# NATIONAL NEWSLETTER

# April, 1980

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# NATIONAL NEWSLETTER

#### **April**, 1980

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Centre and local items, including Centre newsletters should be sent to the Regional News Editor. With the above exception, please submit all material and communications to:

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Deadline is six weeks prior to month of issue

## **Content of the Newsletter**

#### Editorial

Mr. George Ball, of Victoria Centre, made the report for the Editor of the *Newsletter* to National Council at Edmonton on December 9th. In the Minutes of the Council Meeting we note the following sentence:

Mr. Dyer commented he is pleased with the content of the *National Newsletter*, but would like to see more reports from Centres appearing regularly.

It is gratifying to see Mr. Dyer's approval of our general policy, and we must agree with him in the above suggestion. As far as possible it has been our endeavour to use the pages of the *National Newsletter* to distribute reports of activities conducted by any Centre that seemed to us worthy of imitation or development by other Centres. This policy we intend to continue, and if we have been remiss in not including reports of Centre activities, we will endeavour to rectify the omissions in future.

Material is often culled from the various monthly notices and publications of our Centres as received by the Editorial Committee. We have also adopted a policy of trying to include names of members in various Centres so that when the National Assembly brings many of us within sighting distance, we can couple the name with the person. We will be most willing to receive reports of activities by individuals of Centres, or Centres as functioning wholes that we can exchange with our colleagues through these pages.

### **A Telescope Farm**

#### by David H. Levy Kingston Centre – Tucson Branch

GUESS WHAT the customs man said when a van full of telescopes and amateur astronomers stopped at the entrance to Detroit, on its way to Tucson?

He asked: "How many telescopes do you have?"

"Forty-seven," I answered.

"All in that van?" He was incredulous.

"Oh no. Some were left in Canada, and others are meeting me in Tucson."

"What do you do with these telescopes?"

"I use them for observing and teaching." My three good fellow travellers sat stiffly in their places, all but crushed in a potential avalanche of coated glass, tubing, and iron, waiting for the inevitable order to take all this apart. There was an interminable delay while the customs man stared at us.

"Well," he finally said, "good observing to all of you." As we pulled out to continue our journey, even the telescopes seemed relieved. A week later, we finished our odyssey and I began my new life as an observer in Tucson, Arizona. It was at that time that I began to realize that my new home south of Tucson was to be the stopping point of not one but two odysseys. The main character of the second journey is not a person but a telescope – a massive twelve-inch Tinsley Cassegrain. Built around 1918, this telescope had enjoyed a forty-year career as a visitor's instrument atop Mount Wilson in California. But in the past several years the telescope had been moved across the land from one site to another, across Arizona to Texas and back to Arizona, leaving only a succession of concrete bases to record her stops. Within a month of my arrival at the new Jarnac Observatory, the Tinsley arrived too, first her optics, and later the 1600-pound weight of her equatorial head and pier. She now sits happily atop a new pouring of concrete, and if either of us has to move again, we'll move together.

I do not collect telescopes; I live and breathe them. Each of my instruments is different and probably can do one specific type of observing better than all the others. Why not just one or two general purpose instruments? Because the sky has no general purpose objects.

My three-inch refractor outperforms all the others for solar observations, but another refractor whose objective has but a single inch over the solar telescope leads all the others in the clarity and depth of its planetary images.

One eight-inch reflector is ideal for a nightly estimation of the variable stars in the Orion Nebula. Another eight-inch reflector, of slightly shorter focal length, is far better for comet hunting.

A C-90! Could that possibly compete with the others? Of course. With her fine and solid mounting, I mount a long focus camera on top and get some interesting wide-field guided astrophotographs. And my total eclipse photograph that appeared on p. L32 of the *National Newsletter* of June, 1979 was taken through the C90.

Then surely there is no need for the several six, four and three-inch reflectors that crowd every room in the house. Well, yes, there is. Last year I offered a course in observational astronomy, and on clear nights all these smaller instruments were out. No time-consuming queues; just one telescope for each student.

An important part of the collection consists of the vintage instruments. Collected mostly for their historical value, these telescopes often enter the observational scene. One refractor, a late Alvan Clark with an exceptionally fine three-inch f/10 lens, is in use almost every clear night for a brief scan across the western horizon for possible comets.

These vintage instruments have helped me in a number of very unusual ways. Imagine my surprise, for instance, when I first looked through my Ramsden spyglass from about 1800 and discovered that its optics were better than those of most of the comparatively-sized instruments that are made today! This first-hand information was invaluable when I tried to interpret a line of Wordsworth's 1806 poem *Star Gazers* for my recently completed master's thesis.



Inscription on Gregorian telescope made by George Adams circa 1790. Photo by David H. Levy

Wordsworth describes a queue of people looking through a telescope at Leicester Square, and he notices that they all leave with dissatisfied countenances:

"Yet, Show-man, where can lie the cause? Shall thy implement have blame, A Boaster, that when he is tried, fails, and is put to shame?"

Most critics agree that telescopes in use by 1806 were simply not good enough to give satisfactory views of the heavens. In its stunning interpretation of the Perseus double cluster and of the Orion nebula, my Ramsden gave these critics an answer from the past. My own thesis went on to suggest that Wordsworth's queue may not have known what to expect when looking through a small telescope. In my experience, students often are disappointed with their first views through a telescope as they expect too much.

I wish these older telescopes could talk, for what stories they might have to tell! My Gregorian, for example, was made by a George Adams of Fleet Street, London, sometime prior to 1795. There actually were two George Adamses, father and son, and both advertised

themselves as instrument makers to George III. I found a photograph of another Gregorian that looked practically identical to mine, and that one had been made around 1750. But Gregorians like to hide their secrets and I can only speculate certain things about the nature of the instrument and its history by looking at it and through it. The optical system offered two clues. It was out of alignment, for one thing, and at the same time it was in remarkably good condition for its great age. This combination of facts suggests that this particular Gregorian possibly spent most of its life with its lens cover on. The good optical condition could mean that the instrument was restored at some point, but then why would the optics have been left in such poor collimation? I imagine then a quiet, lazy life on top of a piano for a telescope more often looked *at* than *through*. When I began using this Gregorian in 1979 for variable star observations, it almost had a heart attack!

One other point of interest: one snowy Sunday afternoon I threw an alignment party, complete with – of course – screwdrivers. That afternoon I realized that in one important area, the art of telescope making had made precious little advance, for the same screwdriver and the same procedure served to collimate both the Gregorian and the modern telescopes.

I must not forget to indulge in the "fun" instruments – telescopes created during times of recuperation from one brief illness or another. One has a mount that defies anyone to imagine how it does not come crashing to the ground. Another is based on the old Sellers principle in which the telescope becomes one leg of a large tripod. A third has a beer can for a tube, and a fourth is the "talking telescope" of December *NNL*. There are three other telescopes that are built from the parts of a single 3-inch reflector. Except for the beer can, all these instruments are operational. And there is the "guardian" telescope – a six-inch reflector whose mounting of concrete blocks forces it to stay outside, warning passersby that a stargazer resides within. The simple columns of concrete bricks form a stylized miniature of Lord Rosse's "Leviathon of Parsontown" – which for the seventy-two years before 1918 was the world's largest telescope. My tiny version spends its time point at one object – Polaris – and each night I begin my observing with a quick look through this telescope to check the seeing conditions.

The optical parts of this telescope, as well as two complete six-inch reflectors and an eightinch f/8 Newtonian, are the legacy of what was once a most substantial summer astronomy program run at a children's camp on Lake Placid. The director of that camp, Lothar Eppstein, believed that normal children should be exposed to a substantial array of instrumentation at an early age. His gamble paid off; several of his former campers have gone on to pursue careers in science.

It was at Lothar Eppstein's camp that I first realized that there is probably a special design of telescope that would be most impressive and useful for children. Over the past few summers, at a day camp for much younger children, I tried to narrow this concept of a children's telescope by presenting them, summer after summer, with a variety of telescopes from my collection. It gradually dawned on me that children want four qualities in a telescope, and the first of these is that the telescope should be "big" – children are not impressed with extremely portable instruments. On the other hand, since few schools and camps have the funds for observatories, the telescope also has to be somewhat portable, so the second quality is that the telescope should feel that they have control of the instrument, that they can reach it and commune with it. And fourth, the telescope should be rugged if it is to last: children want to touch and play with it and they should be able to.

With these ideas I designed what may be a first step towards an ideal children's telescope: a four-inch reflector, f/10 for a comfortable long-focus view of the moon and planets, usually the favourites of children. It is mounted on a traditional German equatorial head that stands atop a small tripod so that when the telescope is pointed towards the zenith, the bottom of the tube is only two inches or so from the ground. This way even the smallest of the campers can reach the eyepiece without straining themselves. The tripod has an elevator feature so that taller children can enjoy it too.

Would you like to see some of these instruments in action? I close with an invitation to RASC members. Next time you plan to visit the Tucson area, write me at Route 7, Box 414,



A four-inch reflector designed so that even small children can use it in comfort. Photo by David H. Levy

Tucson, Arizona 85706. If I am in town I should be happy to have you drop by, inspect and observe your favourite objects from the unclouded, steady sky of southern Arizona.

#### Jarnac Observatory

#### Lists of Instruments

- 1 Discoverer: 2.5" reflector
- 2 Echo: converted 3.5" Skyscope
- 3 Echo II: modified 3.5" Skyscope
- 4 Echo III: 4" f/12 reflector on Skyscope mounting
- 5 Albireo: 3" Tasco reflector, modified
- 6 Syncom II: Homemade 3" reflector on "Kramer" style mounting
- 7 Jarnac II: 4" Astroscan with finder
- 8 Mercury: 4" f/3.5 travelling reflector by Coulter
- 9 Andromeda-Caph: 4" homemade reflector with large finder
- 10 Apollo: 6" reflector by Cave
- 11 Antares: 6" RV-6 reflector by Criterion, somewhat modified
- 12 Propus: 6" reflector with photo-equatorial mounting, by Star-Liner
- 13 Equinox: 6" Maksutov reflector, f/23
- 14 Procyon: 6" Homemade reflector
- 15 Little Joe: 6" f/4 reflector by Optical Craftsmen; modified
- 16 Minnowbrook: 6" reflector to sight Polaris; "Rosse" mounting
- 17 Spica: 8" Dynascope by Criterion
- 18 Pegasus: 8" reflector by Cave; modified

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19 Jupiter: 16" reflector, not yet completed 20 Mira II: "Copernicus" 3" Maksutov reflector 21 Mira III: Celestron-90 Astro-telescope 22 Abacus: Tiny refractor for educational purpose 23 Abacus II: Tiny Tasco refractor 24 Abacus III: 40 mm small refractor on antique camera tripod 25 Ranger: small decorative but functional refractor, mounted on Echo-II 26 Little Joe II: small refractor on mount once used for Little Joe 27 Ceres: 10 x 70 binoculars 28 Vesta: 8 x 24 Nikon binoculars 29 Skylab: 60 mm Tasco refractor, on Apollo telescope mount 30 Surveyor II: 3" refractor by Polariscope 31 Cosmos II: 4" refractor by Meade 32 Cosmos III: Guidescope for Cosmos II 33 Mintaka: 4" refractor with built-in music system 34 Polaris: Polar sighting telescope for Spica 35 Polaris II: Polar sighting telescope for Cosmos II 36 Polaris III: Polar sighting telescope for Propus 37 Bellatrix: small surveyscope, brass dated 1897 38 Betelgeuse: 3" Bardou refractor, circa 1890-1900 39 Jarnac: 3" Broadhust-Clarkson refractor, no mount, circa 1900 40 Rigel: 3" Alvan Clark refractor, model "T", circa 1900 41 Alphecca: small Ramsden refractor, circa 1800 42 Nashira: Gregorian reflector, by George Adams, circa 1750-95 43 Saturn: 12" Cassegrain reflector, by Tinsley, 1918

44 Ganymede: 78mm Ad Astra III AR 3 element Maksutov-Cassegrain

45 Amalthea: 4<sup>1</sup>/<sub>4</sub>-inch reflector mounted on Sellers-type stand

46 Voyager: 60 mm refractor from Edmund, with 5 x 24 mm finderscope

47 Dschubba: 40 mm refractor (spyglass) circa 1900

48 Maia: 80 mm short-focus refractor for AAVSO Nova Search

49 Ursa Major II: 8-power refractor

## **AAVSO Receives Assistance Grants**

The Annual President's Letter from Mrs. Janet A. Mattei, Director of the American Association of Variable Star Observers contains the following release:

At this time I wish to share with you the good news we have recently received.

*National Science Foundation (NSF) Funding:* The proposal, titled "The Reduction of Observations of 2,000 Variable Stars," which we submitted to the NSF last year, has recently been funded. The funding is for two years and it is to be used to prepare the data from 1974 to the middle of 1979 for publication and to process the data from 1963 to 1974. The project involves about 2.3 million observations. We are very grateful to NSF for finding our Grant Proposal eligible for funding.

*NASA Funding*: Last year I informed you that our proposal to NASA, titled "Optical Light Curves of Cataclysmic Variables to Provide Correlative Studies for HEAO-2 Investigations," had been accepted. Its funding, however, had hot been received. Recently we heard from NASA that all the processing of that proposal has been done and the funding should be forthcoming. So, along with the NSF project, we will be working on publishing the light curves of cataclysmic variables for the year 1969 so that these may be correlated with the HEAO-2 x-ray observations.

The fact that both major federal scientific organizations have decided to fund our proposals indicates the importance of the work you are doing for variable star astronomy.

## Royal Greenwich Observatory Forced to Discontinue Lunar Occultation Work

#### Editorial from *The StarSeeker* Calgary Centre

An item in the Occultation Newsletter from IOTA (International Occultation Timing Association) has sent shockwaves through the entire International Astronomical Union: "ROYAL GREENWICH OBSERVATORY TO DISCONTINUE MOST OF LUNAR OCCULTATION WORK AT END OF 1980" – David W. Dunham.

George Wilkins, director of H.M. Nautical Office, Royal Greenwich Observatory, stated that the HMNAO planned to terminate most of its work with lunar occultations at the end of 1980. About 1½ people have been performing this work since HMNAO assumed the responsibility in 1943; a larger effort probably would be needed temporarily by another organization to develop (or convert) HMNAO's computer programs and methods to do the job. The stunning announcement was made during a special meeting, attended mainly by workers from organizations which prepare national almanacs, held in August during the 17th General Assembly of the International Astronomical Union in Montreal, Quebec. The cutback is necessitated by severe staffing limitations and the need to switch some personnel to projects with higher priority at RGO.

The importance of the occultation work is such that it must and will be continued elsewhere. It will cause severe dislocation if it is moved from Greenwich. It is basically a case of money; the salary of 1½ persons is required to save all this disruption. A total annual expenditure of perhaps \$30,000 or so would be needed. Alberta, as a 75th Birthday Present, could absorb this cost, or perhaps as a much more long-term realistic answer, could plan to have the entire Occultation Office transferred to Canada. As Astronomy and Astrophysics are already major courses taught at Universities in Alberta it seems natural that this work could be assumed by these faculties as part of their responsibilities.

The fundamental role of this work was originally a study of the moon's orbit, but with the advent of the Space Age this has been refined to a point where the moon's path is known to a very close tolerance. Now the continued use of these observations is more necessary than ever because of their application to the study of Gravity. Astronomers will be able to answer the question "Is gravity constant, or decreasing; or perhaps even increasing?" The answer may depend on continued accumulation of occultation timings. Dr. Van Flandern of US Naval Observatory has stated that he finds a very slight change, and only many more decades of study, thousands more observations, will confirm or refute his findings. So what more important use could Alberta make of some of her surplus oil wealth than to take over this responsibility?

### **Saskatoon Centre Active**

#### by Kevin Atchison

Last summer's activities of the Saskatoon Membership touched a wide field. Those actively involved in personal observing programs, astrophotography, variable star observing, and pursuing the elusive deep sky objects, carried on individually.

This past summer the annual Diefenbaker Park outing was held on July 27–28. The purpose of these outings is to enable the general public to look through telescopes provided by the Centre members, ask questions about the telescopes, and what is being observed.

The program began at dusk with observations of the moon. As the sky got darker such popular and well-known objects as M13, M5, M57, M31, M27, M11, h and Chi Persei, Beta Cygni, and the Mizar-Alcor system were the order of the day (night?). It was not unusual to see

a line of fifteen people at any telescope. Overall, the two star nights were very successful, with beautiful weather, so that we attracted 220 interested people as well as twice that number of hungry mosquitoes. Those members who loaned their instruments rendered a real service to our Society and to the community.

Throughout the summer members completed the installation of electrical conduit to the Rystrom Observatory, meaning that we won't have to run extensions to a machine shed for power. Construction of the warm-up shelter, better than half finished, was pushed towards completion before snowfall. It provides the weary astronomers with a place to recuperate and thaw out with a cup of hot chocolate. For those *really* weary, there will be one bunk. To all those who have been actively involved in the construction of this building, many thanks and keep up the good work.

Activities at Rystrom Observatory have not been limited to construction. On August 11, several members participated in the Perseid meteor watch, an all-night affair which also included some general observing. Many discovered the sky can be quite beautiful when it is observed with nothing more than a pair of binoculars. All in all, it was a very relaxing evening.

One Saskatoon member, Mr. Gordon Patterson, welcomes ab initio members on Saturday nights, and helps many of us who are just beginning our fascinating hobby to get to know some of its finer points. He believes that the only way to learn is by doing, so he helps by providing a place to do it.

## Nouvelles des Centres Québécois

#### de Damien Lemay

#### CENTRE D'ASTRONOMIE DE MONTREAL

En prévision de la répétition de la CAFTA (Concours Annuel de Fabricants de Télescopes Amateurs) l'été prochain, le Comité de l'Observatoire dirigé par Monsieur Marcel Prévost travaille déjà fermement en vue de completer l'aménagement du site de l'observatoire à St-Valérien.

Les travaux a l'observatoire proprement dit se sont continués au cours de l'hiver, en même temps que l'on préparait les plans pour les travaux qui doivent attendre la belle saison.

La date finale de cette competition n'est pas encore déterminée, mais elle devrait se tenir au cours du mois d'août. D'autres informations à ce sujet paraîtront dans le NNL dejuin, mais on profite de l'occasion pour transmettre immédiatement l'invitation aux Autres Centres de Ia SRAC de se joindre à cet événement. Monsieur Guy Gernaey, en charge du comité organisateur de la CAFTA-1980 envisage l'avenir avec beaucoup d'optimisme.

#### LE CENTRE DE QUEBEC

Le Docteur Jean-René Roy, professeur d'astrophysique au Département de Physique de l'Université Laval et chercheur au Mont Mégantic, a fait imprimer la dernière edition de ses notes de cours sur l'astronomie. Celles-ci forment un document très intéressant dont une grande partie est à la portée des amateurs moyens.

- Partie I Introduction a l'astronomie

L'astronomie: des debuts a 1900(120 pages)

- Partie II L'astronomie et l'astrophysique:

De 1900 à nos jours (pages 121 à 448)

Il y a également plusieurs photos prises avec le télescope 1.6 mètre du Mont Mégantic.

Le Centre de Québec accepte, sans frais de sa part, de répondre aux commandes postales qui doivent être adressées comme suit:

Centre de Québec de la SRAC C.P. 9396 Ste-Foy G1V 4B5

Coût = \$9.00 + \$1.25 (frais de poste 2ième classe) = \$10.25

## L'Assemblée général comité de l'Etalage Bluenose

Les suiyants sont les règlements et categories pour les étalages tel qu'aprouve par L'assemblée Général Comité de la Planification.

#### Catégories

- 1. La meilleur étalage centré
- 2. La meilleur étalage individuel
- 3. Le meilleur projet de radio observé
- 4. Le meilleur projet optique observé
- 5. Le meilleur phénomène atmospherique
- 6. Le meilleur projet préposé (complet)
- 7. Catégorie ouverte

#### RÈGLEMENTS

- 1. Cette competition est ouverte a tous les membres de la S.R.A.C.
- Toutes entrées ne doivent jamais avoir participé auparavant dans aucune étalage de competition de la A.G.
- 3. Toutes étalages doit être original et doit demeure la responsabilitée du propriétaire.
- 4. Toute entrer audio-visuelle doit être contenue par soit mème dans la chambre a cette effet et en aucun temps, il ne pourrait être juge en dehors de cette chambre et ne pourrait être juge que dans le temps alloué.
- 5. L'exhibition doit être entrer que dans une catégorie seulement.
- 6. Les membres peuvent entrer autant de catégorie que voulu.
- 7. On peut aussi designer son entrer à un autre membre pour l'exhibition de l'A.G. étalage de competition.
- 8. Les prix seront alloués par les juge et si aucune catégorie n'est satisfaisante aucun prix sera accordé.
- 9. Tout participant doivent avoir inscrit leur étalage de competition en remplissant la formule de registration avant le 31 Mai 1980.
- 10. Les formules de registration peuvent être obtenues et retournées a:

Bluenose General Assembly c/o Peter J. Edwards Displays Chairman 8 Sullivan's Hill Bedford, N.S.: B4A 1N8

11. Tricheur ne vous faites pas prendre!

Le comité est prêt à assister tout exhibitioniste avec leur etalage dans n'importe qu'elle situation qui peut se developer. Nous sommes prépare à prendre soin de n'importes qu'elle probleme qui se soulève et si il presse on peut faire de la recherche en appelant ce numero: (902) 835-3615. Autres personnes desirant de l'information peut s'adresser au même endroit d'écrit dans le règlement numéro 10.

## Living on the Prairies Builds REAL Exploration Temperament

*Winnicentrics* assures us that Prof. Richard Bochonko, Tour Leader, mentioned that some of the highlights (how high the sky?) of this Safari would be a guided tour of the Big Game Country in Kenya, guided exploration of the Night Sky at the Equator\*\*\*\* !!!!

???? Are they back yet????

## La Société Royal d'Astronomie du Canada Assemblée Générale

#### 27-30 juin, 1980

L'Assemblée Générale se tiendra cette année a Halifax, ville historique, dans les locaux de l'Université St. Mary's. Le Centre de Halifax sera heureux d'accueillir aux Maritimes tous les astronomes, professionnels ou amateurs, ainsi que leurs amis.

Exceptionnellement cette année la rencontre sera organisée conjointement par notre Société et la Société Canadienne d'Astronomie, les deux sociétés coopérant pour certaines activités les 27 et 28 juin. Cependant les membres de la S.R.A.C. qui désireraient assister à toutes les seances de la S.C.A. sont conseillés d'arriver à Halifax le 25 au soir au plus tard. La première activité concernant proprement la S.R.A.C. sera la réunion du Conseil dans l'après-midi du 27 juin: le soir il y aura une réception avec projection de diapositives. Les principales activités de l'Assemblée se termineront un pique-nique, dimanche soir 29 juin. Des excursions aux alentours sont projetées pour le 30.

En ce qui concerne les séances de travail, MM. les membres sont invités à proposer des communications, d'une durée de dix minutes, sur tout aspect de l'astronomie. Des résumés des communications proposées sont à envoyer avant le 20 mai à Dr. R. M. Cunningham, 6299 Payzant Ave., Halifax, N.S. B3H 2B2. L'Assemblée organisera également cette année, comme d'habitude, un concours de travaux d'amateurs: pour de plus amples renseignements consulter la page L13 de ce supplément. Demander les formules d'inscription à Peter Edwards, 8 Sullivan's Hill, Bedford, N.S. B4A 1N8.

Venez donc nombreux. Rendez-vous à l'Est, où le Canada prit naissance et où on a la primeur du lever des étoiles.

Vous êtes prié de faire parvenir les renseignements ci-dessous au Secrétariat d'Accucil, soit G. A. Planning Committee, c/o Randall Brooks, Department of Astronomy, St. Mary's University, Halifax, N.S. B3H 3C3.

□ J'assisterai

□ J'assisterai peut-être

Nombre de personnes

☐ Je demande au comité d'Accueil de s'occuper de mon hébergement. Type de logement souhaité

résidence universitaire	🗆 hôtel	□ mote

Je m'occuperai moi-même de mon logement

Indiquer vos dates probables d'arrivée et de départ: 25 26 27 28 29 30 1

Nom

Adresse

Centre local

## Royal Astronomical Society of Canada 1980 General Assembly

#### June 27-30

The 1980 General Assembly will be held on the coast of the North Atlantic, in the historic city of Halifax, at Saint Mary's University. The Halifax Centre extends a maritime welcome to all amateur and professional astronomers and their friends. A special feature of the 1980 Assembly is that it will be a joint meeting with the Canadian Astronomical Society. Both societies will join for several events on June 27 and 28; however, R.A.S.C. members who wish to take in all the C.A.S. papers sessions should be in Halifax by the evening of June 25. The first functions specifically involving the R.A.S.C. will be a council meeting Friday afternoon (June 27) followed by a reception and film-slide show that evening. The main portion of the Assembly will end with a picnic on Sunday evening, June 29. Tours are being scheduled for June 30.

Members are reminded of the papers sessions. Ten minute papers by any member on any aspect of astronomy are welcome. Abstracts of proposed papers must be sent before May 20 to: Dr. R. M. Cunningham, 6299 Payzant Ave., Halifax, N.S., B3H 2B2. The popular display competition will be another feature of the 1980 Assembly. Details appear on page L13 in this newsletter. Entry forms may be obtained from: Peter Edwards, 8 Sullivan's Hill, Bedford, N.S. B4A 1N8.

We hope to hear from you soon. Plan to come to the East where Canada began and where the stars rise first!