
NEWSLETTER/BULLETIN

The Royal Astronomical Society of Canada
La Societe Royale d'Astronomie du Canada

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The North America Nebula (NGC 7000) in Cygnus with the Pelican Nebula off its east coast. Photograph by Paul Mortfield and Nancy Novo using an 8-inch Schmidt camera, hypered 2415 film and a deep red filter.

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The *Newsletter/Bulletin* is a publication of the Royal Astronomical Society of Canada and is distributed together with the Society's *Journal*. Inquiries about the Society should be directed to the National Office at 136 Dupont Street, Toronto, Ontario M5R 1V2.

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Deadline for August issue is May 1.

Editorial

by Ian G. McGregor

It has been several issues since I last added my personal words and thoughts to the pages of the *Newsletter*. It has not been because of a shortage of items to comment on but rather because of a shortage of creative time to assemble something.

A "new star" was added to my sky on April 18 when my wife Elfie delivered our new-born son Geoffrey Benjamin. At nine pounds six ounces (or should I say, 4.12kg) he is a big baby and a delight in his parent's eyes. Already people are saying he takes after his father as he likes to be "up" late at night, wide-eyed and looking around! I was told by my father many years that my grandmother was also interested in astronomy and looking at the stars at night. Perhaps there is astronomy in the blood? By the time you read this editorial little Geoffrey's eyes will already have experienced "first light" on a starry sky!

As many readers will remember I had hoped to introduce a new and more-exciting format to the *Newsletter* beginning with the start of the current volume in February. However, two events last autumn suggested the change should be postponed at least for one more year. Elfie's pregnancy and my experience as a "pregnant father" indicated my time to work on the *Newsletter* would be limited during the first half of 1990. Also very significant was the federal government's decision last December to gradually eliminate the Second Class postage rate which applies to magazines and newspapers. This means the cost of mailing the Society's publications may be increasing greatly in the next two years. There are already serious concerns about the Society's current fiscal deficit and the substantial fee increase to be voted on at the Annual Meeting in Ottawa in July. To allow for maximum flexibility at the time I opted to hold off on format changes until the Publications Committee and the National Council could review the whole matter of the Society's publications.

My deadlines for receiving material have been a bit mixed up so far this year. I received two very different production schedules from the University of Toronto Press in January but their consequences were to appreciably reduce my lead time for each issue. For example, my material for the August issue is due at the Press on June 5. By this deadline, I only have Centre newsletters for April and May which are reporting on events of the winter or early spring and announcing events for the early summer. The winter/spring events are very “old news” for an August newsletter and the summer events will have already taken place. Few people are thinking in May of what events or programs will be occurring in the autumn. Original submissions of material fall into the same problem. I believe a newsletter should contain “news”. It seems awkward for me to be reporting on a winter observing experience when the reader is basking in the sun getting a suntan!

With the Ottawa General Assembly in July my five-year term of office as editor of the *Newsletter* officially expires. At last September’s National Council meeting I announced that heavy non-RASC demands on my time were forcing me to review my editorship and in the February *Newsletter* I put out a call for a new Assistant Editor who could eventually take over as Editor. There has been some response. These matters will be discussed by the Publications Committee and the National Council in Ottawa.

The General Assembly Organizing Committee has put together an exciting program for this year and I hope to see many of you in Ottawa over the Canada Day long weekend. Clear skies!

New R.A.S.C. Promotional Items

The National Council of the R.A.S.C. has recently sanctioned the use of the R.A.S.C. emblem on several new items for sale to members. These items are as follows:

1. **R.A.S.C. golf shirts:** white jersey material, 50/50 polyester/cotton, with knitted collar and button opening. Sizes adult S,M,L and XL, with 3-inch diameter navy emblem screened on upper left.
2. **R.A.S.C. stickers:** white, round vinyl self-adhesive stickers, peelable backing, with 3.5-inch diameter navy emblem imprint.
3. **R.A.S.C. keychains:** clear acrylic keychains with metal ring, while insert with navy emblem imprinted on both sides.

Item	Price	Add Packaging & Postage
Golf shirts	\$20.00	\$2.00/shirt
Stickers	\$ 1.00	\$1.00/item or batch order
Keychains	\$ 4.00	\$1.00/item or batch order

These are available by sending a Canadian cheque or money order payable to the Royal Astronomical Society of Canada to: R.A.S.C. Promotional Items c/o Mrs. C.L. Cresswell, 78 Tormore Drive, Richmond Hill, Ontario L4C 3N5. Phone inquiries can be made to (416) 884-3858.

Group orders through your Centre treasurer are encouraged to reduce packaging and postage charges. Where possible, delivery will be arranged to avoid mailing charges completely. These items will also be available at the General Assembly in Ottawa.

Across the R.A.S.C.

Across the R.A.S.C. is a regular feature of the *Newsletter*. Specific contributions are requested from Centres to provide accurate news on current and future activities. If there is not a report from your Centre, probably none was submitted. Deadline for the October issue is August 1 and for the December issue is October 1.

HAMILTON: Observing Director, Ev Butterworth, hosted a comet workshop in the early spring for those members interested in sharing their experiences in observing and photographing comets. Clive Gibbons, Mike DeVillaeer, Barry Sherman, Derek Baker and Karyn Bennett are among the members who braved the weather and early morning hours in April to look at Comet Austin.

The Centre held a very successful mall display in Hamilton as a part of the Astronomy Week celebrations organized by Eric Golding. Eric even constructed a special display unit which is very effective in showing the astronomical accomplishments of the centre. A pamphlet was also distributed, advertise club activities.

Eric Shepherd is running an occultation timing program and was very successful with recent timings of occultations of the Pleiades stars by the moon. Announcements of upcoming events and his results appear in the *Orbit* newsletter. Cathy Cresswell has been successful in selling her idea to promote the Society by selling items such as golf shirts and key chains (see elsewhere in this issue). Eric Golding has added washroom facilities to the centre observatory and Librarian Garry Woodcock is chairing a committee to renovate the interior of the observatory for an expanded library and computer workstation. John Gauvreau and Sohail Umar-Khitab were judges at the Hamilton and District Science and Engineering Fair. The centre presented a book to the best astronomical project.

HALIFAX: David Lane, Centre Secretary, mentions that the Centre is active in promoting astronomy in several areas. Several members serve as volunteer lecturers at the Halifax Planetarium. Others bring "astronomy to the people" by speaking and giving slide shows to school classes, cubs, scouts, guides and brownies and as a result the Centre has purchased a slide projector. Doug Pitcairn continues to write his popular Saturday column for the *Halifax Chronicle-Herald* newspaper. Preparations are on schedule for "Nova East '90" to be held in New Brunswick this year.

In observing news, Dan MacLennan has been observing the Sun on a daily basis for the past year. He photographs the Sun every day (weather permitting) and keeps track of developing sunspots. He also monitors the earth's magnetic field with a home-built magnetometer and has successfully predicted aurora! activity on a number of occasions. Phyllis Kennedy was the first recipient of the Centre's first mini-Messier Certificate in January. The certificate is awarded to those who observe about two dozen of the brighter Messier objects (all visible with binoculars). The award was started in 1989 and is intended for beginning observers.

LONDON: Joseph O'Neill reports the Centre now has its own computer bulletin board for modem users. Run by vice-president Dr. David Toth, the system runs on an IBM UNIX system at baud rates of 300 to 2400. To log in, dial (519) 660-1442. After connection is made, hit RETURN/ENTER key twice to prompt bbs mode. Your terminal should be in ASCII mode, with modem settings at 8-N-1. There are no uploads/downloads yet, but bulletins, message sections, and E-mail are available. When logging in for the first time, please identify yourself as a fellow RASC member. We look forward to hearing from you!

ST. JOHN'S: Dennis Ryan, elected president last October after having been with the St. John's Centre for little over a year, has been placed in the rather unenviable position of having to be "in charge" of the Centre's 25th anniversary celebrations. Fortunately, reports David Bourgeois, his executive have been invaluable in putting together a slate of projects and events that will do the Centre proud.

One project is to assemble and publish the Centre's history. Randy Dodge, Centre vice-president, is taking information from Centre documents and hopefully will be together by May and published by August. Another project is to raise our profile in the community. Dennis was interviewed for ten minutes by Peter Miller of CBC St. John's *Morning Show* in February and we obtained a number of new members as a result. Randy was also interviewed on the Morning Show in March on Comet Austin with the same result. Both Dennis and Randy were guests on CBC TV's *Coffeebreak* in late April.

The two events planned were Astronomy Day at the Village Mall on April 21 and Starbeque in late August. The *Starbeque* will be held in Terra Nova Park and will consist of public talks and observing sessions (weather permitting).

The Centre also hopes to have two special guests address it in the autumn. One would be one of the original members from 25 years ago who could regale us with stories from back then and the other, we hope, would be Society president-elect Damien Lemay. We hope our centre's history will have been published by then so that we can present both our National President and the Society with a copy.

The membership of the Centre is over 20 at present and we are pleased to say that many people are expressing an interest in astronomy. By the time you read this report the centre hopes that it will have the approval from National Council to go ahead with incorporation.

MONTREAL: The Centre continues to actively promote observing activities among its members. One program is encouraging members to observe a check list of sky objects to give "a quick taste of all the different types of observational fields." Another program is the Galileo Project which has 14 members working on actually devising experiments and making observations to measure the size of the earth and the distances to various celestial objects. In March, they measured the circumference of the earth to an accuracy of 97.9% using only a clothes line pole, a spool of fishing line, a plumb-bob, a measuring tape and a scientific calculator!

EDMONTON: The Centre organized a major public celebration to recognize the 100th birthday of the RASC in early April. Many indoor and outdoor activities were planned and there was good participation from the membership. Unfortunately, winter returned to Alberta for the two-day event and clouds, rain and heavy snow combined to limit public attendance. *Stardust* editors Randy Pakan and Karen Gray combined to produce an April Fool's issue titled *Starbust* which contained a lot of good humour. The February and March issues of *Stardust* featured an excellent two-part article on astrology by Dr. Doug Hube of the University of Alberta.

NIAGARA: Whirlpool editor Gregory Saxon produced a special issue to recognize April 1 and thus appeared *The Niagara Whirlfool*. The cover article described a recent catastrophic meteor impact in the area of Hagersville, Ontario. Hmmm, wasn't there a big tire fire there at about the same time? Disaster also struck Greg when a chip blew in his home computer destroying and corrupting many of his newsletter files. An April issue did appear with the help of the computer of Lawrence Redman. Congratulations to Ron Gasbarini who is the new Centre president. Marv Scott reports his observation of a possible comet on March 26

when photographing Jupiter near the M35 cluster. Unfortunately, his observations could not be confirmed.

VANCOUVER: Gerry Knight reports the Centre is doing the meeting room shuffle as it has had to temporarily move out of the H.R. MacMillan Planetarium and use other locations during the late winter and spring. By June, the meeting location should be back at the Planetarium. Former *Nova* editor Ken Nelson has joined Mike Chutter as the editorial team for the newsletter.

TORONTO: John Ginder organized a massive public education program for Astronomy Week in April. Bob Kirouac, Randy Attwood and Paul Fjeld designed an attractive flyer to promote the week's activities, amateur astronomy and the RASC. The Centre approached Metropolitan Toronto Council and was successful in getting the city to proclaim April 21 to 28 as International Astronomy Week (see elsewhere in this issue). To help co-ordinate all of the Centre's activities, a telephone number (416) 774-4300 has been obtained for the Centre. The Annual Centre Dinner is being moved to the winter or spring season because of the difficulty of finding reasonably-priced facilities in the late autumn. September 15 will be the date of the Centre picnic and annual behind-the-scenes visit to the David Dunlap Observatory. Members' Nights continue to be very-well attended with a wide variety of observational talks and reports presented. Special demonstrations in the Star Theatre of the McLaughlin Planetarium prior to meetings have recently highlighted astrophotography and deep sky observing.

OTTAWA: The Centre had a special guest speaker in town for May as well-known observer and astrophotographer Dr. David Maim of the Anglo-Australian Observatory gave talks to the Centre and at an open public presentation.

VICTORIA: The March *Skynews* featured an interesting article on modern Chinese astronomy by new Victoria member Yi Wang. Malcolm Scrimger reports the Centre has five telescopes available for loan to members. The mobile telescope is also being redesigned for a Naysmith configuration rather than its present Newtonian design. A special tour of the Dominion Astrophysical Observatory was planned for early May. Chris Aikman reported in detail in the April *Skynews* on a bright fireball observed over north-central British Columbia on February 26 at 19:57 PST.

An Invitation to Nova East

by Randall Brooks

Halifax Centre

The Halifax Centre has held a camping/observing weekend for its members for 15 years though, in recent years, it has become known as Nova East and expanded to include astronomy enthusiasts from eastern Canada and the United States. To improve access, it has been moved to one of Atlantic Canada's best equipped recreational facilities at Fundy National Park in southeastern New Brunswick. The park facilities are extensive with the usual camping areas and trailer hook-ups but also with in-park chalets and motor facilities for those not inclined to share nature with four legged furry animals that abound in the park. There is swimming in a heated saltwater pool (one risks hypothermia if one tries swimming

in the waters of the Bay of Fundy for more than five minutes – even in August!) or in a lake where boats and canoes may also be rented. The championship nine-hole golf course was described a few years ago in the *New York Times* as “3000 yards of sheer hell” – water comes into play 13 times on the first three holes alone! Hiking trails, fishing, lawn bowls, tennis, children’s play areas and nearby horseback riding complete the activities for your physical needs. More intellectually stimulating is the craft school which has sessions in a variety of crafts for both adults and kids and nature talks which includes popular pond life study sessions for the kids. On some evenings, one can enjoy a play in the park’s outdoor theatre.

On the astronomical side, the Halifax Centre uses Nova East as a public education opportunity which, with its ideal location, sets it apart from other star parties. Saturday evening is reserved for talks to introduce astronomy to the park’s inhabitants and, of course, provides them with an opportunity to use telescopes after the talks. These always attract several hundred people with the organization being carried out by park staff. However, the remainder of the weekend is reserved to expand the astronomical experience of our astronomical guests. There are the obligatory observing sessions in really dark skies (the nearest city, Moncton, is 60 km away), comparison of instruments and equipment and communal meals around the camp fires. We also organize informal educational sessions for Nova East participants conducted by the Centre’s more experienced members and we also welcome input and interaction with visitors.

If you would like to experience our “down east” hospitality at Nova East, more details may be obtained from Doug Pitcairn, Observing Chair, RASC Halifax Centre c/o 1747 Summer Street, Halifax, Nova Scotia B3H 3A6 (902 420-7604, FAX 902 429-2176 or E-mail via “PKELL@Watt.CCS.TUNS.CA”). The dates for this year’s Nova East are August 24 to 27.

ISU Hosted by York University

The third session of the International Space University (ISU) will be held at York University in Toronto from June 23 to August 30. The ISU is a multinational, non-profit organization fostering international cooperation in space research and training space leaders. Its inaugural session was held in 1988 in the United States at the Massachusetts Institute of Technology and the 1989 session was at the Louis Pasteur Institute in France.

This year’s session consists of a 10-week program which includes courses on the space applications of engineering, architecture, policy and law, life and physical sciences, resources and manufacturing, satellites and business and management. The approximately 100 graduate students and professionals attending the ISU from around the world will be working on designing an international earth observation system to monitor changes in the global environment by determining how many satellites would be needed to provide data about the ozone layer and pollution levels in the atmosphere and how to use computers to record the data collected.

The Institute for Space and Terrestrial Science at York University, an Ontario Centre of Excellence, will be collaborating with the University of Toronto’s Institute for Aerospace Studies, Ecole Polytechnique in Montreal, and McGill University’s Centre for Research in Air and Space Law.

Thirteen Canadian graduate students including six with engineering backgrounds have been selected to participate in this year’s session. Future locations for the ISU include Moscow in 1991 and Japan in 1992.

Nouvelles du Quebec

par Marc A. Gélinas

Société d'Astronomie de Montréal

La conférence mensuelle du mois de mars a été donné par le Dr Robert Lamontagne de l'Université de Montréal. Le titre en était "Les deux dernières planètes visitées par Voyager II". C'était, bien sûr, d'Uranus et de Neptune dont il était question. Au début des années 80, le Dr Lamontagne fut le premier à recevoir un doctorat en astronomie de l'Université de Montréal.

En avril, la conférence fut le fait d'un nouvel invité à la Société, le Dr Jean-Pierre Arcoragi. Ancien membre de la S.A.M., le Dr Arcoragi a fait des études à Montréal pour ensuite aller chercher son doctorat à l'Université Libre de Bruxelles. Il a effectué un stage post-doctoral à l'Institut Max Plank en Allemagne. Il est maintenant à l'Université de Montréal pour poursuivre ses travaux. La conférence du Dr Arcoragi portait sur la nucléosynthèse, c'est à dire la grande machine à fabriquer des atomes que sont les étoiles.

Une première rencontre de l'équipe de rédaction de l'annuaire astronomique 1991 a eu lieu en février. Jean-Pierre Urbain a accepté d'agir comme éditeur de l'annuaire coordonnant ainsi le travail d'une dizaine de volontaires. Le but du rédacteur est de sortir un volume encore plus attrayant en octobre prochain.

Une nouvelle plus triste pour la S.A.M., est la démission de Monsieur Gilles Smith du poste de trésorier de la Société. Gilles Smith agissait depuis près de quatre ans comme trésorier. Des ennuis de santé éteignant l'enthousiasme qu'il avait coutume d'avoir à ce poste, ont fait qu'il a préféré démissionner plutôt que de risquer de négliger ses devoirs. C'est avec regret que le conseil a accepté sa démission.

Le club MIRA et le Soleil

Le club MIRA de Mirabel, au nord de Montréal, est formé d'une trentaine de membres. Ces derniers ont comme but pour l'été 1990 de centrer leurs activités sur le Soleil. En avril, votre rédacteur a été invité à donner une conférence sur l'observation solaire. On a alors fait le tour des différents phénomènes que produit le Soleil ainsi que des techniques propres à les observer. On a aussi parlé des programmes existant qui recueillent les observations des amateurs. Le programme de l'A.A.V.S.O. qui compile le nombre de taches est bien connu, mais les programmes de l'A.L.P.O. qui recueillent photographies et dessins du Soleil et celui des aurores boréales de la B.A.A. le sont moins.

Durant le mois de mai le club aura à la disposition de ses membres un C-8 et un filtre Daystar pour permettre aux membres des observations en lumière H-Alpha. Cet équipement a été loué pour le mois, de la Maison de l'Astronomie, à Montréal.

En juillet le club MIRA organisera une rencontre interclub, encore là, avec l'observation du soleil comme thème. Durant une fin de semaine on organisera des conférences, des ateliers et on observera le Soleil, un genre de "Star Party", mais diurne.

Venus et les amateurs du Canada

Dans la section Reader Reports, la revue américaine *Astronomy* de mai 1990 mentionnait l'étude de la dichotomie de Venus menée par des membres de la S.R.A.C.: T.W. Lohvinenko (Winnipeg), J-F. Viens (Québec) et M.A. Gélinas (Montréal). Un programme d'observation de Venus fonctionne de façon indépendante au pays depuis plusieurs années. Néanmoins ce groupe est de plus en plus connu à l'étranger.

En plus de *Astronomy* de mai dernier, le prestigieux *Journal of the British Astronomical*

Association (vol. 100 no. 2 April 1990) présentait un rapport des apparitions de Vénus 1984-1987, et sur la liste des observateurs, 12 sont du groupe canadien dont un américain.

Le journal de l'A.L.P.O., *The Strolling Astronomer* a aussi mentionné dans ses numéros d'octobre 1987, janvier 1989 et octobre 1989, la contribution de l'équipe canadienne entre 1984 and 1988.

Quelques vétérans de l'équipe sont à préparer un programme d'observation, qui sera offert aux canadiens en vue de la prochaine élongation du soir débutant à la fin de cette année. On en reparlera sûrement à l'automne.

Events Calendar

June 23 to August 30

International Space University hosted by the Institute for Space and Terrestrial Science, York University, North York, Ontario. (see article elsewhere in this issue)

June 29 to July 3

RASC General Assembly, Ottawa, Ontario. Hosted by the Ottawa Centre.

June 30

You and the Universe, Carleton University, Ottawa, Ontario. A public symposium sponsored by the Royal Astronomical Society of Canada.

July 13 to 18

The Astronomical Society of the Pacific will hold its first east-coast meeting in its 101-year history at Boston University, Boston, Massachusetts. For information write to: A.S.P., Meeting Information, 390 Ashton Avenue, San Francisco, CA 94112 USA.

July 16–24

Spaceweek '90. Annual event in the United States celebrating the anniversary of the Apollo 11 moon landing. This year's theme is "The Moon, Mars and Beyond: A Journey Into Tomorrow." Write to: Spaceweek National Headquarters, 1110 Nasa Road One, Suite 100, Houston, Texas, 77058 USA.

July 20–22

20th Annual Syracuse Summer Seminar, Darling Hill Observatory, Vesper, New York. For information contact John Rusho, Box 19, RD 7, Fulton, New York 13069 USA.

July 24–28

First European Meeting of the American Association of Variable Star Observers (AAVSO), University of Brussels, Brussels., Belgium. For information and correspondence write to: Dr. John Percy, Erindale Campus, University of Toronto, Mississauga, Ontario, Canada L5L 1C6 or Fax (416) 828-5328.

July 27–28

Stellafane Amateur Telescope Makers' Convention, Springfield, Vermont. A "must" conference for every serious amateur to attend sometime during their career. Write to: Stellafane, 60 Victoria Road, Sudbury, Massachusetts 01776 USA.

August 17–18

Starfest '90, Mount Forest, Ontario. Organized by the North York Astronomical Association and highly recommended. Contact Andreas Gada, 26 Chryessa Avenue, Toronto, Ontario M6N 4T5 or phone (416) 761-1798.

August 22–26

Mount Kobau Star Party, Osoyoos, British Columbia. For information contact Peter Kuzel, 4100 25th Avenue, Vernon, British Columbia V1T 1P4. Phone (604) 545-1226.

August 24–27

Nova East '90 Star Party, Fundy National Park, New Brunswick. Contact Doug Pitcairn, RASC Halifax Centre, 1747 Summer Street, Halifax, Nova Scotia B3H 3A6 or call (902) 420-7604. See article elsewhere in this issue.

Eyes of Wonder

by Winston Stairs
Toronto Centre

What started as a chance discovery by a wide-eyed one year old has developed into a full blown love affair. The one year old – my daughter (now 20 months), the love affair – the moon and stars, or in her words, “*moo*” and “*tars*.”

The discovery was made as we crossed a parking lot and neared the car. Another bi-weekly excursion to the grocery store somehow survived! Daddy’s first born squirmed in his arms and gestured at the sky while repeatedly stating “ight, ight!”. Daddy not being as bright as he likes to think he is was slow in noticing the object of his daughter’s delight. Exhibiting the finest in analytical skills, I blindly inquired, “what is it sweetheart? What does daddy’s girl see?” Mother seizing the opportunity responded with, “she sees the moon silly! And you call yourself an astronomer!”

True to nature’s course, Luna edged her way skyward as dusk turned to night. Amazed and delighted with my daughter’s discovery, I nurtured her interest with, “see the moon? Isn’t it pretty? Looks like a big light doesn’t it?” I felt the light analogy appropriate since “lights” were a matter of great fascination to her at this time.

After a moments observation, we entered the car and journeyed home. Nothing more was thought of this unexpected and hurried introduction to the evening sky until some weeks later. Once again, a hurried father had his attention drawn to the wonders above by a young and impressionable little girl.

I noticed her head arched skyward almost from the moment we left the house. Without prompting and much to my surprise, Alicia (guess who?) said “*moo, moo!*” As I started to say “*wha*” I noticed out of the corner of my eye the thin crescent of a waxing moon suspended low above the tree line. Astounded by my daughter’s incredible display of object recognition and memory recall, I blurted an approving “that’s right! Very good, sweetheart! Did you hear that mommy?” After receiving mother’s affirmation, I drew her attention to some of the more familiar nighttime objects such as Vega, Deneb and Altair.

Weeks have turned into months and the fascination continues to flourish. Hardly a moment passes when a little someone isn’t asking daddy whether the “*moo*” and the “*tars*” are in the sky. The challenge as I see it will be in sustaining this fascination overtime, in the face of many other competing interests and attractions. Only time will tell.

Toronto proclaims Astronomy Week

The following proclamation was issued by the chairman of Metropolitan Toronto Council to coincide with the Astronomy Week activities co-ordinated by the Toronto Centre.

“International Astronomy Week”

April 21 to 28, 1990

The Royal Astronomical Society of Canada (RASC) is an organization whose objectives are the promotion of public knowledge of astronomy and related sciences in Canada. The Toronto Centre, with headquarters at the McLaughlin Planetarium, is one of 22 local branches. Over 1,000 of the RASC's 3,500 members reside in the Metropolitan Toronto area and represent diverse backgrounds.

Since 1890 amateur and professional astronomers have promoted astronomical knowledge by presenting public lectures and star-gazing demonstrations in Toronto's parks, schools, and libraries. The Toronto Centre acts as a local resource for Brownies, Cubs, Girl Guides and Boy Scouts who are qualifying for their astronomy proficiency badges. The Society also presents school programmes designed to supplement the Ministry of Education's guidelines for teaching astronomy in the school system.

I, Alan Tonks, Chairman of the Metropolitan Toronto council proclaim April 21 to 28, 1990, “International Astronomy Week” in Metro Toronto, in recognition of a century of continuous activity educating the public about astronomy and urge all residents to participate in the week of planned activities.

*Alan Tonks
Chairman
Metropolitan Toronto Council*

Hunting Messier Objects from Digby

**by Douglas Pitcairn
Halifax Centre**

The idea was originally placed in our heads by Bill Thurlow, one of the keenest observers in Eastern Canada (that's eastern Canada, Maritime style, as in east of the St. Lawrence River!). Bill had informed me that this year would be a good one to attempt a Messier Marathon. He suggested that it might set some sort of a record to complete this gruelling observational challenge against the sky from as far north (45 degrees) as we were.

The challenge can only be attempted when the Sun is sitting in a small section of the sky devoid of Messier objects between M30 in Capricornus and M74 in Pisces. This occurs just after the June equinox and lasts for about five days.

The days passed and the time slot grew near. Needless to say, our optimism was severely restricted by our infamous maritime weather. The chances of getting a clear sky all night in Nova Scotia in the spring are slightly less than the chances of winning a lottery. But there is

no harm in a little preparation. I had adapted a check list from an article in the *Quebec Astronomique*. I identified on which charts in the *Sky Atlas 2000* each object was found and spent a few hours reviewing the best star hopping procedure for each object. Many of the objects I had not seen since I had been working on my Messier Certificate a few years ago, and I was looking forward to renewing some old acquaintances.

As the weekend approached, the Maritime Division of Environment Canada did its usual fine job. The forecast for the evening of March 24/25 changed three times in less than twelve hours. The last prediction actually indicated a good chance of clear sky all night. Three other intrepid observers, Jason Adams, Paul Grey and David Lane, and myself decided to drive the 200 km from Halifax to Digby, Nova Scotia to observe with Bill Thurlow.

We stuffed a Meade 10-inch Schmidt-Cassegrain telescope, a Celestron 8, a 10-inch Dobsonian and several smaller instruments, as well as sleeping bags and the usual trip paraphernalia into one overloaded Dodge Caravan and headed off to Digby. Along the way we passed through the Hantsport area and stopped in to visit Dr. Roy Bishop. Roy is somewhat revered in these parts as he is the editor of the *Observer's Handbook*. He gave us a quick tour of his Maktomkus Observatory and wished us luck in the challenge. We arrived in Digby under somewhat cloudy skies at about 6 pm.

Bill had chosen two sites for our observations. One for the western sky objects in the early evening and another at his cottage for the eastern objects later in the evening. The plan was sound but the weather did not cooperate. We were plagued by broken cloud as we tried to complete the early evening autumn and winter Messier objects. The difficult M74 in Pisces and M77 in Cetus were still ten degrees above the horizon and would have been easily visible had the sky given us a ten second break. But the western sky remained cloudy.

We headed for the cottage knowing we had missed two objects and could not complete the challenge. Unfortunately, the skies from this otherwise superb site refused to clear and we spent most of the night in the warm cottage playing cards, drinking Bill's "averted vision tea" and looking forlornly up at the cloudy skies,

Despite the weather, the Messier Marathon was a lot of fun and we look forward to attempting it another year. Bill had observed the previous night the globular star cluster M30, "the toughest object in one-night Messier Marathon" according to the *Observer's Handbook* (page 211), and we are convinced that the complete marathon can be completed from our location.

NRC to link with Hubble Space Telescope

The Canadian Astronomy Data Centre (CADC) at the National Research Council's Dominion Astrophysical Observatory in Victoria will be the national archive for data from the Hubble Space Telescope launched in April. The NRC facility, with financial support from the Canadian Space Agency, will supply information from the HST to researchers throughout Canada. The HST is a NASA project with co-operation from the European Space Agency.

"Access to the data from this Space Telescope means that exciting times lie ahead for Canadian researchers", said Minister for Science William Winegard. "Our astronomers will remain on the cutting edge of international astronomical research".

HST, the first major optical telescope designed to be permanently operated in lower earth orbit, will be capable of viewing the universe with a resolution three to ten times greater than ground based observatories and should help to dramatically improve current understanding of the size, structure, and evolution of the universe.

The Space Telescope Science Institute in Baltimore, Maryland, the project's home base,

will provide data to CADC on 12-inch optical disks – one per day with each disk containing two gigabytes (two billion characters) of information. CADC will then build a catalogue of available data which Canadian researchers can access through a nation-wide computer communications network initiated by NRC. Other countries are also developing proposals to establish data centres based on the CADC model.

NRC scientist Dr. John B. Hutchings is a member of the team who built one of the major instruments on the telescope. The instrument teams will be the first to use the HST, initially to commission and calibrate the instruments, and then to obtain the first scientific results. Early observations will deal with such astronomical problems as the investigation of stellar black holes; regions where stars are forming; stars with enormous magnetic fields; and the complex processes which power distant quasars. This early data will be processed at the CADC by Dr. Hutchings and his collaborators.

Canada's involvement with the HST also includes three Canadian-led research proposals which have been selected to receive observation time. The Canadian projects were among 162 chosen through an intensive scientific peer review process, out of a total of 556 proposals submitted by astronomers from 30 countries. The three principal investigators from Canada are: Dr. James E. Hesser of NRC (oldest stellar populations – globular clusters and the history of the galaxy); Dr. William E. Harris of McMaster University (globular cluster systems in the Coma cluster supergiant ellipticals); and Dr. Anthony Moffat of the University of Montreal (the search for Wolf-Rayet stars in Local Group giant ionized hydrogen regions).

According to Dr. Hesser, director of the NRC's Dominion Astrophysical Observatory, the HST will allow his team to resolve scientific problems that they have worked on for two decades with ground-based telescopes. "Our goal is to use the study of three globular star clusters as a cosmological probe to help estimate the age of the universe and develop a more exact theory on how our galaxy was formed."

The National Research Council, Canada's leading science and technology agency, develops knowledge through its own basic and directed research programs. NRC also provides a wide range of services, facilities, technology transfer programs and collaborative research opportunities to help Canadian industry maintain its high standards of excellence and international competitiveness.

Press release from the NRC

In Search of Deep Sky Nights

**by David Clyburn
Edmonton Centre**

Editor: The following article is from the March 1990 Stardust of the Edmonton Centre.

Deep sky observing provides unique rewards when skies are transparent, but the frustrations are sometimes many. Lately, we have spent a lot more time talking about observing than doing it – the weather has been lousy! And clear evenings, like the weather forecast "a few clouds tonight", don't always deliver what they seem to promise. A case in point occurred one evening last February when clear skies lured Paul Campbell, Randy Pakan and I to the Edmonton Centre's Waskehegan observing site.

We did get a good view of the "eyes" on the northern edge of Jupiter's South Polar Region before heavy cloud rolled in. With no sign of improvement after 90 minutes or so, we left,

only to notice the clouds breaking up over Sherwood Park to the west. After making the decision to go observing, and then to leave, we were faced with the decision of whether to return to Waskehegan or not.

Sensing the threat of madness, Randy and I drove home. But Paul did return and met up with Bob Drew who was finally able to begin his carefully planned assault on observing the objects in the Virgo cluster.

A few days later what seemed as though it might be a replay of the previous session – clear skies before sunset, set up to loading telescopes. Driving out could see the eastern sky was becoming overcast but pressed on. Nearing Waskehegan, I spotted Randy’s van heading towards me. We both stopped. “It’s snowing out there! I’m driving home to see the double shadow transit that’s happening right now.” Two moons of Jupiter would be crossing the face of the planet that evening.

On our way to the Pub in Sherwood Park, we noticed that the sky was clearing so we pulled off the highway to see the transits. The moon Io was just barely visible in the Equatorial Zone, preceding its shadow, while a second moon, Callisto, was far to the east of Jupiter, its shadow high in the South Polar Region. Inspired by the transit and the presence of actual stars in the sky, we drove back to Waskehegan. There we found Bob Drew, Paul Campbell, Larry Wood and, we hoped, dark, clear skies.

According to Randy, aurora would be a wonderful thing if it occurred only in the daytime. While Bob Drew continued to work through the Virgo cluster, while Larry found the spring’s “finest NGC’s,” while Randy, amazingly, found objects so obscure even Alister Ling (see *Observer’s Handbook* pp 204–205) may not have seen them and while I reacquainted myself with some old friends in the winter sky, an aurora shone even brighter above us. It did settle down after midnight, though, and Bob Drew was able to complete his Messier list. Paul, incidentally, made sure Bob earned his certificate. In some cases he would not confirm an object until 8th, 9th or 10th magnitude field stars had been accounted for with respect to star charts and photographs!

In summary, Herman Melville’s motto while he wrote *Moby Dick*, seems as appropriate for deep sky observers as it is for writers: Time, Strength, Cash and PATIENCE!

Spreading the Word

**by Doug Pitcairn
Halifax Centre**

I am going to begin with a bold assumption. I am assuming that you are a keen member of your local centre of the RASC, you get involved with activities in which your centre is participating, you occasionally run for executive positions, and you enjoy enlightening the public on various aspects of the “oldest science”. Astronomy is a broad field, and has something to offer almost everyone. I believe, and many other members I have talked to feel the same way, that the greatest challenge facing the RASC today is public education. I have had some success in this area, and would like to share some ideas with other members. Public education can be a challenging job, but it can also be very rewarding. Indeed, if you succeed, you may find your life enriched in more ways than one.

There are several ways a person might consider reaching the public. Here are a few of my experiences.

If there is a local paper which does not currently have a weekly astronomy column in it, and you fancy yourself a writer, why not approach the paper with a proposal to start one. Local dailies often prefer a local writer as they then do not have to pay you as much as they would have to pay a syndicated column from afar. You are easily available for mail

answering and questions, and columns about everything and anything are all the rage these days. I have been writing for a Halifax daily for two years now, and I have found it a very enjoyable experience. Ideas come easy from such places as the news section of the astronomy monthly pages, or the sacred pages of the RASC *Observer's Handbook* (or as we here in Halifax like to call it, "The Bible according to Bishop!). Do not worry if you have no formal astronomical education, most papers prefer an amateur as they find the professionals have difficulty writing at a public level.

Another method of communicating with the public is through talks to such organizations as men's or women's clubs, community groups or Boy Scout and Girl Guide groups. These are easy to arrange, as such people are almost always looking for something different to present to their members.

What is involved? The best way to structure these talks is around a slide presentation. Most societies will provide you with a slide projector, all you need are slides. Slide sets are often available on loan from centres for such purposes. If they are not, take a proposal to your executive that the centre purchase slides of a suitable nature. They are a most useful medium, and cannot be clouded out! Perhaps a local planetarium or university or college astronomy department might allow you to borrow copies of their slide sets. You can take these down to the local photographic store and have copies made for about a dollar a copy. Also, with a standard SLR camera, and a cheap add-on "close up" lens, you can start shooting your own slides out of any book or magazine you can find. With a bit of care, the quality of such "pirated" slides can be very good. After a while, you will accumulate enough slides to be able to give a variety of talks without bothering anyone else. I know there are legal implications to all of this but I feel that nobody would mind provided you did not sell the slides for gain.

Another way you might consider "spreading the word" is to become a contact person for local radio and television stations or newspapers. Often, when some interesting event such as the lunar eclipse of last August happens, the media reporters get in an information frenzy and need people to interview. If you contact them and explain that you are a well-informed amateur, they will keep your name on file, and the next thing you know, you will see your name in print or on the television.

Another option is to begin teaching a continuing education course. My experience is that most school districts are delighted to have someone attempt such a program, as it is one of the most difficult areas to find instructors. You should keep the course simple and short, say six nights. Use slides and take your telescope as people like a mixture of theory and observation. Do not feel that you have to be an expert for these level of courses. You will likely find yourself in front of a group of very keen novices who will be most interested in every bit of wisdom you utter. Anybody who has been an active amateur for a few years is capable of running one of these courses. They are an excellent way to inform people, and you may even find that the money it earns you is useful for that new Nagler eyepiece you have been drooling over for the last several years.

If you are retired, you have a special opportunity to help fill in what to me is an obvious gap in our public education system. Local high schools will welcome anybody who is well-informed to come in and give class talks to groups of interested students. They must be done during normal working days which is to the retiree's advantage. Tell them about supernova and black holes and quasars. Contact the local physics teachers and tell them of your availability.

There is much to be done and so few to the job. In a similar form to the famous words of Winston Churchill:

"Never before in the history of Human endeavour, have so many, needed enlightenment about so much, from so few."

Observer's Cage

by David H. Levy

Comet Austin, as this column is written, is heading towards perihelion with a lot less fanfare than was originally predicted for it – Nature is teasing us again. What we astronomers have to put up with to get enjoyment out of our hobby is incredible, almost a test of will.

First comes the weather. With only two nights a week for most of us to spend long hours observing, we don't get to see much sky. I will never forget the winter of 1961 when every Friday night was cloudy. It seemed as though the night sky had become a fictitious memory. When the first partially clear weekend came along early in April it was as though the stars had been reborn. That one night was wonderful! To get a better view I carried my three-inch Skyscope down the street and set it firmly in a shallow snowbank. As I reached down to focus the eyepiece the whole instrument toppled to the ground. The cast-metal tripod had collapsed from the shock of its contact with the snowbank!

Although Comet Kohoutek is often touted as the best recent example of Nature's trickery, it really was an excellent comet. Unfortunately by the time it had passed perihelion it had suffered such a massacre by the popular press that the public no longer believed it existed. I experienced an example of this. On one occasion as I set up my telescope by the side of a highway. I was accosted by a policeman who at first did not believe my Kohoutek story. Fortunately, the 6th magnitude fuzball in the eyepiece convinced him that the comet was still alive. The Kohoutek session was only the first part of a frigid January night. It was followed by a rush back to Montreal to hear Bob Dylan in concert, eulogizing the comet's passage "like a rolling stone."

Comet Kohoutek performed very well for a first-time visitor to the inner solar system, just as Comet Austin appears to be. No scientist would call either comet a "dud," it is just that when a comet is far from the sun at discovery we have no initial way to determine whether it is a new comet making its first visit from the Oort Cloud or a repeat visitor whose brightness increase will be more traditional.

Nature's other pitfall occurs when a special event like an eclipse or occultation occurs, the sky has been clear for weeks, and at zero hour a single cloud interferes with observations and the event is lost. Major expeditions mounted to observe eclipses and transits of Venus sometimes ended this way after months of preparation and travel. What do you do, just give up?

Once we get over our disappointment, most of us consider the sky important enough that we bounce back. When we decide to enter astronomy we should perhaps sign a contract not to let Nature throw us. If it is cloudy for two hundred nights in a row, if all the comets fizzle, if we lose an eclipse – these might be signs of Nature's trickery, but in retrospect these are aspects of astronomy that add to the tension that makes the field so exciting.