R E G U L U S

THE NEWSLETTER OF THE
ROYAL ASTRONOMICAL SOCIETY OF CANADA -- KINGSTON CENTRE

MARCH, APRIL, 1988

REPORT OF THE JANUARY 1988 NATIONAL COUNCIL MEETING

The National Council of our Society held a meeting on Saturday, January 30, 1988 in the Library of the National Office in Toronto.The National President, Mrs. Mary Grey, presided and a total of fourteen of the twenty Centres of the Society were represented.The agenda included reports from the officers and standing committees of the Society, and several important decisions were adopted.

Council approved the concept, suggested by members of the Calgary Centre, of producing a national poster such as could be used for advertising Centres' Astronomy Day activities, and a committee was formed to carry out the production of the poster. The R.A.S.C. Seal Committee which had been formed to investigate the use of the Society's seal was empowered to seek legal advice from the Society's solicitor regarding the use of the seal, and it is to report again at the next meeting of Council. The Centennial Committee, composed of Dr. Bishop, Dr. Percy, and Mr. Broughton, is to receive ideas and suggestions for marking the Society's centennial year in 1990.

The Treasurer presented his 1987 Unaudited Financial Statement and his operating budget for 1988; both were approved by Council. The Librarian presented plans for increased numbers of new Library acquisitions for the coming year and for having the bindings of periodicals done by a different binder at a considerable saving to the Society. The editor of the **Journal** announced that the Editor Selection Committee was recommending Dr. Jeremy Tatum as the new editor, beginning with the 1989 volume; Council wholeheartedly approved the nomination.

On recommendation from the Awards Committee, decisions were made concerning this year's presentations of the Society's major awards. The Service Award is to be presented to four very worthy recipients: Dr. Batten, Dr. Bishop, Dr. Locke, and Mr. Orr. The Chilton Prize will be received by Mr. Philip Teece of the Victoria Centre, and the Chant Medal will be awarded to Mr. Chris Spratt, also of the Victoria Centre. The Awards Committee also approved the awarding of four Messier Certificates - to members of the Kingston, Edmonton, and Windsor Centres. The Honorary Members Committee recommended Mr. Grote Reber as the newest Honorary Member of the Society, and Council endorsed the recommendation.

Regarding the **National Newsletter**, there was discussion about, and a proposal for, a new bilingual cover for the publication.The Constitution Committee reported working on the third draft of the proposed new constitution for the Society.

There was considerable discussion regarding the approaching centennial of the Society (in 1990) and suggestions were advanced for ways to mark the occasion. Council established a Centennial Fund and approved a motion to institute a fundraising campaign for major new initiatives of the Society. As a first step toward one potential centennial project, a committee was appointed to investigate the idea of publishing a mini-Handbook of basic astronomical data.

A model of the new Plaskett Medal, which has replaced the Society's Gold Medal, was seen for the first time by members of Council.

The Astronomy Day Coordinator presented suggestions concerning this year's International Astronomy Day which will be held on Saturday, April 23. A report was received concerning plans made so far by the Victoria Centre for this year's General Assembly which will take place on the Canada Day weekend. There were indications that at least two Centres of the Society would be applying to host the 1990 General Assembly.

Council gave approval to a plan for assisting (with $500) the I.A.U. Colloquium 105 which is devoted to astronomical education. This colloquium will meet this summer in the U.S., and the money will assist astronomy educators who otherwise might not have the chance to attend. Council also approved a grant of $350.00 to the Centre de Quebec for the publication of its annual Almanach Graphique.

Complete details regarding all the items discussed at this meeting may be found in the minutes of the meeting which have been distributed to our Centre President and National Council Representative.

FROM THE EYEPIECE

by MARK KAYE

It has been almost a year since my last contribution to the newsletter. A lot has changed since that time. A new scope, and a new mount, and an observing site. It says volumes about our crazy hobby that the scope set me back four times what I spent on a replacement set of wheels. Try driving your refractor to Toronto on business. On the flip side, try taking your '75 Honda to Jupiter. The mileage is good, but not that good!

I considered starting this article by writing: "'Scope For Sale. In kindness to all astronomers, I will sell the 'scope so that the rest of the observing public will get some clear nights." However, last night because of a bizarre set of circumstances, it was clear and I observed. In the past, it has often been clear all day and then it would cloud over at night, but at least the powers that be made up their minds before I set up. Alas, no longer. I set up and while not yet dark adapted, the skies cloud over for good. Last Sunday was the worst. Playing cat and mouse with the clouds is not my idea of a January good time. I set. It clouded. It snowed. I unset. It cleared. I set up again. (I was desperate.) It clouded. I went to bed. It was sunny when I got up in the morning. I did not use polite words. Of course, I haven't gone into detail about the time I was sick, out of town (without the scope), or the moon was full. However, I'm sure that you get the picture.

By the time Larry showed up, I had already done a little observing. The skies were very transparent - a rarity considering January skies are not usually very good, especially when the temperature is -18. I think the wind had something to do with it. Fortunately the observing site is ringed by cedars, and sheltered from the wind. I wandered up through the late summer's Milky Way and into fall's square of Pegasus. Just outside the square sat Comet Bradfield l987s at about magnitude 7. I had been fortunate to set up and observe this object once late last year when it was at magnitude 4.5, with a tail of about 2/3 of a degree, and just visible to the naked eye. Now it was round, and presumably what tail was left was pointing away from earth. Its movement was easily seen, as I checked in on it from time to time. Not far away was Comet Borrelly 1987p a couple of magnitudes fainter but very much the same in appearance. This past year has been a banner year for comets. I wonder how many scopes bought for observing Halley were used to look at comets this past year.

While I was in Triangulum, I remembered that M33 is always worth a glance. I try to look for detached pieces of nebulosity here, brighter reflections in the very faint outer arms. With higher power and patience, an observer can see a lot of detail in this large galaxy. Gradually I puttered down along the edge of the Milky Way stopping for the occasional open cluster. The nebulosity around the Pleiades is a fine sight on a clear night. The galaxy NGC891 is a challenging edge-on with a dust lane visible in large 'scopes but not mine. Of course, I eventually ran into Orion, hone of tie brightest stars and best nebulas. For the first time M42 showed a haze of colour. It was a pale green and in places a faint pink. I was impressed, so impressed that I moved on to NGC2024 whose proximity to Zeta Orionis makes this a difficult target. I was stunned. Small parts of IC434 were easily visible. I have yet to see the outline of the famous Horsehead, but only from very clear skies have I ever seen parts of the reflection nebula that surrounds it. I then crossed into the Milky Way to look at the Rosette. In the past I have never been satisfied that I could see any nebula, just the open cluster NGC2244. The nebula, in fact, is a lot bigger than I had thought, and quite splotchy in places. Although it extends all around the cluster, I found it most prevalent in the north-east. What a sight! On wide field photos I have taken of this area, Barnard's Loop is also visible. I don't imagine it will ever be that clear!

Larry arrived in the middle of the Rosette, and with poorly adapted night vision, had a look. After he set up, we turned to his favorite opener, M81-M82. With Larry's l3mm at 80X, a hint of M81's spiral structure is visible. M82 is well detailed, a long thin faint haze with wider brighter patches on top. In my opinion pushing the night to 160X was a waste of time, and I noticed that the Barlows spent much of the night encased. Larry then showed me NGC281 in Cassiopeia. This is a very faint nebula; we saw no real detail otter than a not-quite-round haze. As usual, we spent a while looking at the same objects in our two ‘scopes and comparing. M31 and its companions - what a sight! NGC404 is hard to spot because of the bright star, Beta Ardromedae nearby. There is

more contrast in Larry's scope, probably because of its longer focal length, and in some instances the contrast enhances the view. I find that working with low powers and wide fields can sometimes saturate the eyes, making very faint objects blend into the skyglow. When in doubt, I try a higher power.

The cold temperatures tend to slow one down, and as the night progressed, it seemed to take longer to get from one sight to the next. Taking advantage of the brief time that Lepus and Eridanus are above the horizon, we made these constellations our next task. This is the one area of poor sky from my site, because of the light hogs to the south. A good long stay on the area of each target is required, and the pay-off is usually just the faintest of indications from the very centre of any galaxy or cluster. By this time Orion had just passed the meridian; so I looked at some of the objects I had missed on the first pass. M78, as stated in the Handbook, is a featureless nebula. I imagine that it is usually overlooked. NGC2022, a planetary, is very faint and a good challenge to one's finding skills, but rather dull. Of course, a bit farther northe is M1. In a way I can see a crab here; of course, one has to have an imagination to be an astronomer.

It may seem hard to believe, but even Larry started to get cold after a while. Leo was making its climb into the night sky, and despite the huge temptation of Coma Berenices, the -25!C temperature won out. "Just one more galaxy," said Larry, pointing his scope into the tail of the lion at M65. Of course, there are actually three there, but who is counting? "What about trying for M101, M51, and M97...?" Good night, Larry.

1988 GENERAL ASSEMBLY JOINS TWO OTHER MEETINGS

At the January National Council Meeting, as mentioned in the first article, a report was received from a representative of the Victoria Centre regarding plans made so far for our Society's 1988 General Assembly. As a result of a long series of planning efforts, it will be possible to attend not just the usual group of events associated with our yearly gathering, but also the events associated with the annual meetings of two other large organizations and two additional astronomical happenings". The other organizations involved are the Astronomical Society of the Pacific, a very large society based in San Francisco, and the Western Amateur Astronomers, an organization of observers and telescope-makers also based in California. The additional "bonus features" are a series of workshops on the teaching of astronomy (called **The Universe In The Classroom and Space Update '88**) and a scientific symposium with a roster of distinguished international speakers (called **The Extragalactic Distance Scale**).

Following is a brief schedule of events being held mainly at the University of Victoria.

Date	Event
Sat. June 25.	-Teaching Astronomy Seminars -Evening Star Party at DAO
Sun. June 26	-Teaching Astronomy Seminars
Mon. June 27	-Independent Activities or tours -Meetings of comittees
Tue. June 28	-Tours of DAO, Butchart Gardens, Institute of Ocean Sciences and Pacific Geoscience Centre
Wed. June 29	-The Scientific Symposium: **The Extragalactic Distance Scale** -R.A.S.C. Registration -Evening tour of DAO
Thu. June 30	-Scientific Synposium (Day 2) -History of Astronomy Session -Paper sessions for the 3 societies -R.A.S.C. Council Meeting

-The Helen Sawyer Hogg Public Lecture by Dr. Hubert Reeves:
The Early Moments of the Universe
-The Murphy's Law Slide Show
-Visits to small observatories

Fri. July 1 -Scientific Synposium (Day 3)
-Paper sessions for the 3 societies
-Awards Banquet for the 3 societies

Sat. July 2 -Paper session for the 3 societies
-R.A.S.C. Annual Meeting
-R.A.S.C. National Council Meeting
-Evening Salmon Barbecue

Sun. July 3 -Tours (as on Tuesday)

As in the past there will be display competitions where projects of various kinds such as astroptotography may be entered. These may be from individuals or from Centres. For the first time at a General Assembly there will also be commercial exhibits of astronomical equipment, books, magazines, software, and educational products.

As can be seen, this is a "large gathering" with attractions that should appeal to many amateur and professional astronomers. The Victoria Centre organizers have urged that everyone come as early as possible and attend as many events as possible. While the so-called "essentially R.A.S.C. G.A." events do not begin until the afternoon of June 29, there is much that should be of interest earlier in the week.

For those who wish further information, your President, National Council Representative, and Editor have further details about this upcoming event which promises to be a very memorable gathering of many astronomers.

FOR YOUR COMPENDIUM OF ESOTERIC FACTS

In the present age with computers that accomplish so much by way of calculations and predictions, we may easily forget the hours and months of tedious labour spent at calculations for astronomical purposes. A number of famous astronomers or assistants to astronomers are remembered from the past century, because they did such onerous work. Certainly one of the most difficult and esoteric calculations before the age of the calculator or computer was that done by Gian Vincenzo Mora of Sequals, Italy, who in a work published in 1910 succeeded in compiling the first list of exact times when all **four of the Galilean moons of Jupiter are simultaneously invisible in the telescope because they are occulted, in eclipse, or in transit.** Mora's list of these times was the only such compilation done before the computer age and it listed thirty-six occasions between the years 1800 and 2000 when all the Galilean satellites disappear simultaneously from view in the telescope. His list corresponds amazingly with the best such lists compiled in recent years (and, of course, done with the aid of computers). (Incidentally, the next date for simultaneous disappearance of all Galilean moons is June 15, 1990 when the Giant Planet will be seen for well over an hour, apparently without any of its moons, between 22 48 UT and 24 20 UT.)

REPORTS AND OTHER ITEMS

1. The months of January and February brought a number of clear and very cold nights. In early January Comets Bradfield and Borrelly were still well placed for good viewing. On the night of January 9-10, the former was very near NGC1 and NGC2 two **very** faint galaxies that are rarely observed by amateur astronomers. I took up the challenge and thought I saw one of them. (I would be very interested in hearing from anyone who has observed these first two entries in the New General Catalogue, and I would like to know what aperture was necessary to see them.) The asteroid Nysa was a challenging object for 11 X 80 binoculars as it moved near the Hyades in early January; Vests was also intriguing as it moved slowly through Cancer, though it was scarcely a challenge compared to Nysa. The excellent maps printed in **Sky and Telescope** and the superb atlas

Uranometria 2000.0 made their identification a cinch. A very active Aurora with considerable flaming and a double arc appeared on the night of January 14-15. The most interesting event of February was the lunar occultation of the Pleiades on the night of February 23-24. I managed to get precise timings of disappearance for six of the stars. Once again, the map and chart published in **Sky and Telescope** were invaluable aids in identifying the stars. The event was particularly spectacular because all the disappearances were on the dark side of the moon, and with a relatively "high power" occular, one could put the bright part of the first-quarter moon out of the field of view completely and concentrate on the time of disappearance without any annoying glare.

On several nights the Zodiacal Light was very good and occasionally spectacular. Once at least it was seen extending into the Light Bridge, the band that extends from the Zodiacal Light Pyramid all the way to the Gegenschein. Probably the best nights of all were Mar. 6-7 and 7-8 when parts of the Zodiacal Light were definitely brighter than the Winter Milky Way. On the second of those nights the transparency was so good that I could say I saw IC434 which is the nebulosity east of Zeta Orionis more clearly than ever before, and I thought I some of the nebulosity in the area of the Horsehead Nebula but did not claim to be able to see the Horsehead itself.

I have been noticing that the number of sunspots is generally up. In mid-February one large spot made its way across the solar disk.

2. A well-known astrophotographer and member of the Saskatoon Centre, Gordon Patterson has published a new book relating to his craft. It is called "**Handbook of Astrophotography for Amateur Astronomers**, and it is available from Herrem Publishing Company (P. O. Box 8967, Saskatoon, Saskatchewan S7K 6S7) for $16.96 (plus $1.00 for postage and handling). Here is a good chance to support a Canadian writer and publisher.

3. **Our Error Of The Month.** This month there are two finalists. The first is from a newsletter of another Centre. (Let's not mention which; these things happen easily.) It mentioned A.L.P.O. and in brackets defined it as the **Astronomical League of Planetary Observers.** Of course, it should be the **Association of Lunar and Planetary Observers -** whose Asteroid and Comet sections are headed by none other than our own David Levy.

The second is from **Astronomy** magazine, page 44 of the March issue where in column two of an article on building your own sidereal clock the number representing the factor comparing solar and sidereal time should be **1.00273790934 accurate to eleven decimal places -** not the number given which has too many 0's in it.

Our Smile Of The Month. This one comes also from another Centre's newsletter. Maybe it should be called the **Hyperbole Of The Month.** A writer was explaining what could be done for a challenge after completing observation the Messier Catalogue. He said one could try to observe all the objects of the "NGC Catalogue" (There are 7840 objects.), but it "would be like building the P.E.I. causeway with a shovel"!

4. We look forward with anticipation to the April meeting when Mr. Tom Dey from the Rochester Astronomical Society will be our guest. Mr. Dey is an outstanding astrophotographer, a lighting engineer at Eastman Kodak, and an authority on the topic, light pollution. He has recently visited Kitt Peak National Observatory in Arizona where he has been working with Dr. David Crawford, also an authority on light pollution. Mr. Dey has been involved in the design of various kinds of lights, and can give considerable "inside information" about the lighting industry.

4. Here is our list of upcoming meeting dates:

Fri. Apr. 8	Mr. Tom Dey: **Light Pollution: An Update**
Fri. May 13	Dr. Vic Hughes from Queen's Astronomy Department
Fri. June 10	?
Fri. July 8	?
Fri. Aug. 12	?

OTHER DATES TO KEEP IN MIND:

SATURDAY, APRIL 9	KINGSTON AND DISTRICT SCIENCE FAIR CATARAQUI TOWN CENTRE
SATURDAY APRIL 23	INTERNATIONAL ASTRONOMY DAY OUR CENTRE'S MALL DISPLAY PUBLIC STAR NIGHT AT MacDONALD PARK (WEATHER PERMITTING)
JUNE 25 - JULY 3	GENERAL ASSEMBLY UNIVERSITY OF VICTORIA, VICTORIA, B.C.
JULY 15, 16	SYRACUSE SUMMER SEMINAR VESPER, N.Y.
AUGUST 13, 14	STELLAFANE SPRINGFIELD, VERMONT

5. Our meetings begin at 8:00 p.m. and are held in Room C-206 in MacIntosh-Corry Hall at Queen's University. The monthly business meetings of our Centre's Executive Council is held at the same location and dates beginning at 7:15 p.m., 45 minutes before the regular meetings. Items for the business to be discussed by the Executive Council should be taken to any one of its members. Their names were published on the first page of our last newsletter, i.e., January, February, 1988.

6. Our mailing address is as follows:
   R.A.S.C. - Kingston Centre,
   Box 1793,
   Kingston, Ontario
   K7L 5J6

Clear skies!
Good observing!

Les Enright