negretti & Zambra -

Dry & Wet Bulbs 192660 and 192672 adie & Wedderburn : also 192677 adie & Wedderburn and 50752 Negretti & Zambra = and occasionally 50945 50851 or 50850 Negretti & Zambra -

Maximum thermometer 117293 adie & Wedderburn from July 25 to Oct 6 -

Minimum thermometers 138533 or 138545 adie & Wedderburn Jan 1 to July 24 and Oct 7 to Dec 31. 116918 adie & Wedderburn July 25 to Oct 6 -

Small size of covered thermometer Box on ladder stand Jan 1 to July 24 and Oct 7 to Dec 31 - Large covered Box (old clock box) July 25 to Oct 6 -

Solar Radiation thermometer (Black Bull in vacuo) 186 Hicks -

Radiation Minimum - (T hollow cylindrical bulb) 46309 Hicks -

Sunshine Recorder - Casella. (made specially)

Ozone test papers supplied by Casella -

Anemometers, Robinson (velocity) and Crystal (direction) by Fraser -

Raingauges - Jan 1 - Jan 8 gauges with side screw plug (see page 91) till Jan 14. various -
 Jan 15 - Nov 14 gauges with rounded bottoms & stop-cock. Nov 14 - Dec 31 gauges with slightly rounded bottoms & screw plug (page 192) -

The rain gauges ^{measurements} were interrupted several times by drift -

From Feb 21 - 18 hrs to Feb 22 - 7 hrs no temperature observations could be taken -

With the above exceptions, Barometer, Dry Bulb, Wet Bulb, Rain, Wind, Cloud and Sunshine records are continuous -

The Radiation thermometers could only be used in moderately fine weather - the Anemometers were often frozen up & out of repair -

The Ozone tests were read three daily for twelve hours each - but the usual saturated condition of the atmosphere made their indications very unreliable - The papers were occasionally blown away in strong gales, and the observation thus lost.

1886.

212

January 1. Robinson Anemometer tied up at 23^h 10^m.

January 3. Robinson Anemometer started at 13^h 10^m
but tied up again at 14^h 5^m.

January 4 Thermometer Box shifted at 12^h 10^m
Dry 50852; Wet 192677 and Min 138533
put out. Height above snow not altered.

January 5 at 6 hours tips of lightning rod,
vane and cups of anemometers and kitchen
chimney glowing with St Elmos Fire. Heavy
hail falling at the time.

at 18^h 10^m Dry 192660 and Wet 192672
put out. Box not shifted.

January 6 Haze at horizon and in valleys
all day. At 11 hours great white glare
round Sun 2 brown columns under it. This
brown column was under the Sun all day -
at 16 hours pink glow to E. No afterglow
to W till 16^h 10^m. Earth shadow observed
at 16^h 10^m.

No communication on telegraph wire from
 19^h - 10^m till 21^h - 30^m - It was found that
 the wire had been accidentally unscrewed or cut
 in Post Office Fort William - No signals could
 be made during this time on the B.N.O. instru-
 -ment, which showed that the insulation of
 the wire was very good -

January 9

at 10 hours columns of fog rising out
 of Glen Nevis - a white ray or beam from
 Sun observed passing vertically down over
 Glen Nevis - It was not caused by the
 Sun shining through a rift the clouds; and
 it was seen passing over or into Glen Nevis
 between the extremes of the opposite hills -

No corresponding ray observed above Sun -
 at 10^h - 10^m pink column on clouds to Northward
 close over Ben Nevis -

At ~~12~~ 12^h - 10^m Thermometer Box shifted -
 Same instruments left out = viz. Dry 192660
 Wet 192672 and Min 138533. Height above
 snow not altered -

1886.

January 10 at 22^h 40^m office clock stopped from not having been wound up. Set on again at 22^h 55^m. at 21^h 15^m telegraph instrument failed to give signal. Signals came from Fort William all right. The Daily Report for the newspapers was wired down by means of a two cell Sedlanche Battery belonging to Chiswick. On examination the telegraph battery was found to be out of order the zincs being dirty - it was put right in the course of the evening and at 0^h 50^m on Jan. 11. the instrument worked again satisfactorily -

January 11Thermometer Box shifted at 12^h 10^m.

Dry 50852 = Wet 192677 and Min 138545 put out. Height above snow not altered.

January 13Thermometer Box shifted at 12^h 30^m.

Dry 192660 = Wet 192672 and Min 138533 put out. Height above snow not altered.

January 14Thermometer Box shifted at 7^h 10^m.

Dry 50852 = Wet 192677 and Min 138545 put out. Height above snow not altered.

January 19

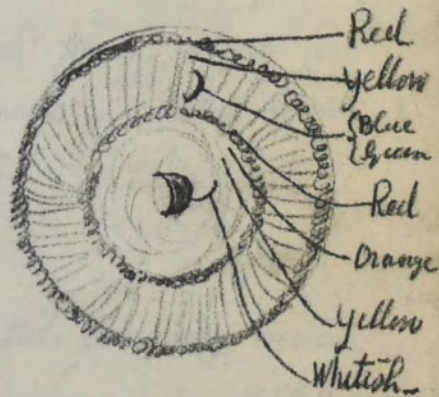
Brown color under Moon in early morning -
No usual pink foreglow at sunrise - but the under
surfaces of cirrus clouds were colored vermilion red
about 10 minutes before sunrise - Dark blue band
across sky from NE to W -

at 9 hours double Solar corona consisting of two pinkish
red rings - Radius of inner ring about $2^{\circ} 8'$ -

At 14 Gauge found buried in drift up to the rim -
The drift has blown away round the stand for
the thermometer box, so that although the Bulbs
are only about 20 inches above the general surface
they are 40 or 45 inches above the surface
immediately under them - This hole is about 2
yards diameter, and has steep sides -

January 20

Double lunar corona
observed at 2 hours - Faded
on scud - Columns as in diagram
Very fleeting and size varying -
Two measurements within one
minute gave for Radius of
inner Red $3^{\circ} 33'$ and $3^{\circ} 7'$ -
The columns were always the same though the
size varied -



Thermometer Box shifted at 3^h-20^m.

Dry 50852 : Wet 192677 and Min 13854.5 put out.

Put one stage higher and hole under Box filled up.
(see last page)

Brown colour under Moon all morning - same brown colour under Sun in afternoon -

at 17^h dark red and dirty yellow at SW = W,
and NW horizon = under surfaces of Cumulus to
W^d red = and under surfaces of cirrus pinkish.

January 22 a light was observed in the north at
19 hours which might be auroral -

Thermometer Box shifted at 22^h-15^m Dry 192660 =
Wet 192672 and Min 138533 put out - Height
above snow not altered.

January 23 at 17 hours Brownish pink colour in
sky to W^d above low lying clouds - Sky green
to SSW - Fog on hills to E & S.

January 25 In morning fog crystals smoky brown
in colour. Fog passing in waves in afternoon
and at night - Very squally at night, with
intervals of almost perfect calm.

January 27

Fog crystals on exposed surfaces brown. In the afternoon the fog though very thick was dazzling to the eyes.

January 28

Fog crystals of their usual white color today in morning, but possibly slightly brown in afternoon.

January 29

Fog crystals brown in morning.

Smores of Box badly choked with snow all day.

January 30

One flash of lightning seen at 7 $\frac{1}{2}$. Some hail in rain gauge at 8 $\frac{1}{2}$ hours. at 12, 13 & 14 hours gauge full of drift.

February 1st

at 1^h rain gauge found leaning over to windward & full of drift. At 2^h gauge buried almost to the rim and full of drift. at 21^h the gauge was again found almost buried. None was put again till Midnight when it was put out as usual.

Thermometer Box shifted at 9^h. 10^m Dg 50852 and Wet 192677 and Min 138545 put out. Height above snow not altered - after 15 hours top joint put on ladder stand for thermometer box. Box replaced in same position as formerly at about 15^h. 30^m. Top joint also put on kitchen ventilator at same time. Thermometer Box is only 28 inches above general surface of snow but under it there is a hole about 15 inches deep & some 2 yards diameter.

at 9^h fog on hills round in patches -
 at 11^h fog joining with upper clouds over Glenae & Loch Linnhe; very ugly -
 at 13^h white glare with pink or brown edges. Between 14 & 15 hours brown colour under Sun, and haze & cum to SW.

February 2

Thermometer Box shifted at 23^h. 25^m
 Dry 192660 = Wet 192672 and Min 138533
 put out. Put one stage higher and hole
 underneath (see last page) filled up -

This afternoon a post was fixed at the
 platform for shooting rubbish at the cliff
 to mark it in snow -

February 3

No fog in valleys but horizon hazy especially
 to SW all day - at 8^h yellowish, watery glare
 in sky to SE \nearrow 20° to 30° high - Pale glare with
 brownish red edges round Sun all day -
 at 17^h red streak along W = horizon and
 above it triangle of yellowish green in sky
 about 60° wide at base and 30° high -

At 19^h long bluish
 white glimmer in sky
 to W \nearrow shaped as in
 diagram -



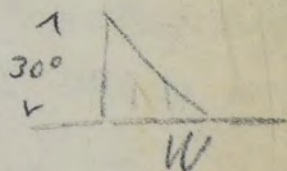
Haze a fog seemed to rise up on to the hill
 top at night, the stars remaining bright
 as long as they were visible -

Snow down to sea level -

1886

February 4

Saw fog on Lookail and Loch Rannoch at 8 hours which gradually passed away during the day - Brown colour under Sun at 11 hours and all the rest of the day = pale brownish glare round Sun in afternoon - Haze over Firth of Forne all afternoon - After sunset red light all round horizon which gradually rose to E° leaving an earth-shadow underneath - at 19 & 20 hours faint white glimmer in Western sky similar to last night.



at 20 hours as in diagram - ? zodiacal light - Faint aurora seen at night -

February 5-

At 8 hours just before and just after sunrise under surface of clouds blood-red - Haze thickening in valleys to S & W all morning - The cloud layer seemed to come gradually down on to Ben Nevis in afternoon -

February 6-

Fog crystals forming most of the day, but of their usual white colour -

Thermometer Box shifted at 16^h-10^m-

Dry 50852 : Wet 192677 and Min 138545 put out.
Height above snow not altered -

February 8

Robinson Anemometer started after 12 hours -

February 9-

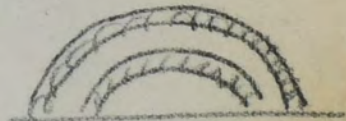
Robinson Anemometer tied up at 8 hours -
Thick crust of ice on curves of thermometer Box
and all exposed surfaces all afternoon -

Thermometer Box shifted at 23^h-20^m- Dry
192660 : Wet 192672 and Min 138533 put out.
Height above snow not altered -

February 10

Thermometer Box shifted at 10^h-15^m-
Dry 50852 : Wet 192677 and Min 138533 put
out - Height above snow not altered -

Double Solar fog bow seen
at 11 hours to N^E Traces
of Red on outside of outer
ring & on inside of inner -



Radius of outer bow 42°-4'
" inner " 33-0 -

84T

Moon gleaming at night, but no corona observed -

1886

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February 11

William Stewart came up to the Observatory today to stay over night.

February 12

at 12 hours rain gauge found full drift - at 18 hours rain gauge under cut & leaning over to one side -

February 13

Thermometer Base shifted at $21^{\circ} 20'$
 Dry 192660 = Wet 192672 and Min 138545
 put out - Height above snow not altered -

February 14

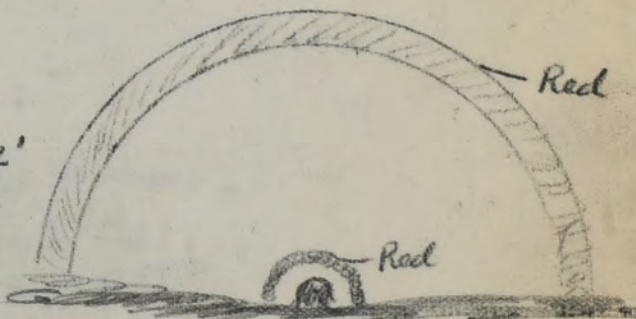
William Stewart left the Observatory this morning having been detained two days by bad weather -

at 11 hours glory
 and fog low -

Outer Radius of fog low $45^{\circ} 12'$

Inner " " $40^{\circ} 0'$

Radius of Red of glory $1^{\circ} 6'$



Fog low tinged with

red outside - Outside of glory red also -

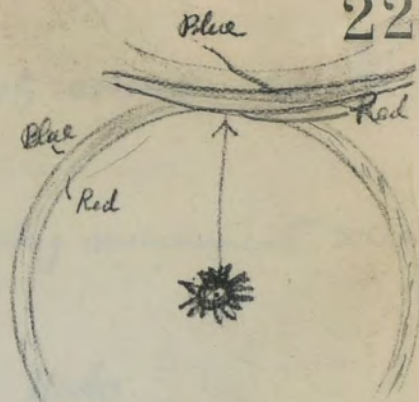
Seen on fog in northern valley -

1886

February 15

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at 9 hours Solar halo with
portion of reverse halo on
upper side of it - Large
halo Red inside & Blue
outside; portion above



Red next sun & Blue inside curvature - This
upper arc overlapped on the main circle, bringing
their reds together -

The following measurements from centre of Sun to the
point where the two reds overlapped were made -

| | |
|----------|---------|
| Radius = | 21°-42' |
| " | 21-49 |
| " | 22" 0 |
| " | 22" 0 |
| " | 22" 0 |
| " | 22" 0 |

The upper arc was very
distinct, but the blue in it
was fainter than in the main
halo -

Double Solar corona at 11 hours -

| | |
|---------------------|--------|
| Radius of outer red | 4°-53' |
| " inner red | 2" 55. |

Brown colour round and under sun all day -

at 18 hours pinkish haze in air below the upper
clouds and above the fog on the surrounding hills -

From 19 to 23 hours lunar halo on cirrus

and for most of the time misty corona, also on
Cirrus -

at 19 hours the following measurements were
made -

| Corona | | Halo | |
|----------------|--------|--------|---------|
| Outside Radius | 4° 20' | Radius | 24° 28' |
| " " | 4° 28' | " | 23° 17' |
| | | " | 22° 26' |
| | | " | 22° 36' |
| | | " | 23° 30' |
| | | " | 23° 44' |

at 20^h the measurements got were -

Radius of Corona 2° 59' - Halo 21° 13'

The corona was a mere bluish space with a
red rim -

No fog in valleys all day, but haze at horizon
especially to S^d and detached cumulus on hills -

February 16

at 2 hours misty corona
on cirro-cumulus - Colours as in
diagram - Radius of Red 1° 43' -



Brown colour under Moon at 4^h - 10^m. Similar
colour at 5 hours -

at 7 hours watery glare in E^d sky and purple
colour to W^d about 15° to 30° above horizon -

1886.

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Brown colour round Sun all day - strongest on lower side - Dense haze in valleys to S^E from SE & W all afternoon -

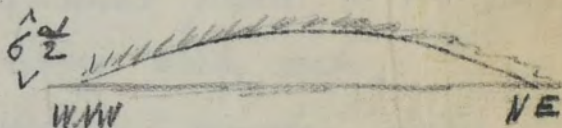
Earth shadow under rosy glow to E^S after sunset at 17^h 30^m - Sun shone red through the haze as it sank into it - Upper glow ^{began} at 17^h 40^m and lasted till 18^h hrs

Faint blue colour round Moon at night -

Long thin auroral arch

at 23^h & Midnight -

Height by Stef - $6^{\circ}\frac{1}{2}$.



February 17.

at 3^h hrs blue corona round Moon -

Brown colour under Sun very faint today -

Misty corona on cumulus at night - No measurements made -

February 18.

white fog crystals forming all day -

February 20

Fog crystals born in morning -

February 21

Fog crystals born in morning, but white and more icy in texture at night -

February 25

Sun's corona at 5 hrs Colours in following order out from Moon - White yellow Red Violet Green yellow ^{red}

Pale reddish or brown glare round Sun all day, getting stronger near the horizon -

Faint light to W^E observed at 8 hours; probably zodiacal light -

Horizon hazy all day, especially to SW and W. Detached cumulus above haze to S and W in afternoon -

Today a new lock was fitted to the tower door, the old one being worn out -

When lowering the sunshine recorder down the tower in the evening the cord broke and it fell damaging the brass-work slightly - It was repaired during the night.

February 26

Solar corona observed at 12 hours -

Double rings varying in size -

Radius of Outer Red $8^{\circ} 22'$

" Inner Red $4^{\circ} 34' : 4^{\circ} 23' : 3^{\circ} 38'$

Similar corona at 13 hours; ~~but~~ the outer ring was only seen occasionally and was too faint & fleeting to measure accurately but was about $5^{\circ} 30'$ - Six measurements of the inner Red

gave as Radius, $3^{\circ} 3' : 2^{\circ} 47' : 3^{\circ} 25' : 3^{\circ} 10' : 3^{\circ} 2' : 2^{\circ} 24'$ -

Fog crystals white this morning -

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February 27.

Top clearing of fog at times in afternoon.
Fog crystals white and very loose in texture
and dry -

February 28

Fog crystals today pure white -

March 4

White glaze in Western sky at 18 and
19 hours - Zodiacal light seen at 20 hours,
nothing seen in spectroscope -

Thermometer Box shifted at 18^h - 15^m
Dry 50852 = Wet 192677 and Min 138533
put out - Height above snow not altered -

March 5.

at 8 hours Fog-low, corona (3, 4 25 rings)
and glory (2 and 3 rings) on passing fog - all
too fleeting to measure -

Thermometers shifted at 20^h 5^m Dry 192660 and
Wet 192672 put out - Min 138533 left out -
Box not shifted - Aurora seen at 22 hours -

Today Wm Stewart started to come up to the Observatory, but had to turn back having lost his way in the dense fog before he got to Buckans Well. Mr Omond and Mr Rankin went down in search of him in afternoon. In consequence of this the 15 hours observation was not taken till 15^h 3^m : no corrections were applied to the various readings.

March 6

Double Solar Corona at 12 hours -
Faint aurora with a few streamers at night -

March 7

at 7^h 10^m thin pallium over sky to horizon, hills just clear under it. In the valleys to Eastward there was an underglow of the same colour and exactly similar to the upper-glow seen before ~~sunset~~ sunrise and after sunset. In this glow between Schekallin and Ben Nevis streamers were visible, which gradually receded and faded away as the sun rose higher. at 7^h 13^m the sun broke through the clouds, and at 7^h 16^m a white beam

1886

was seen stretching vertically downwards from Sun to edge of Ben Nevis. It passed through a thin Stratus cloud. Corona observed at same time. The pallium broke up into detached masses like Cumulus, but descending and settling over the hills round. at 7^h 24^m the beam was again seen.

Double Solar Corona observed at 10 hours.

| | | | | |
|---------------------|--------|---|-----------|--------|
| Radius of Inner Red | 3° 46' | : | Outer Red | 7° 30' |
| | 3" 37 | | | 5" 34 |
| | 3" 30 | | | 6" 29 |
| | 4" 1 | | | 6" 35 |
| | 3" 42 | | | |
| | 3" 42 | | | |
| | 2" 50 | | | |

The last measurement of the Inner Red and the ~~last~~ second measurement of the Outer were taken about the same time.

Halo observed at 11 hours. The following measurements were made -

| | |
|------------------------------|---------|
| | 23° 30' |
| | 22° 0' |
| Extreme inside of halo - - - | 21° 13' |
| Extreme outside " - - - - | 25° 44' |

Same halo observed at 12 hours -

Radius 23° 44' : 21° 13' : 22° 12' -

Dense haze coming up from SW beyond Mull in afternoon -

1886

Solar halo at 13^h also -

| | | |
|--------|---------|-----------|
| Radius | 21° 48' | 22° - 24' |
| | 21 " 24 | 23 " 3 |
| | 22 " 24 | 21 " 48 |
| | 21 " 13 | 22 " 0 |
| | 22 " 12 | 22 " 12 |

Horizon very dark and sky milky at night -

March 8-

Brown crystals forming out of passing fog in afternoon -

March 9-

Dense haze round horizon all day - at 17^h three layers of upper clouds were observed - The highest was moving from WNW, the middle from SW, and the lowest from SE. The lowest appeared to be fed from above -

The clouds came lower down in the evening and then disappeared -

March 10

Thermometers shifted at 2^h 8^m Dry 50852 and Wet 192.677 put out - Min 138533 left out. Box not shifted -

1886

Thermometers shifted at 3^h. 8^m Day 192660
 and Wed 192672 put out - Min 138523 left
 out - Box not shifted -
 at 6 hours, before sunrise, Eastern horizon very red
 and reddish ~~to~~ brown glow on under surface of
 thin cirrus clouds -
 at 17 hours fog crystals slightly brown in colour
 were forming -

March 11 No brown colours under Sun in forenoon,
 but faint colours in afternoon and pale glaze
 round Sun -

March 12 at 12 hours bird (? Raven) seen
 flying over hill - Distinct brown colour
 above haze under Sun in afternoon -
 Sunset colours bright and very beautiful -
 After-glow from 18^h 30^m to 18^h 40^m - Sun sank
 into haze at 8.23 -

For the last two days there has been dense
 haze all round but especially to Westward
 rising to about 3000 ft and very flat topped -

When taking compass bearings along the path
 down the hill today Mr Rankin found

1886

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that one of the large stones on the South side of the hill near the first gorge was strongly magnetic - It attracted the South end of the compass -

At 15 hours Black Ball (Old No 186) was put out on bracket stand at Snow post A 35 inches above snow -

March 13

Fog crystals white today -

At 16 hours Black Ball taken in as it was getting covered thickly with fog crystals -

Fleeting corona, sometimes single, sometimes double, formed on Sued at night -

March 14

Black Ball put out again today, similarly to before for a few hours -

March 15

Fog crystals in morning very slightly grey in colour - Lunar corona on Sued at night = too fleeting to measure -

This afternoon the drum and clock of the Thermograph was mounted on the Barograph instead of its own - The Thermograph was left without recording apparatus -

March 16 Min. 138533 taken in at 22 hours
and 138545 put out in its place -

March 17

Fog crystals rather hard and icy in
early morning and during the day, but looser
in texture at night - all pure white -

Sources of thermometer box a good deal choked -

March 18

Fog crystals brown in the afternoon -

March 19

Fog crystals brown in forenoon -

Thermometer Box shifted at 8^h-10^m Dry 50852 =
Wet 192677 and Min 138533 put out - Height
above snow not altered -

The increase (1 inch) in the depth of snow
today is probably due to fog crystals forming
on the old roughened surface -

March 20

at 12 hours Robinson Anemometer
started -

March 22

Sky very ugly both in clouds and
color to SW all afternoon -

At 13 hrs beams observed radiating from Sun in every direction; some 20° in length - Detached cumulus fog hanging about hills round all afternoon - Snow almost gone off the hills to North and North-east; and very streaky on the others -

at 18^{hrs} dark fog with haze below it advancing over hills to SW.

at 18^{hrs} a Ptarmigan, pure white, flew across the hill top.

at 19 hrs green haze to NE. The fog & haze to SW had reached Loch Seven -

Fog on Ben Nevis at 20 hrs: heavy rain and hail began shortly afterwards -

March 23

At 10 hrs (wind SSW) thin mist rising up from North valley close to cliff, but getting pushed back by the wind -

at 15^h 10^m Thermometer Box shifted one stage down on ladder-stand - Same thermometer left out -

March 24

In afternoon dug out door of Visitor's Room and Kitchen windows -

March 26

Robinson Anemometer tied up at 10^h 5^m
 Snow at night at first soft & in large flakes
 but later on hard and icy.

March 27

At 13 hours snow hunting seen on top.
 Thermometer Box shifted at 22 ^{hrs} 23 mins. Dry
 192660 = Wet 192672 and Min 138545 put
 out. Height above snow not altered.

March 28

at 10 hours three layers of cloud were
 observed = the lowest Cum. from SW = middle
 cir-c from W.N. and highest Cir & cir from
 WSW.

at 10^h - 15^m vertical ascending columns of
 fog observed rising from Glen Nevis and
 forming Cum. clouds at about the level of
 the hill top.

March 29

Barograph stopped at 6^h 30^m. Cause
 of stoppage unknown unless possibly clock run
 out.

March 30

No rain gauge was out from 12 to


1886

17 hours as the drift made it useless -
 Thermometer Box shifted at 23^h 20^m Dry 50852 =
 Wet 192677 and Min 138533 put out. Height
 above snow not altered -

The telegraph instrument was "clicking" all day. This was partly due to Earth currents, but chiefly to the observing wire having got in contact with others & drawing off some of their signals. The Daily Report could not be sent to the news-papers in consequence of this -

Half hourly barometric readings were taken from 12 hours to Midnight.

March 31

Shower of hail between 16 and 17 hours. The hailstones were hard and conical in shape with speical bottoms 
 all outside observations at 21 hours about 2 minutes late, though light going out when jumping off roof.

1886-

April 1.

at 16 hours brown haze to SW very ugly looking - and cumulus above hills at NW horizon. Thermometer Box shifted at 16^h.15^m Dry 192660 = Wet 192672 and Min 138545 put out. Put one stage higher on stand -

at 18 hours rain gauge buried out of sight in drift; none put out for the rest of the day -

at 21 hours stars seen for a moment - the freshly fallen and drifted snow was much cut up by the wind at night -

The great depth of snow (100 inches) at 22 hours was due to drift, and was entirely removed during the night -

April 2.

Short but very heavy hail shower at 8 hours - Rain gauge was put out for the first time today at 9 hours - Half hourly Barometric readings taken from 1 hour to 19 hours -

April 3

at 10 hours and several times during the afternoon rain gauge was buried in drift -

No gauge was put out at 21 hours -

Thermometer Box badly choked with drift all afternoon and night -

April 4

Rain gauge put out for first time at 4 hours - Thermometer Box badly choked with drift all day = the cygne papers were enclosed in a mass of snow over one inch thick -

April 5

Thermometer Box shifted at 11^h - 10^m -
Dry 50852 : Wet 192677 and Min 138533
put out. Height above snow not altered.

April 6

Top covered with deep soft, rather heavy, snow -

April 7

When the wind rose this afternoon the soft snow blew about in blinding drift - at 13 hours the rain gauge was buried so deeply that it could not be found - No gauge was put out after this - at 14 hours it was impossible to see three yards for drift.

1886

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Thermometer Box considerably choked with drift at night.

April 8

Rain gauge put out for the first time at 3 hours -

At 11^h - 10^m thermometer box shifted one stage higher on ladder stand -

The 15 hours observation was not taken till 15^h - 5^m No correction applied to readings -

Thermometer Box ~~at~~ shifted at 22^h - 15^m

Dry 192660 : Wet 192672 and Min 138545

put out. Height above snow not altered -

This afternoon it was found that a drift about 10^{or 12} feet high had gathered along the face of the cliff near the platform during the recent storm. It did not



over-hang, being of a section as shown in diagram - At the same time the depth of snow had decreased near Whyte's Hotel.

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In the Index entries that are made regularly as part of the routine work of the observatory, such as shifting the thermometer boxes, noting sunrise or sunset columns etc, are not included -

The entries from April 15 to May 5 - 1885 (p. 138-141) and from Sept 6 to Oct 1 - 1885 (p. 175-178) were made by M. H. N. Dickson, the others by M. Omond.

Appendix ICatalogue of Instruments - 8 April 1886I Barometers

No. 1385 - Negretti and Zambra.

No 1252 - " "

Aneroid Barograph with recording papers.

Thermograph " "

II Thermometers with Kew certificatesOrdinary - Adie and Wedderburn. Standards

178490 and 178491. (Glass Scales) 192660 =

192672 and 192677.

Negretti and Zambra. (Porcelain Scales) 50852

(Scale broken) : 50850 (Scale broken; in Scot. Met. Soc. office
for consideration as to repairs) 50851 = 50953 =and 50945. Scale etched on ^{stem} ~~glass~~ 50524 -Maximum Adie & Wedderburn (Metal Scales) 117293
and 138590.Minimum Adie & Wedderburn (Metal Scales) 116918 =
138545 and 138533.III Thermometers without Kew certificatesOrdinary Fraser. 7.Kemp. Thermometers on Prof. Taits' 3 Bulb instrument
and Thermometer for Prof. Chyystal's Hygrometer.

III (cont) Negretti and Zambra - 2 Turnover thermometers
for clock: Nos 50199 and 50198.

Maximum Negretti and Zambra. 108 and 2113 -
Hicks. Black Bull in Vacuo (old) 186 -
" " with Radiometer 64 -

Minimum Fraser. one with no number -
Negretti & Zambra. 1447 and 1449 -
Two small ones with no name -
Hicks Tubular Ball for Radiation 46309 -

IV Hygrometers etc.
One Crystal Hygrometer with fittings -
One Taits' Atmometer with fittings
One Hair Hygrometer -
One Cunningham's Hygrometrical chart -

V Raingauges etc.
Two eight inch gauges with screw taps
Three five " " " " "
Two five " " " stop-cocks -
Several broken ordinary five inch gauges -
Three five inch measuring glasses (Adie & Weddell's)
Carboy and funnel for collecting rain-water -
Three spirit levels -

VI Anemometers

Prof. Chrystals self-recording Direction Anemometer
with driving clock and fittings -

Drum and fittings for Prof. Brown's Pressure
Anemometer -

Robinson's Velocity H.C. Anemometer with counter,
and spare flexible shafting -

Set of wooden ball pendulum anemometers -

VII

Miscellaneous

One Sunshine Recorder

One Sextant

One pocket Rainband Spectroscope -

One Stephanome with sliding rings and bars -

Mean Time clock

Two magnifying glasses -

Ozone test papers and scales -

Four Bar magnets -

One Daniell and Two Leclanche cells with wires
screws etc -

One Electric Bell -

One 50 inch measuring rod for depth of snow etc -

Two pocket compasses -

Brass stand with sliding bar for telescope -

One single-needle telegraph instrument with
battery and fittings (from G.P.O.)

VII (cont)

Three new small covered thermometer screens -

Two old " " "

One full size " "

Ladder stand for thermometer screens -

Snow-post for depth of snow -

Two wooden cases for Barometers with glass doors -

One spirit-level with sights -

12 scales for Thomson Galvanometer.

VIII

Instruments on loan

From Scot. Met. Soc. One cloud reflecting compass -

From Prof. Tait Edin. One Thomson Galvanometer.

One artificial Horizon -

Appendix IICatalogue of Books.

8 April 1886

Admiralty Manual of Scientific Enquiry -

Buchan - Meteorology -

Chambers. Mathematical Tables. - 2 vols.

Cumming, Gordon. In the Hebrides -

Douglas, Home. Searches for Summer. (Scot. Met. Soc.)

Fitzroy - Weather Book -

Guyots Tables -

Home, Milne. First Successors of the Holy Apostles -

Jolly - Life of John Duncan -

Journal of Scot. Met. Soc. - 5 vols - 2 parts.

Some old Reports of Scot. Met. Soc. bound -

Keamty - Meteorologie. (Scot. Met. Soc.)

Keats. Poems -

Kohlrausch. Physical Measurements -

Loomis. Meteorology -

Met. Office London, Non-Official Publications
of, - 14 parts -

Nautical Almanach - 1885-1886 -

Scott. Instructions

Scott. Meteorology -

Scott. Weather Charts and Storm Warnings -

Shakespeare's Works

Stewart. Nether Lochaber.

Pamphlets etc.

Ballot, Buys. Perturbations de l'aiguille aimantée

Brown & Barrington. - Migrations of Birds.

Buchan. Climate of British Isles.

Daneer. Ozone.

Ene. Brütt. Atmosphere: Meteorology: Diffusion.

Mill. The Rainband.

Roper. Lancaster Rainfall.

Roper. Weather Proverbs of North Lancashire.

Post office Guide.

Address Book.

Account Books and Store Book.

Letter Book.

Stephanome Tables. M.S.

Note Books.

Bound M.S. vols of Homily, Daily, and
Monthly Sheets.

A
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C
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