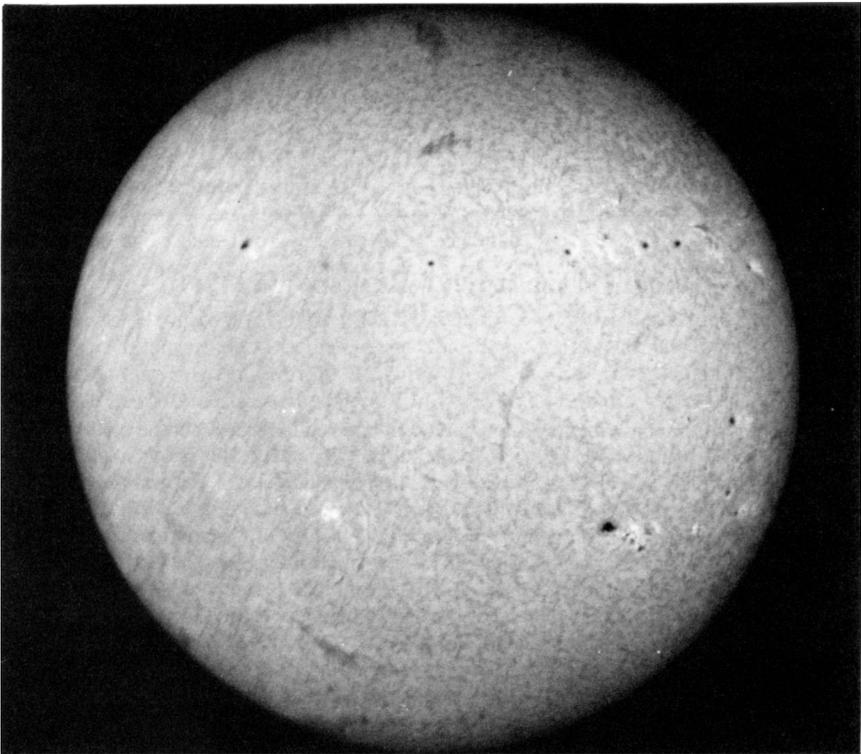

NEWSLETTER/BULLETIN

Formerly the National Newsletter

The Royal Astronomical Society of Canada
La Société Royale d'Astronomie due Canada

Supplement to the *Journal* Vol. 83/5
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The sun in hydrogen-alpha. This photograph was taken on June 23, 1989 through a Daystar H-alpha filter with a Meade 2080LX5 telescope stopped down to f/30 on TP2415 film exposed for 1/250 sec. The solar chromosphere is being observed with dark filaments (cooler prominences of hydrogen gas) seen in silhouette against the hotter, brighter disk of the sun as well as sunspots, plages, and flares. Photo by Mary Lou Whitehorne, Halifax Centre RASC.

NEWSLETTER/BULLETIN

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Editor: IAN G. MCGREGOR

Mailing Address:
McLaughlin Planetarium
100 Queen's Park
Toronto, Ontario M5S 2C6

Editorial Staff
HARLAN CREIGHTON, DAVID LEVY, STEVEN SPINNEY

Rédacteur pour les Centres français
MARC A. GÉLINAS
11 Pierre Ricard
N-D-Ile-Perrot, Québec J7V 5V6

University of Toronto Press Liaison: AL WEIR

Deadline for February issue is December 1.

Comet Okazaki-Levy-Rudenko (1989r): David Levy's Fifth Comet

**by Leo Enright
Kingston Centre**

On Saturday afternoon, August 26, I received a phone call that brought the kind of good news I had received four times previously in the past five years. My good friend, David Levy, had discovered another comet! However, I immediately felt that this was the report of an event of quite special significance. This event had made David the outstanding comet discoverer of this decade, and the most prolific in the history of Canadian astronomy.

Sometimes in astronomy, events appear to happen in bunches. David's most recent find happened on the very night (August 24-25) of the closest approach of the Voyager spacecraft to the planet Neptune. Not being a person who glues himself to the television set, David was out searching the skies from his backyard. After the end of astronomical twilight, his search program began, and before long he noticed well up in the northwestern sky a faint object not previously seen. It was right near the border between the constellations of Corona Borealis and Bootes. Its movement was confirmed the following evening. David needed only to report the discovery to Dr. Brian Marsden of the Central Bureau for Astronomical Telegrams. Meanwhile, from his home near Boston, Michael Rudenko had also noticed the same faint object and reported it. Michael's phone call to David contained the words "We must stop meeting like this!"

From the coordinates David gave me, I thought there was a chance I would see his comet

that night, if the skies would stay clear. For a while it seemed doubtful, but then just before midnight they became gloriously clear. I found the beautiful little comet just a degree or so west of the star Delta Bootis. It was somewhat faint and diffuse at about magnitude 10.5 but not very difficult to detect. There was no clear evidence of a tail. The sky also provided a splendid aurora about a half hour after I first saw the comet. What a joy to be able to see it so soon after its discovery, thanks, of course, to David's thoughtfulness in providing me with its coordinates.

By the time readers see this article, the discovery will be well known, and many more people will have viewed this heavenly visitor as it journeys towards the sun. Congratulations David!

Editor: An independent photographic discovery of this comet was made by Kiyomi Okazaki of Japan. As a result, the names of all three observers are now associated with the comet.

Cape Breton General Assembly

by **Mary Anne Harrington**
Toronto Centre

The 1989 General Assembly (GA) of the Royal Astronomical Society of Canada was held over the July 1 weekend in beautiful Cape Breton, Nova Scotia. The site of the GA was the Canadian Coast Guard College which is located just a short drive outside of Sydney. This was the first time that the GA had been hosted by unattached members and they did a super job. The members of the Cape Breton Astronomical Society (under president John Fraser) and the staff of the Canadian Coast Guard College (under the ever watchful eye of Raymond Auclair) welcomed some one hundred delegates representing seventeen Centres from across Canada.

The weekend started off with the traditional and delicious wine and cheese party putting delegates in the proper mood for the Murphy Slide Show and Song Contest which followed. For the first time in many years the Winnipeg Centre did not win the Song Contest. This year's winner, despite stiff competition from the Halifax Centre, was the entry from the Canadian Coast Guard College, led by Raymond Auclair.

Saturday morning featured the official welcome to the delegates from Capt. E. J. Kelly, Director of the Coast Guard College. This was followed by a full program of presentations in the paper sessions. The abstracts of the papers presented are printed elsewhere in the Newsletter.

The Annual Meeting of the Society was held on Sunday, July 2. One of the main items on the agenda was By-Law Number One of the Royal Astronomical Society of Canada, which was approved by the membership and now must be sent to Ottawa for final sanction. A copy of By-Law Number One was printed in the April 1989 Journal. Another item was the election of two officers of the Society. They were: Ian Halliday as Honorary President and Karl Miller as National Treasurer. Steve Dodson, Astronomy Day coordinator, announced that next year there would be an Astronomy Week, running from Saturday April 21 to Sunday April 29, 1990. Start planning now! Also, the Ottawa Centre will host the 1990 General Assembly at Carleton University from Friday June 29 to Tuesday July 3, 1990.

The Awards Banquet was held on Sunday evening and, following a very lovely dinner, local and national awards were presented. The winners of the display competition were: Marc Gélina (Société d'astronomie de Montréal); Larry Bogan (Halifax); Damien Lemay



Delegates to the 1989 RASC General Assembly in Sydney, Nova Scotia.

(Quebec); John Howell (Victoria); Mary Lou Whitehorne (Halifax); and Doug George (Ottawa). National President, Dr. Lloyd Higgs then presented the Chilton Prize to Fr. Lucien Kemble of the Calgary Centre and the Chant Medal to Mr. Jack Newton of the Victoria Centre. As Mr. Newton was unable to attend the GA the award was accepted, on his behalf, by Mr. F. John Howell of the Victoria Centre. A special Service Award was presented to Mr. Raymond Auclair. Following the presentations, the Ruth Northcott Lecture was held. Professor Wayne Cannon, from the Department of Physics at York University, was this year's speaker. Prof. Cannon presented an excellent talk on "RADIOASTRON, The International Radio Astronomy Satellite: Canada's Participation".

Numerous tours were also planned over the weekend. They included a very special tour, dinner and lecture at the historic Fortress of Louisbourg. Ken Donovan, an historian at the Fortress, presented a marvellous talk on "The Marquis de Chabert and the Louisbourg Observatory in the 1750's". Other tours included a cruise of Baddeck Harbour and a visit to the Alexander Graham Bell Museum. A very special lobster dinner with traditional Highland dancing on Monday evening closed off a most enjoyable GA.

Many thanks to the members of the Cape Breton Astronomical Society and the Canadian Coast Guard College for their hospitality and their tireless efforts on our behalf. Finally, a very special "Thank you" to Raymond and H el ene Auclair. Without their dedication and hard work this GA could not have been a success.

See you in Ottawa in 1990!

1989 Sydney General Assembly Abstracts of Papers Presented

The 20th Anniversary of Apollo 11 by Randy Attwood, Toronto Centre.

July marks the twentieth anniversary of Apollo 11, the first manned lunar landing. Most of us are familiar with the names of the crew members - Armstrong, Aldrin and Collins - and what they accomplished in the summer of 1969. However, many interesting aspects of this flight have only recently come to light as we now treat this event as a piece of history. The talk looks at the human side of the flight. Several obstacles nearly prevented the lunar landing and then, once they were on the surface, other problems nearly cancelled the moonwalk. The mysteries surrounding the United States flag left on the moon, Armstrong's first words on the lunar surface and the lunar surface photographs will be discussed.

The Accuracy of Astronomical Micrometers by Randall C. Brooks, Department of Astronomy, Saint Mary's University, Halifax and Halifax Centre RASC.

A study of the precision of astronomical micrometers of the 17th-19th centuries has been completed. Two techniques were employed to assess the instruments' precision. These will be briefly described along with the results. Since an RASC group has been investigating the selection of a style of micrometer for their own use, a couple of recommendations will be made to assist in their choice.

Spectrum-Limiting Filters and the Preservation of Dark Adaptation for Astronomical Observers by B. Ralph Chou, Optical Radiation Laboratory, School of Optometry, University of Waterloo, Waterloo, Ontario and Toronto Centre RASC; and Tanya Liswiller, Co-Operative Education Program, Waterloo County Roman Catholic Separate School Board.

Filter lenses with sharp spectral cut-offs and long wavelength passbands have become popular fashion accessories as sunglasses. Some distributors claim that such lenses can enhance or preserve the wearer's dark adaptation and one distributor has advertised a red goggle for use by astronomical observers. We compared the efficiency of red and yellow filter goggles with that of grey (neutral density) lenses of equivalent optical density by measuring the recovery of dark adaptation in 10

dark-adapted young adult subjects who were exposed to an incandescent light source for five minutes at an illuminance level of between 100 and 150 lux while wearing a filter goggle (test condition) or no goggle (control). A yellow goggle with 30% transmission in the visible spectrum produced a 0.2 to 0.3 log unit loss of dark adaptation under typical household illuminance levels, while an equivalent grey filter resulted in a loss of 0.5 log unit. The loss with no filter used was between 1.0 and 1.4 log units of sensitivity. Dark adaptation was not affected when a red filter was worn. A grey filter with 15% transmission also preserved dark adaptation, but the wearer's mobility was more impaired than when the red filter was used. A red filter can be used by an astronomical observer to preserve dark adaptation during brief periods when it is necessary to enter areas illuminated at typical household levels. A yellow filter is slightly less effective.

Computers, Fibre Optics and 3-D Glasses: Introducing the Sky With Science North's Starwall by Steve Dodson, Science North, Sudbury, Ontario.

Science North's Astrosphere involves visitors with solar observing, telescope making, the scale of the universe, and many aspects of observational astronomy. The backdrop for these activities is an elevated, curved, and tilted black wall penetrated by 2350 optical fibres creating a dramatic 10 metre long and 3 metre high display of the night sky. A visitor-friendly computer interface located on the exhibit floor near the "focal point" of Starwall's curve invites stargazers to identify constellations by causing them to flash at the click of

1988 Mars Observing Program by Cam Fahrner, Calgary Centre RASC.

A federal grant to the Alberta Science Centre provided travel and accommodation to Calgary Centre members for weekend outings. Local astronomy groups co-operated in presenting a very successful program which allowed the public a chance to see Mars through a telescope and view other objects as time and skies allowed.

Ellipsoidal Variables - Some Recent Results by Dr. Douglas Hube and B.E. Martin, Department of Physics, University of Alberta, Edmonton, Alberta.

"All" stars rotate, most stars are members of binary star systems, and many binaries have short orbital periods at some stage in their evolutionary lives. As a consequence, many stars must have non-uniform surface brightnesses associated with physical distortions. The photometric variability which results from the non-sphericity of these stars defines the "ellipsoidal variables". Known ellipsoidal variables are few in number, but the steadily increasing precision in photometric observing is resulting in the detection of more such systems. The photometric amplitudes of the ellipsoidal variables are usually small, making them a challenge for observers. The short periods, often a fraction of a day, make them attractive to observers. Several recently recognized ellipsoidal variables will be described, including several which are naked-eye objects.

Iron Creek Meteorite #2: Canada's Heaviest Meteorite Must Be Found by F. John Howell, Victoria Centre RASC.

I have convincing documentation that a 700kg iron meteorite lies on an alluvial gravel ridge just a few kilometres north of Hardisty in southeast Alberta. It was hidden by the native people in 1903 after the Iron Creek Meteorite #1, or Manitou Stone, now on display in the Alberta Provincial Museum in Edmonton, was removed from the same area by the missionary Reverend McDougall. A local farmer claims a hole in his land was made by a meteorite. Maybe the site where the heavy celestial visitor originally fell centuries ago and the place where the meteorite was hidden in 1903 can still be found. This documentation is attested to by Professor Emeritus R.E. Folinsbee, University of Alberta, Edmonton.

Astronomy Artwork on the Macintosh II by Douglas Pitcairn, Halifax Centre RASC.

The Macintosh II is an advanced 32 byte computer workstation with a high resolution colour graphics capability. Using off the shelf software called PIXELPAINT, I have been able to utilize the Mac's powerful graphic routines to produce astronomical images. The images are copied as photographic slides shot directly off the screen resulting in intense colours and high contrast. I endeavour to maintain scientific accuracy where possible and hope these images are useful to astronomical educators.

Recruitment of Disabled People into Astronomy by Denise Sabatini, Kingston Centre RASC.

The first part of this paper addresses the recruitment of disabled people into astronomy. It will present ideas on how the *Newsletter* could help to promote astronomy for the disabled, address Astronomy Day as a vehicle to recruit disabled people into astronomy and discuss the individual's role in promoting astronomy to the disabled. The second part of the paper deals with projects that I have undertaken to recruit the disabled and discusses the results achieved to date. Finally, I will discuss my goals of coordinating a network for providing disabled people with information on how to pursue astronomy.

The 1991 Solar Eclipse Expedition by Michael S.F. Watson, Chairman, RASC 1991 Solar Eclipse Expedition.

On July 11, 1991, a total solar eclipse of extremely long duration will be visible to astronomers located along a narrow path that crosses Hawaii, the Baja Peninsula of California, mainland Mexico and parts of Central and South America. The Society is mounting a national RASC expedition to travel to observe this rare event from Baja, California, the first such national observing venture ever sponsored by the Society. In this paper, the author, who is Expedition Leader, describes the format and planning of the expedition, outlines the logistical arrangements that are being made, and reviews some of the interesting aspects of this particular eclipse.

The Be Stars by Mary Lou Whitehorne, Halifax Centre RASC.

Be stars are variable stars for which no satisfactory model exists to explain their unusual behaviour. They may represent an extreme example of processes occurring to a much lesser degree in several types of normal stars. They show variability in all regions of the spectrum as well as exhibiting three distinct phases as follows: (1) normal B type spectrum (2) an emission spectrum, and (3) a shell type spectrum. All Be stars show these different phases on different time scales in a completely unpredictable way.

These objects are very rapid rotators and lose mass at variable rates. Their spectra exhibit complex changes over periods ranging from hours to decades. Some are members of interacting binary systems, some are associated with x-ray sources, and some are single stars. The study of Be stellar atmospheres has been ongoing since they were first discovered in 1866 by Angelo Secchi and has been an area of compelling interest to researchers ever since. At the present time there are at least five models in contention to explain these stars' odd behaviour.

I have been able to make a few spectroscopic observations of three Be stars and have demonstrated their spectral phases. The equipment available was not of high enough resolution to demonstrate structural changes in spectral lines. Nevertheless, the topic of an unexplained type of variable should be of interest to amateurs.

A Visit to Soviet Observatories/Visit au Pays de L'Etoile Rouge by Raymond Auclair, Canadian Coast Guard College, Sydney, Nova Scotia, Marc Gélinas, Centre d'astronomie de Montréal and Jean-Pierre Urbain, Centre d'astronomie de Montréal. (Presented in English and French)

In the fall of 1988, a small group of Canadian amateur astronomers toured observatories and astrophysical research centres in the European part of the Soviet Union. The two week trip took them to the Caucasian Mountains where they visited the RATAN-600 radio telescope and the six-metre telescope of Mount Pastoukhov and the Crimean Peninsula of the Ukraine where they visited the Crimean Astrophysical Observatory. The group proceeded to Kiev where one member took ill with acute appendicitis and was taken to hospital where he spent the second week of his trip. Meanwhile, the rest of the group visited the Ukrainian Science Academy's Observatory in Kiev, the Pulkovo Observatory in Leningrad, and the USSR Academy of Sciences in Moscow.

The Marquis de Chabert and the Louisburg Observatory in the 1750's by Kenneth Donovan, Fortress of Louisburg, National Historic Park.

In 1750 Joseph Bernard Chabert de Cogolin, a French astronomer, was commissioned to go to Louisburg to correct the maps of the coast of Acadia, Ile Royale, and Newfoundland. It was directly because of Chabert's visit to Cape Breton that an astronomical observatory was constructed in Louisburg. Within two years of his returning to France in 1751, the Royal Academy of Sciences published a comprehensive report by Chabert documenting in detail all of his findings at Ile Royale.

The Marquis de Chabert recorded observations on the stars and moon, as well as the tides and climate. Besides calculating the exact longitude of Louisburg, he also compared the results and accuracy of various methods of determining longitude.

Chabert's longitudinal readings and accurate marine maps had a profound effect on navigation along the northeast Atlantic coast of North America throughout the latter half of the 18th and well into the 19th century. Using extensive French primary data, Donovan provides construction details for the Louisburg Observatory. Moreover, he demonstrates that the observatory was not a temporary structure for it continued to be used by the scientific community in Louisburg after Chabert left for France.

Donovan's paper was published in *The American Neptune*, vol. XLIV No. 3 (September 1984). The paper was republished in 1988 by The Historical Commission of the Grand Priory in Canada of the Military and Hospitaller Order of Saint Lazarus of Jerusalem.

Du nouveau à la rédaction du Bulletin

par Marc A. Gélinas

Profitant de l'assemblée générale annuelle en juillet dernier, M. Damien Lemay a cédé son poste d'éditeur des textes en français du *Bulletin* à M. Marc A. Gélinas. M. Damien Lemay qui assumait cette responsabilité depuis plus de dix ans, pourra maintenant consacrer tout son temps à la vice-présidence.

Votre nouveau rédacteur est membre de la S. R. A. C. à travers le Centre de Montréal (S.A.M.) depuis 1972. Je me propose de produire pour chaque édition du *Bulletin* un texte de nouvelles sur l'activité astronomique amateur, au Québec bien sur, mais aussi partout où des canadiens francophones seront impliqués.

Pour réussir à être votre porte parole j'aurai besoin de votre aide. Faites moi savoir les événements qui se passent dans votre coin et je me ferai un devoir d'en parler.

Comment faire parvenir de l'information ou un article à votre rédacteur du *Bulletin*? Le plus simple est par la poste, ou par téléphone quand il s'agit d'une nouvelle à transmettre. Enfin pour ceux qui sont familier avec la télématique, je dispose d'un ordinateur compatible IBM avec modem à 1200 bauds. On peut aussi me joindre par courrier électronique via COMPUSERVE (id 730177,3160) ou INFOPUQ (id QC11804). Je ne vous cache pas que la méthode télématique est l'idéal.

J'attends vos articles aussi. Après m'être assuré qu'ils sont conformes aux normes du *Bulletin*, je me ferai un devoir de les transmettre au rédacteur en chef, Ian McGregor, pour insertion dans le *Bulletin*.

Souvenez vous, si vous voulez un *Bulletin* à votre image, exposez vous s'y.

Nouvelles de l'été

par Marc A. Gélinas

Un évènement important fut l'assemblée générale annuelle de l'Association des Groupes d'Astronomes Amateurs du Québec (A.G.A.A.). Contrairement à l'habitude cette assemblée n'a pas pu être tenu en même temps que le congrès de l'association. Les organisateurs du congrès 1989, les clubs Espace de Montréal, Laval et Mira ont perdus les salles prévues à cette effet suite à un imbroglio. Alors pour respecter les règlements de l'association, l'assemblée annuelle a été tenue à part en juin.

Peu de chose à signaler à cette assemblée, les élections ont confirmés Pierre Boulianne du

Centre de Québec de la S.R.A.C. comme président il est secondé à la vice-présidence par Marc Martineau. Notons aussi qu'une subvention provinciale a permis l'engagement, à temps partiel, d'un rédacteur en chef pour la revue *le Québec Astronomique*.

En juillet, il y eut le congrès de la S.R.A.C. à Sydney, Nouvelle Ecosse. Damien Lemay et Jean-Marie Fréchette de Québec y étaient ainsi que Jean-Pierre Urbain et Marc A. Gélinas de Montréal. Notons la superbe organisation de ce congrès, dont le maître d'oeuvre était le capitaine Raymond Auclair de la Garde Côtière. M. Auclair est membre non-attaché à la S.R.A.C. et membre de l'AGAA via la Société d'Astronomie de Montréal. Très présent au niveau national, Raymond Auclair s'est vu attribuer la médaille du Service de la S.R.A.C. lors du banquet du congrès.

Cet été le festival populaire du Mont Mégantic a à nouveau eu un succès astronomique. La journée Mira, une journée populaire tenue dans un parc à St-Jerome, a eu lieu la même fin de semaine que le festival. Le camp de Port-Aux-Saumons, en août, a attiré comme par la passée plusieurs jeunes qui s'y sont initiés à l'astronomie. Nombreux sont les astronomes amateurs du Québec, qui depuis plus de dix ans, ont appris à ce camp les rudiments de l'astronomie.

Le CAFTA, concours de fabriquant de telescope amateur, organisé par la S.A.M. depuis 1978 n'a pas été tenu cet été. La raison principale, le manque de participation des dernières années.

Du côté observation, l'occultation de 28 SGR a été observée avec succès par Jean-Francois Viens, du Centre de Québec. Ses chronométrages lui ont permis de tracer un graphique des nombreux petits anneaux formant les grands anneaux A, B et C. Un travail excellent. Jean-François nous a aussi fait parvenir un rapport d'observation visuel d'un "White Flare" en date du 6 mars dernier. Durant 15 minutes environ, vers 9 H.N.E. Il a vu apparaître dans le group de taches SESC 5395 deux point très brillants qui se sont allumés puis se sont résorbés durant l'observation. Cela correspond exactement au moment d'une éruption de rayons X solaire observée par satellite. Moins d'une semaine plus tard, une autre éruption dans la même tache, causa un orage magnétique et la fameuse panne du 13 mars.

Quant à l'éclipse de Lune du 16 août au soir, quelle beauté! Selon mon estimation elle devait être $L = 2$ à l'échelle de Danjon. Le centre était rouge sombre et sur environ 220 degrés le limbe était orange clair. Les médias se sont rués sur le phénomène. On a ainsi vu Jean-Marie Fréchette, le président du centre de Québec, en parler à la television. Dommage qu'on ne puisse pas commander d'éclipse pour la journée internationale de l'astronomie, quelle publicité ca serait!

Due\$ Due

The 1990 membership year began October 1, 1989. It is time for all members to renew their memberships with the Society. The national fees for the 1990 year are:

Regular Membership	\$25.00
Youth Membership (under 21 years of age)	\$15.00
Senior Membership (65 years of age and over)	\$15.00
Life Membership	\$500.00

For all foreign members, residents in the United States and overseas, these amounts are quoted in U.S. Funds.

Renewing members should note that there have been some changes in the classes of membership with the approval of the new By-Law Number One at the Annual Meeting on July 2, 1989. Members should refer to the April 1989 issue of the RASC *Journal* where the new By-Law has been printed. Article 3 Section 3.02 describes the classes of members.

Fees should be sent to your Centre Treasurer, or if you are an unattached member, directly to the National Office. By the time you read this note the new 1990 *Observer's Handbook* should be in the hands of Centres and ready for distribution to paid-up 1990 members.

Renewal fees are due and payable between October 1 and December 31. If not paid by December 31, a member ceases to be a member of the Society as of January 1, 1990. See By-Law Number One Article 3, Section 3.06 (3).

RASC membership is one of the best bargains around. Renew now!

Awards of the RASC 1989-1990

As outlined in the *Annual Report* of the Society for 1988, page 27ff, awards may from time to time be conferred upon members in recognition of meritorious service or achievement. Recommendations for such awards should in most cases be made through the Council of the local Centre. Unattached members may submit recommendations, if they so wish, to the National Council for consideration by the National Council. Centre Councils will, of course, submit recommendations as they see fit to the National Council for final approval.

CHANT MEDAL

The Chant Medal of the Society was established in 1940 in appreciation of the great work of the late Professor C.A. Chant in furthering the interests of astronomy in Canada. This medal is awarded, not oftener than once a year, to any amateur astronomer resident in Canada on the basis of the value of the work which he or she has carried out in astronomy and closely allied fields of investigation. Nominations (including citations) should reach the National Office by December 31.

SERVICE AWARD MEDAL

The Service Award was established in 1959, on recommendation of a special committee of the National Council. This bronze medal is presented to members who have performed outstanding service to a centre or to the National Society. Nominations should reach the National Office by December 31.

KEN CHILTON PRIZE

The Ken Chilton Prize was established in 1977 by the National Council of the Society in remembrance of the late K.E. Chilton, an active member of the Hamilton Centre. The prize

is awarded annually to an amateur astronomer resident in Canada, in recognition of a significant piece of astronomical work carried out or published during the year. Nominations should reach the National Office by December 31.

SIMON NEWCOMB AWARD

The Simon Newcomb Award is named in honour of the famous astronomer Simon Newcomb (1835-1909) who was born in Nova Scotia and later served for 20 years as Superintendent of the American Ephemeris and National Almanac Office at the United States Naval Observatory in Washington. The award was created in 1978 by the National Council on the initiative of the Halifax Centre. The intent of the Simon Newcomb Award is to recognize literary ability among members of the Society who are not professional astronomers. Submitted articles must be original and should not have been previously published in any substantially similar form (although appearance in Centre newsletters is permissible).

Who can enter? Any member of the Society who does their astronomy purely as a hobby.

Format: The article(s) should be no more than 2,500 words in length, be written in proper grammatical form, and be presented typewritten and double-spaced. Diagrams need not be in a finished form but should be complete and ready for drafting. Photographs may also be submitted and, if possible, original negatives should accompany the submission. The author(s) name(s) should appear only on the title page and reference to Centre affiliation should not appear in the article.

Submission of Entries: Articles must be received by the National Awards Committee between January 1 and March 31. Members of Centres must first submit their entries to their Centre Executive for its approval before submission to the National Awards Committee. Unattached members should make their submissions directly to the Committee c/o RASC National Office.

Judging: Articles are judged on their scientific accuracy, originality, and literary merit.

Presentation: The award is presented at the General Assembly and remains in the hands of the winner's Centre for display until the following April.

For further details on the Simon Newcomb Award, contact the Awards Committee, RASC National Office, 136 Dupont Street, Toronto, Ontario M5R 1V2, or contact your Centre Secretary.

Nominations for 1990 R.A.S.C. Officers

The new By-Law Number One of the Society provides for a Nominating Committee composed of three Past Presidents of the Society determined by the Council, whose duty is to prepare a list of candidates for each elected office for which an election must be held.

In 1990, we must elect a National Secretary. If any member wishes to make suggestions

for nominations, they should contact the Chairman of the Nominating Committee, Mrs. Mary Grey, as soon as possible. Write to Mrs. Mary Grey c/o National Museum of Science and Technology, P.O. Box 9724, Ottawa, Ontario K1G 5A3.

Under Article 6 Section 6.05 (2): "Any other eligible member of the Society may be nominated for any elected office for which an election must be held. Such nomination (in writing, signed by at least five voting members of the Society, and confirmed by a written statement of acceptance from the candidate) must be delivered to the Secretary of the Society, at least sixty days before the annual meeting."

As the Society's Annual Meeting will be held in Ottawa, Ontario in July 1990, nominations, together with a short resume should be submitted no later than April 15, 1990 to allow for printing and mailing of ballots to be completed as required.

Full details pertaining to nominations are outlined in By-Law Number One Article 6 Section 6.05 as published in the Journal, April 1989.

Astronomy Day 1989: A Cross Country Roundup

**by Steve Dodson,
National Astronomy Day Coordinator
Science North
Sudbury, Ontario**

Canada's celebration of International Astronomy Day last May 13 was an encouraging success, and surely increased the level of public awareness of our activities and support for astronomy.

The Weather and Other Reports

Astronomy Day weather was very good from the West Coast to the Ontario border, with only Calgary reporting intermittent cloud. Even there the clouds parted for fine evening observing.

The East had much dicier weather, ranging from intermittent cloud, to steady overcast for the entire event, to thunderstorms. Even so, Centres around Lake Ontario had sufficient clear breaks to permit day and night observing and Montreal had some clear breaks in the early afternoon.

Reports were received by the National Coordinator from Calgary, Montreal, Toronto, Windsor, and Vancouver. At the General Assembly in Sydney Nova Scotia I spoke to representatives of an additional ten centres and received some news from one more. I thus have information from 16 out of the 21 centres concerning Astronomy Day - a 76% reporting rate.

Three of these centres have found it easier to organize their major public activity day in the autumn, and have experienced favourable weather more often at that time. They did not have Astronomy Day observances in May. One Centre had planned a weather-dependent program and was rained-out.

The dozen remaining centres, or 75% of those I have received information about, held a variety of Astronomy Day activities, in a variety of venues.

Where was Astronomy Day held?

One-third of the 12 centres reported active use of shopping malls as their main site. These were the centres in Winnipeg, Kingston, Ottawa, and Thunder Bay. One of these payed out

a large sum for liability insurance coverage demanded by the mall owner, and one “shopped around” for a more community-spirited mall owner. This problem has been discussed at the National Council level, and our president, Lloyd Higgs is obtaining quotes from insurance companies for third party public liability insurance to cover such activities at any centre.

Another solution to this problem is the adoption of an alternate site as activity centre for Astronomy Day. Here we can see a good deal of resourcefulness on the part of RASC centres.

The Calgary Centre and the Centre d’Astronomie de Montréal used major planetaria as their main sites.

Centre observatories were equally popular, since both the Hamilton and Montreal Centres based their activities there.

Other principal sites were a public observatory (Vancouver), a science centre (Toronto), a city park (Victoria), and a public library (Windsor).

Multiple Sites - Mega Activity

Some centres had two, three or more activity sites. Calgary had a well publicised and highly successful star party at Fish Creek Provincial Park (More about this follows). Toronto and Winnipeg had Planetaria as their second site.

Winnipeg’s third site was a central city park, where they offered a surprisingly varied observing program. Toronto had two universities “tied” for third place. The University of Toronto demonstrated equipment used by their astronomy students, and York University offered an observatory tour.

The centre offering the greatest variety of locations and activities was clearly Toronto. Quite apart from being the oldest and biggest centre, they demonstrated a commendable degree of member involvement and enthusiasm for new ideas. A well organized team of 60 volunteers offered observing at three sites starting with the Sun in hydrogen-alpha and white light on a crystal-clear morning and ending with the Moon and Jupiter between clouds after a cloudy sunset. Randy Attwood and Tom Quigley faced that classic weather dilemma and were rewarded by the decision to stick it out.

Other innovative activities were provided by Tom Molczan on observing earth-satellites, Jack Winzer and others making two telescopes live at Ontario Science Centre, and Cathy McWatters breaking balloons inside other untouched balloons. (Let converging sunlight exiting an unfiltered telescope focus on a dark-coloured balloon inside a transparent balloon, which will not burst). [quote from *Scope*] ... “A number of children had clear (intact) balloon souvenirs with a dead (dark) balloon inside.” Will anyone who saw this ever be tempted to look at the Sun carelessly?

Observing

Three-quarters of the active centres reported they were able to offer daytime observing, at least between clouds. The Centre d’Astronomie, Calgary, Hamilton, Montreal, Ottawa, Winnipeg, and Victoria showed sunspots. Toronto also offered Hydrogen-alpha observing. Vancouver reported solar flares, and observed Jupiter as well as kites flown at a children’s festival nearby in Victoria Park.

Night-time observing, at least of the Moon, was possible at 58% of the centres reported active (Calgary, Hamilton, Kingston, Toronto, Winnipeg, Vancouver, Victoria).

Although the information I received is incomplete it would seem that about one third of participating centres were also able to point out some constellations and conduct some stellar observing. This was definitely successful at Calgary and Winnipeg. Winnipeg

featured concerted use of binoculars as well as telescopes, and more about the Calgary activities follows.

Although not a centre, the Dominion Radio Astrophysical Observatory at Penticton is very much part of the RASC family. Lloyd Higgs reports that observatory staff joined the Okanagan Astronomical Society in setting up an (optical!) observing night for the Penticton area residents.

Other Neat Things to Do

The Vancouver Centre displayed a Poncet mount and sold sun dial kits to children and old *Sky & Telescope* magazines at a bargain to raise money for their library fund. Victoria set up the mobile 20-inch scope in Beacon Hill Park. Ottawa displayed a locally-made schiefspiegler telescope. Winnipeg had their photometry equipment on display. Montreal had a collection of antique refractors and offered tours of the C-14 and darkroom at their centre observatory. Kingston had models of the Solar System and its objects and of the surface of the Sun. Calgary had a display on light pollution.

As expected most centres had a variety of telescopes on display along with exhibits on astrophotography results and techniques, slide shows, posters and handouts on centre activities, and computer displays of the sky.

Congratulations Also To...

Calgary sent in an excellent report, and it was the first one I received. In fact, Calgary was on a roll that day, because that very evening the Flames secured the Stanley Cup!

The Kingston, Windsor, and Vancouver Centres made effective use of the Voyager/Neptune theme.

The Kingston Centre developed the greatest number of additional themes or focusses. Denise Sabatini developed an original centre poster on light pollution similar to the "Ghost Busters" logo but with a light bulb instead of the ghost, and bearing the legend "Children deserve dark skies". Other themes were: "The Sky Belongs to Everyone" with special reference to the disabled; the Magellan flight to Venus; The Sun and Eclipses; and Archeoastronomy.

The Devil's Advocate

The opinion was expressed by one centre that the effort expended putting on Astronomy Day might take away from the public education events at other times. Any well-organized educational event will increase public involvement in centre activities, and as noted earlier centres are free to have such events at any time that is advantageous to them. Late summer and autumn dates have been mentioned. However consider the advantages of being part of a national and indeed international event.

Of course there is no ideal time. Some people who wish to participate will always find it difficult or impossible to do so. However factors to be considered include the desirability of avoiding the May Victoria Day long weekend and the subsequent cottage season, the very late solstice-season twilights especially in the west, the annual round of major summer star parties, and the mass undertaking of day and night classes and organized activities in the autumn. The advantages of eight months of steady centre meetings to prepare for Astronomy Day and of having the Moon near first quarter should also be considered.

In the balance, once the above factors are weighed, it would be difficult to justify having the national celebration of Astronomy day at a different time than International Astronomy Day.

The Last Word ...

... goes to the Calgary Centre, two dozen of whose members set up at least 20 telescopes at Fish Creek Provincial Park to show 750 visitors the first-quarter moon through broken cloud. Glen Hawley, centre secretary continues...

“Just as darkness fell the sky began to open up a little. Soon we were in gear seeking out the fuzzies and pretties for those who had seen enough of the Moon and demonstrating the advantages of all the various telescope designs present. Towards midnight at which time we were to shut down anyway, clouds began to creep up again from the East.”

Urania was indeed with us this night!

Following the Stars - For a Hundred Years

**by Steve Dodson
National Astronomy Day Co-ordinator
Science North
Sndbury, Ontario**

Through Astronomy Week activities next spring, the Centennial Symposium and General Assembly in Ottawa, and other activities in your centre, our Society begins its second century!

Centennial Astronomy Week from April 21 to 29, 1990 gives us a chance to share with the public an appreciation of the excellence of Canada's contributions to an understanding of the Universe. The time period suggested includes two weekends, the first allowing a focus on deep-sky observing and the second offering a waxing crescent moon. The five days in between provide the opportunity for flexible scheduling of events and for rewarding participation by local school systems.

The original nucleus for the drawing together of Canadians with an interest in astronomy was the Toronto Astronomy and Physics Society. Through encouraging out-of-town members and activities this organization became the parent of the society that we now know. In 1890, the Toronto Society applied for a charter from the Ontario Government. This event is the basis of next year's centennial celebrations.

The centennial theme for Astronomy Week might be expressed as follows:

Canadians Exploring the Cosmos - A Century of Discovery

Each Centre will be able to identify unique contributions to astronomy made in its own home region, or by sons and daughters of the local community and institutions of learning. Highlighting these in the context of astronomy in Canada will give your Centennial Astronomy Week observances a special relevance and vitality. Don't forget other related areas of achievement such as Canada's role in the exploration of the upper atmosphere and space.

The colourful history of the Royal Astronomical Society of Canada has been illuminated by many articles in the *Journal* of the Society. Some references that should be helpful have been provided along with more detailed information about Centennial Astronomy Week in an information circular sent to each centre in September.

Why not contact your centre secretary or president to find out more about this important part of the Centennial celebrations? Your interest will make your centre's Centennial Astronomy Week a greater success.

Observer's Cage

by David H. Levy

Lives

Why are there so many biographies? Walk through a bookstore and take note of the row after row of biographical material. The surprise is not so much the number of books as the range of interests they cover. We are infatuated with our past.

It's a good thing that we are. The people whose lives grace the shelves have made mistakes and solved problems in periods of time very different from ours, and yet their lives are not that different from ours. In astronomy we need the wisdom from these earlier lives very badly. It is more than interesting, for example, to read about Albert Joy's fall from the observing platform of the 100-inch reflector on Mount Wilson. He must have fallen nine metres, breaking bones and suffering other massive injuries. Fortunately, there was a second observer at the telescope. Had that person not been there and available to summon help, Joy may well have died. The lesson of always having two observers at a big telescope is very easy, yet it may also be easily forgotten. Many observers still prefer to work alone, risking injury and death in an accident.

In his own *Autobiography*, Edward Gibbon wrote "All that is human must retrograde if it does not advance." That thought has some literal meaning that the famous historian did not forecast. When Percival Lowell began his search for Planet X, he cautioned his associates to remember that by photographing at the opposition point each month, one could determine the nature of a suspected object simply by measuring its retrograde shift. This wisdom was somehow forgotten in the headlong rush to recommence the Planet X search in 1929 and the "young man from Kansas" who was hired to conduct the search was never told about it.

During the summer of 1929, Clyde William Tombaugh independently figured out the observing method recommended by Lowell, and when he started his run that autumn, he followed that strategy. Though he never found Planet X, he did find Pluto less than six months later.

The search for Planet X was a beautiful climax to a complex story of planet finding and searching, both mathematically and observationally, that had begun in 1781. William Hoyt's book *Planets X and Pluto* and Clyde Tombaugh's *Out of the Darkness* describe these events from different perspectives. We read these biographical works because we are interested in the subjects they cover, but there is another reason. In the stories of these people, we see our own failures, successes, and hopes. A biography is a door to another person's life. When we open that door, the life we find becomes a part of ours.