THE NEWSLETTER OF THE

ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE

AND THE

QUEEN'S UNIVERSITY ASTRONOMY CLUB

JANUARY 1979

A NEW YEAR BEGINS

Greetings for the New Year, 1979! Best of luck in observing and all astronomical endeavours.

While I am mentioning the New Year, I am reminded of a newspaper article I read recently and some thoughts that have since entered my mind. In the article the writer lamented the fact that our culture celebrates the beginning of the year at this time of the year, that is, at a time when the writer found the weather cold and unpleasant and nature apparently unproductive. (I hope the writer knows about Australia and the southern hemisphere, in general.)

However, it seems, to me that this is a very appropriate time to celebrate the heginning of the year. I think an observer of nature should be able to give a good reason to substantiate this idea, and an amateur astronomer should be able to give perhaps two reasons.

Observers who have been watching sunrise and sunset surely have been able to see the great heavenly globe marching southward along the horizon day by day until the time of the winter solstice. To the close observer the sun's return march should be noticeable a few days after the solstice. This "turning around and marching back" of the sun was the cause for the celebration of the great winter festival by the peoples of antiquity. Why not? With its return, nature would quicken and be "reborn", and this was the time when that rebirth had actually taken place. (It is not at the time when the summer birds appeared at northern latitudes. Without the returning sun, there would have been no returning birds.)

The astronomer also knows that the earth's orbit about the sun is an ellipse and at one point in the year the earth is closest to the sun and the sun appears largest in the telescope. At another time the earth is farthest away in the orbit and is smaller when seen in the telescope. (To be technical and exact for a moment, the variation in distance and size may be only a little more than 3 per cent. It may seem more significant when we express it this way: at time of perihelion the earth is 5,000,000 kilometers closer to the sun than when it is at aphelion and on the former occasion the diameter of the sun on the celestial sphere is given as 32'35" of arc but on the latter it is only 30'91" of arc.) In this annual cycle of movement from perihelion to aphelion and back, it would be appropriate to regard one point as a beginning and what better one could there be than the first of these two? (Most of us probably know that the earth's perihelion passage occurs in early January.)

We know we can not satisfy everyone! Let us put the beginning point of our New Year some time between the time of winter solstice and the time of perihelion passage!

Oh! Isn't that the way we have it and have had it for a couple of thousand years! The old observers were right, of course! Let's keep it that way.

NEW YEAR'S NOSTALGIA

Our newsletter goes into another year and it's time for some nostalgia.

In the pages of this newsletter in January 1974: Dr. Brian Hunter of the Queen's Chemistry Department wrote an article 'Astrophotography Without A Clock Drive' in which he discussed mounting a camera on an equatorial telescope mount and guiding it for relatively short exposures such as those of two minutes. The President of the Centre, Paul Brown, and the Secretary-Treasurer, Geoffry Wyght, had attended a dinner and meeting in Toronto as guests of the Toronto Centre. The newsletter editor invited contributions.

In January 1977, Sue MacDougall gave a calendar of coming astronomical events. I gave hints on Jupiter Phenomena Observing. Four "interesting statements" were given to mark the beginning of the "Compendium of Esoteric Facts" Column. A New Year's wish was for club members to contribute to the newsletter.

In January, 1978, the first article was O.K. Receives A Name. The "comet-like" (?) object discovered by Charles Kowal was to be called Chiron. I reported on the excellent observing conditions on the night of January 3rd - 4th, when I photographed an aurora and saw three Quadrantid meteors. Also in that issue there were congratulations to Jack Newton, a report of correspondence from an amateur in Germany, a reading list, and one esoteric fact. A question was asked about contributions to the newsletter. (Are there any common themes?)

One part of this publication that disappeared in the past year was the "Esoteric Facts". Now would be a good time to revive it. If you have a strange or unusual (but true,) fact from the wide world of Astronomy which you think is worthy of publication, please send it or give it to me. I hope that by the end of the year you will have several dozen esoteric facts that you can compile into your own little compendium. Use it to impress your friends, or whatever!

AN ESOTERIC FACT FOR TODAY

Yes! Here's one to impress your friends! Ask them: Did you know that:

The two sparsest meteor showers (at least the two sparsest I know of, at present,) which may be visually detected (yes, some are seen only by radar) are the ϕ (phi) Boötids on May 1, and the K (Kappa) Aquarids on Sept. 21. For the former, the observer hourly rate is not given as 10 or 5 per hour but only 1 per 5 hours, and for the latter, the rate is given as simply "probably too few to detect visually".

Don't tell your best friend who may be beginning meteor observing to observe or record those "showers". Showers! No way!

DID YOU OBSERVE?

The weather has not been extremely cooperative with some recent phenomena, at least for some of us.

I did not get to see the lunar occultation of Venus on December 26th. However, I was talking to one person who was in Toronto at the time and who did see and who was very impressed by the first part, the disappearance of the planet. He did not get to see the last part, either.

I saw what I took to be one member of the Ursid Meteor Shower. I hope there were some centre members who had clear skies for longer periods those nights and may have seen more of them. I, also, hope that there may be many other observing reports at our next meeting.

ECLIPSES ARE NOT THAT RARE (SUBTITLE: MISSED BY NINETY YEARS!)

At the time of eclipses we can look for a lot of reporting on the topic in newspapers and magazines. It's interesting to look carefully at what is written and to see the mistakes. How's this for one gross mistake?

Within the last few days a large national newspaper wished to draw attention to the fact that total solar eclipses are seen only rarely in any one place - in this case, Canada or North America. Both in a caption on the front page and in an article in the heart of the paper, it was stated that following next month's eclipse, the next one would not be until 2107. The words on the front page were: "unless you plan to be alive in the year 2107, your last chance to view a solar eclipse will be on Feb. 26..." Wrong! Very wrong!

Even not counting the one visible from Hawaii on July 11, 1991, here is a partial list of total solar eclipses before the above date:

(1) August 1, 2008 - totality in northern Canada and Greenland.
(2) August 21, 2017 - (See the Journal of the R.A.S.C., June 1978, Page 149.)
(3) April 8, 2024 - path of totality crossing Lake Ontario and including Kingston.

There may also be several others which may be seen in Canada before the year 2107, but I do not have a complete list extending that far.

Eclipses are rare but not that rare in Canada!

SUNSPOT OBSERVING

I hope that writing about sunspot observing in a recent issue has stimulated some interest in that subject. In fact, I think it has. At the last regular meeting I saw good sunspot maps drawn from observations made by both Angela Kahrkling and David Levy. The following page has two drawings copied from the observational drawings made by David. I think we will all agree that he has done some excellent sunspot observing. A real pro at solar observing!

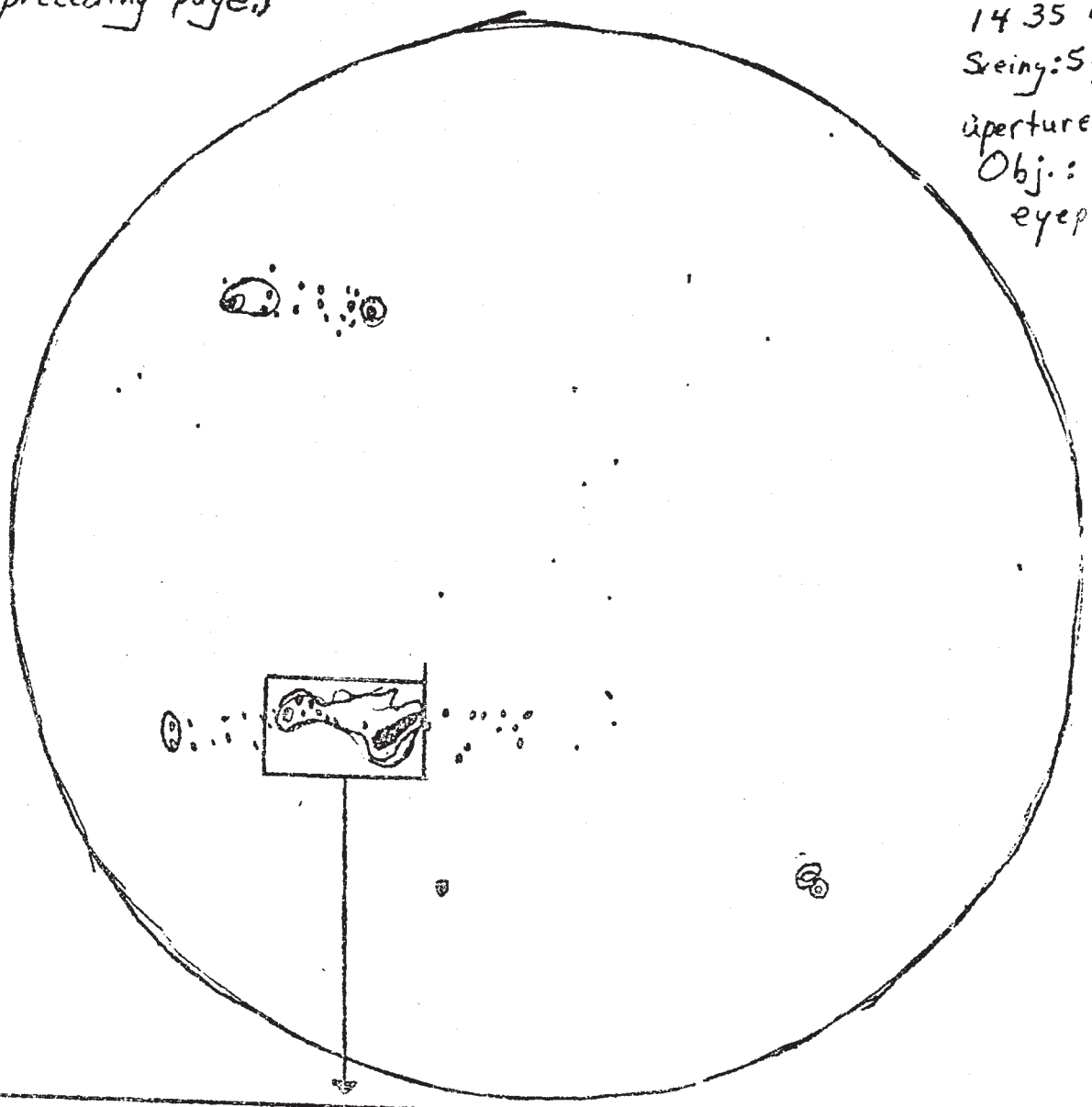
David reported that on December 10th he observed 54 spots in 5 groups. The seeing and transparency were 4 and 4 1/2 respectively at 15:00 hr. E.S.T., on December 14th, the time of those drawings, the numbers for the same conditions were 5 1/2 and 4 at 14:35 E.S.T. His instrument was a 3 1/2" reflector (1000 mm. f.l.) and he was using an 18mm eyepiece for direct observation. He reported that a slim bridge seemed to form during his 45 mm observation of the large spot reproduced in the lower diagram.
Thanks, again, David!

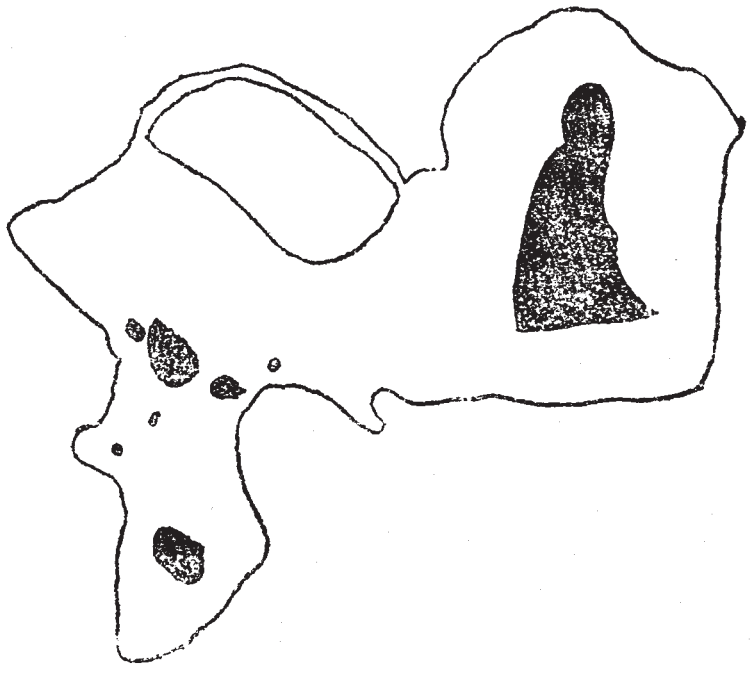
SUNSPOT OBSERVING

(See preceding page.)

DATA:

Dec. 1st, 1978
14 35 E.S.T
Seeing: 5 1/2 Trans: 4
Aperture 3 1/2"
Obj.: 1000 mm.
eyepiece: 18 mm





ANOTHER CONTEST

ENTER! WIN! A REAL PRIZE!

It's now almost a year since my announcement of my last contest. It's time for another contest.

RATIONALE FOR THE CONTEST:

It is to be hoped that you have been using the Observer's Handbook 1979 for some time now and that you are becoming more and more familiar with its absolutely superb features which are a tremendous boom to observers in many parts of the world. This contest is designed to make you become even better acquainted with the pages of your handbook. You may even get to know more about features you have never before used.

RULES OF THE CONTEST

1. I have detected in the Handbook two tiny typographical errors which should in no way detract form the excellence of this fine work. You are asked to locate these two tiny typographical errors. (No hints about where either one is!)
2. Record where they are found on a piece of paper, with your name (and address, if mailed) and give it to me at a future meeting or mail to me (Box 196, Sharbot Lake, Ontario KOH 2PO)
3. The first correct answer will determine the winner.
4. Contest closes on February 22, 1979
5. The prize is a small astronomical aid which should help you in part of your observing program. There may also be a similar second prize and possibly a third prize also (similar or different) depending on the number of entries.
6. The name of the contest is: The Get-To-Know-Your-Observer's Handbook-Contest.
7. You may enter more than once (but not more than three times!)
8. You may receive only one prize.

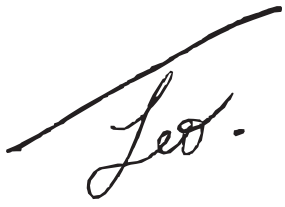
REMEMBER THE MEETINGS

Come to the meetings, please, and bring a friend who may be interested in astronomy. Remember the dates: January 11th
January 25th
February 8th
February 22nd
Remember the place: Ellis Hall, Room 222, 8:30 p.m.

LAST MINUTE FLASH!

I have read in the new January issue of Sky and Telescope of David's presentation at the A.A.V.S.O. Convention. Congratulations to David for that fine effort!

P. S. The "Stellar Offset" Contest deadline for entries has been changed from January 31, 1979, to February 26, 1979 17:00 UT. (Our last Solar Eclipse of the Century's time.)



Stellar offset part 2
Star distances.

Star #	Dist
1	66
2	565
3	65
4	42
5	167
6	116
7	164
8	86
9	160
10	87
11	1270
12	87
13	72
14	57
15	38
16	269
17	79
18	147
19	91
20	62
21	267
22	121
23	129
24	116
25	38
26	583
27	602
28	541
29	1003
30	688
31	143
32	270
33	360
34	161
35	139
36	231
37	3411
38	337
39	71
40	381
41	886
42	374
43	152
44	930
45	464
46	1491
47	883
48	306
49	1796
50	1988
51	1591
52	942
53	1590
54	71
55	2087

#	D
56	2087
57	517
58	119
59	119
60	736
61	371
62	206
63	122
64	167
65	598
66	1087
67	105
68	35
69	3385
70	663
71	64
72	2085
73	112
74	74
75	629
76	2684
77	102
78	72
79	214
80	123
81	1228
82	161
83	2384
84	408
85	500
86	317
87	98
88	35
89	64
90	
91	149
92	228
93	175
94	734
95	567
96	729
97	55
98	451
99	201
100	2678
101	60
102	358
103	100
104	153
105	318
106	1280
107	74
108	150
109	277
110	90
111	101
112	175

#	D
113	65
114	411
115	110
116	690
117	131
118	155
119	97
120	33
121	158
122	111
123	105
124	134
125	107
126	28
127	352
128	358
129	455
130	554
131	119
132	144
133	66
134	118
135	352
136	
137	132
138	206
139	416
140	114
141	93
142	151
143	474
144	450
145	146
146	53
147	112
148	98
149	231
150	73
151	707
152	118
153	111
154	557
155	240
156	743
157	463
158	510
159	58
160	31
161	474
162	28
163	28
164	59
165	90
166	62
167	53
168	146
169	383
170	135
171	12

#	D
172	129
173	421
174	78
175	66
176	24
177	168
178	532
179	463
180	83
181	95
182	34
183	174
184	167
185	152
186	300
187	102
188	673
189	91
190	562
191	57
192	106
193	43
194	64
195	570
196	563
197	592
198	104
199	153
200	653
201	89
202	125
203	66
204	569
205	77
206	49
207	519
208	55
209	747
210	527
211	77
212	167
213	52
214	512
215	118
216	77
217	649
218	37
219	434
220	426
221	77
222	337
223	96
224	707
225	662
226	135
226A	1013
227	376
228	137
229	302

#	dD
230	531
231	638
232	460
233	71
234	80
235	146
236	120
237	81
238	71
239	3388
240	117
241	151
242	71
243	82
244	64
245	104
246	133
247	156
248	582
249	293
250	163
251	1318
252	388
253	?77
254	245
255	425
256	291
257	347
258	66
259	21
260	91
261	153
262	125
263	330
264	288
265	766
266	37
267	45
268	1617
269	43
270	400
271	1004
272	1021
273	778
274	518
275	67
276	1072
277	1259
278	367
279	71
280	1318
281	253
282	208
283	110
284	215
286	96