

# NATIONAL NEWSLETTER

December, 1984

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*Starclouds of the Summer Milky Way.* An overexposed Jupiter looks like a globular star cluster in this wide-angle photo taken last July. The rich starfields contain clusters and nebulae extending from Sagittarius at the bottom to Aquila in the upper left. Technical details: 15 minute guided exposure on 400 ASA film using a 28mm lens. *Photo by Zdenko Saroch, Sarnia Centre.*

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**December, 1984**

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### Shuttles and Seagulls

**by David H. Levy  
Kingston Centre**

A few minutes before 8 a.m. on Friday, February 3, 1984, the herons and gulls are lounging on the shore of the Banana River, ignoring the crowds at the riverbank. It is their right, of course, for the Kennedy Space Center is a national wildlife refuge, the home of the herons, wild pigs, alligators, and lots of gulls. It provides a really peaceful, country setting for what could be a pleasant morning of reading and contemplation. But sharp at 8 a.m., that mood vanishes as a distant stack of power surges to life, surrounds itself in a canopy of steam, and soars confidently into the blue sky. The startled seagulls scurry away, only to land again soon after the shuttle disappears from unaided eye view.

Eight days later, the gulls and I are there again, watching the spectacle of another Canaveral native bird returning home. Challenger is as silent as the gulls, after whose aerodynamic principle it is designed. The gulls glide, the shuttle glides.

While waiting for both launch and landing, I use my telescope to try to observe some variables, but the intense light prevents any useful observing work. Little matter, however, for when this same shuttle launches the space telescope in a few years, it will do most of the observing for us.

But my little observing sessions are more than that, and amateur astronomy is more than that. We are interested in the stars the way we could be interested in those gulls; their relation to the shuttle is more poetic than scientific. And as amateurs, so is our relation to the stars and galaxies. Let the Space Telescope, and a whole generation of fantastic telescopes it will sire, learn what there is to know. We will be in for a fascinating time. But we will also remember that we love the stars, just as we enjoy the gulls.

## Edmonton Space Sciences Centre Opens

by Douglas P. Hube  
Edmonton Centre

On July 1, 1984, the Edmonton Space Sciences Centre was declared officially open to the public by well-known Canadian astronomer, Dr. Helen S. Hogg.

More than 800 donors, contractors' representatives, government officials, and other special guests accepted invitations to a pre-opening reception and the formal opening day ceremonies. In addition to Dr. Hogg and municipal and provincial government representatives, the platform party included Lt. Col. Guy Gardner (NASA astronaut), Dr. Gary Lindberg and Dr. Dorian Smith. Dr. Lindberg represented the Canadian astronaut programme and N.R.C. Dr. Smith emphasized the link between the general public and science by presenting certificates, provided by N.R.C., to six finders of meteorites in western Canada. The keynote address was given by Dr. Hogg whose presence before, during and after the opening was a joy to everyone who met her or had the opportunity to hear her speak.

The formal history of the project goes back seven years to the day when John Hault, curator of the Queen Elizabeth Planetarium – Canada's first public planetarium, but by then its smallest – invited a small group of people to discuss the possibility of building a new facility devoted to public education in astronomy and related sciences. In fact, the project began to develop in John's mind at least four years earlier when he arrived in Edmonton and realized the inadequacies of the QEP.

Various stages in the development of this project have been described previously in *Cassiopeia*. In its now more-or-less final form, the total cost of the facility is \$17.6 million of which approximately \$4 million was raised through the voluntary efforts of members of the Edmonton Space Sciences Foundation from the corporate, private and public sectors during the past three years. The largest donations came from Mrs. Margaret Zeidler to whom the planetarium theatre is dedicated, and from the Devonian Foundation after which the IMAX theatre is named.

The all-new GP85 COSMORAMA projector from VEB Carl Zeiss Jena is, of course, the centrepiece of the ESSC and produces what is unquestionably the best planetarium sky in the world. It is the first traditional planetarium projector to be completely operable under computer control. It meets all, and exceeds many, of our specifications and represents the new standard in planetaria. GP85 (# 1) was assembled in the original Zeiss planetarium in Jena where it was tested and accepted by John Hault and Doug Hube in May. The projector was then dismantled, crated, shipped via Air Canada – occupying the entire commercial cargo space on a L1011 – and reached Edmonton the first week of June. The first planetarium show was presented at a pre-opening VIP reception on June 30th. In addition to the GP85, the planetarium theatre contains more than 200 35-mm Leitz projectors and special effects projectors, Laser light shows are presented in the Margaret Zeidler Star Theatre in the evening following planetarium shows.

The Devonian IMAX Theatre was completed several months prior to the official opening. The film "Silent Sky" was shown on many occasions during that period, but "Hail Columbia" is now running as the feature presentation.

The bookstore/science shop, Nova Science Stage (for live demonstrations), and exhibit galleries are attracting and holding the attention of visitors. A significant component of the exhibit galleries is a 2-part exhibit donated by VEB Carl Zeiss. The first part is concerned with the history of the planetarium and includes several models of CZ planetarium projectors. The second and larger part is a superb collection of historical artifacts collected from various museums and observatories in the GDR. This collection includes the original Gregorian telescope, Fraunhofer and Dolland telescopes, a 1736 quadrant, Fraunhofer heliometer objective, and more. These items are generally on loan for 3 years after which they will be replaced by other equally priceless and exquisite pieces. Elsewhere in the galleries are numerous hands-on exhibits (optics, magnetism, atomic structure), a lunar rock sample, a large electronic orrery, Canadian meteorite collection, model of the CFHT (courtesy of Dr. Jack Locke), full-scale model of the Canadarm (courtesy of SPAR Aerospace) reaching for a scale model of Solar Max, 3-D model of the Big Dipper, etc. Though it is not obvious to the visitor, the exhibit galleries are little more than half complete.

With the opening of the ESSC the work of the Foundation does not come to an end. Approximately \$1 million is still to be raised, the exhibit galleries are not complete, and a major restaurant is only in the early stages of development. Most importantly, operation of the facility remains in the hands of the Foundation and its staff. (The ESSC is operated independently of the City administration, a situation which any group involved in a similar project should strive for.)

The potential success of the project is indicated by the near-capacity crowds during the first months, and by the fact that school shows (for which there is no admission fee) are booked into 1985.

The Centre is open 7 days a week, and is located in the northwest corner of the City at the corner of 111 Avenue and 142 Street. The 1985 General Assembly of the R.A.S.C. will be held in Edmonton, an opportunity for many of you to respond to the invitation which appears on our T-shirts, pens and buttons, namely, "Discover ... the Edmonton Space Sciences Centre."

Reprinted from *Cassiopeia*

## Report on the Perseid Meteor Shower 1984

by Alison Healy and Neil Laffra  
Calgary Centre

In spite of the exceptionally bright full moon, some slight aurora, and very bothersome sky glow from Calgary, the Perseids were not bad at all. In fact, it may have been more exciting than last year's show. The crowd of observers at the Wilson Coulee Observatory numbered TWO! And that was on the peak hours of Sunday morning August 12th. Bundled up against the rather cool breezes and resting on a couple of cots, we faced towards the northeast, for two reasons: that is where the radiant point in Perseus was located, and that was the only area of the sky which was darker than second magnitude, due to the moon and city light. The fact that the dozens of fainter, faster meteors would be lost to us was not going to deter our efforts to observe what had been billed as a better show than those of the past few years.

We were not disappointed with what was observed. About an hour after midnight, there was a series of a dozen bright streaks across the sky, ranging from first magnitude to minus three!!! Due to the poor sky darkness, no attempts were made to photograph the event, so the actual paths were not recorded for later study. Throughout the night there appeared a number of fairly bright sporadic meteors, many of which came from the southern areas of the sky (possibly late Capricornids or Iota Aquarids), with a few of these being as bright as minus 2. Observing was done from 00:30 until about 05:15, with a brief coffee break at about 02:30. Neil, with some twenty years of activity in astronomy, observed some 77 events, while Alison, with only a few years of interest in the science, saw 83. In all, there were some 100 individual meteors observed that night, with much overlap in observations. About ten of the total were sporadics. Of course, to be seen at all, they all had to be brighter than +2 magnitude!

At 05:25, about an hour prior to sunrise, we departed from the Observatory and headed for the city, when a final event burst onto the scene! As we were driving slowly northwards just past Strathcona-Tweedsmuir School, and looking upwards at the ever-brightening sunrise sky, a fireball (Perseid) shot through about where the Big Dipper area of Ursa Major had been visible some fifteen minutes earlier, leaving a five degree trail behind the head, shining easily at magnitude - 8!!! This last observation was made at 05:29.

We hope you did not miss this year's show, as it was a good one in spite of the sky brightness. Certainly next year's event, without a moon to pollute the sky will be spectacular!

Reprinted from *The Starseeker*

## Comet Meier (1984o)

Rolf Meier of the Ottawa Centre discovered his fourth comet on the evening of September 17th-18th. Located in the western sky after sunset about halfway between the bright stars Antares and

Arcturus the new comet was estimated to be of the 12th magnitude at discovery. Meier used the 0.4 m reflector of the Indian River Observatory at 56X to make his discovery after being 86 hours into his comet hunting programme. The comet was calculated to have been at its closest distance to the Sun on October 13th, 1984 after which it rapidly moved southwards through Virgo into southern hemisphere skies fading rapidly.

The new comet added to Meier's previous discoveries (1978f, 1979i, and 1980q) makes a very impressive listing and puts Meier high into the ranks of the current amateur comet hunters. Congratulations Rolf!

## **Asteroids Named for Canadian Astronomers**

**by Frederic L. Troyer  
Toronto Centre**

Last spring it was announced (see *National Newsletter*, August 1984, L62) that an asteroid had been named in honour of Dr. Helen Sawyer Hogg. Now, it has just been announced that two more recently discovered asteroids have been officially designated to honour Canadian astronomers. Like asteroid Sawyer Hogg, both were discovered by Arizona astronomer Edward Bowell and it was he who suggested the names.

Tiny planet 2904 now bears the International Astronomical Union's designation of Millman, honoring Dr. Peter M. Millman, a Past President of the R.A.S.C. Following his graduation from the University of Toronto, Millman was on the staff of the David Dunlap Observatory prior to World War II when he enlisted in the Royal Canadian Air Force. After the war he served on the staff of the Dominion Observatory in Ottawa and went to the Herzberg Institute of Astrophysics of the National Research Council when it absorbed the functions of the Dominion Observatory. Although Millman officially retired in 1971, he continues to work actively at the NRC as a "guest" researcher. Planetary and meteor observing has been his specialization for the past 60 years.

Minor planet 2905, first located by Bowell at about the same time he discovered planet Millman, has been named Plaskett, jointly in honour of John Plaskett, another U of T graduate who was first director of the Dominion Astrophysical Observatory at Victoria, B.C., and of his son, Harold H. Plaskett who in mid-career left Canada for Oxford University. John Plaskett died in 1941; his son in 1980.

In an interview in Ottawa, Millman said that he knew Bowell "only by reputation. We've never met, but I understand he wanted the asteroids he found to be named for Canadians in recognition of their research efforts."

## **Greenwich Time**

**by Muriel Enock  
Victoria Centre**

One hundred years ago last October, the Prime Meridian at Greenwich, England, was adopted as prime meridian for all the world at the International Geodesic Conference held in Washington, D.C. The Canadian engineer Sandford Fleming had been advocating Greenwich be adopted because the majority of navigators were already using it, whereas none of the other dozen or so suggested meridians had many adherents.

When the Old Royal Observatory celebrated the 300th anniversary of its 1675 founding, I visited the timekeeping exhibition at the adjacent Queen's House, National Maritime Museum. I realized for the first time just how extensive the time work had been at the Royal Greenwich Observatory, and how basic it had been to astronomy and to life in earlier days.

The most visible timepiece is the time-ball (1833) on a mast above the old observatory, which itself stands on a hill overlooking the River Thames below the London docks. Every day at 1300 hours, the red ball is still dropped precisely on the hour. Originally this was done to allow seamen to synchronize

their chronometers as they left on long voyages where their courses would be determined solely by the measured positions of stars at specific times.

John Flamsteed was appointed in 1675 “to find out the so-much-desired Longitude of Places for the perfecting of the art of navigation.” Poor Flamsteed! King Charles II built the observatory and was scientifically inclined, but he did not provide funds for instruments. Flamsteed had to beg for gifts of equipment or pay for it from his stipend of £100 a year. No wonder he was in poor health and intolerant. On his death in 1719, his wife took possession of all his equipment, although it must be said that she arranged publication of Flamsteed’s observations.

Edmund Halley, a more robust and hearty man, followed Flamsteed and was faced with having to re-equip the observatory. However, his nature was quite different and he was able to persuade the government to buy the first transit telescope. Halley first used this in 1721, and over 22 years carried out an extensive observing programme, being concerned not only with time measurement but with cometary paths and other astronomical subjects. Indeed, his greatest contribution was in publishing Newton’s *Principia* in 1687, although his name is now known because of one comet’s path he computed.

The fifth Astronomer Royal, Nevil Maskelyne, was in office 45 years, during which time there was much activity. John Harrison’s marine chronometer was tested successfully, “making the marine chronometer a practical instrument and the greatest single aid ever given to navigation.” Maskelyne observed a transit of Venus and from it calculated the distance of the Sun. He also measured the average density of the Earth. Perhaps his major achievement was the publication of the *Nautical Almanac*, first in 1767, and subsequently produced every year. Today, it is published jointly with the United States Naval Observatory.

George Airy, seventh in line, must have been rather difficult to work with, judging by the number of times I have read of his reactionary attitudes. Airy frustrated John Adams who had had valid positions for a new planet many months before Neptune was actually discovered. However, the transit telescope you see on the prime meridian when you visit Greenwich Observatory was built by Airy in 1851, and has made hundreds of thousands of observations in the cause of accurate time-keeping. An impressive photograph of the brass meridian ‘line’ and the Airy transit circle can be seen in last October’s *Sky & Telescope* magazine.

Now particle physicists have inherited the management of time from the astronomers. Since 1972, the frequency relationship of the cesium 133 atom has been the basic measurement of time:  $9192631770 \pm 20$  cycles/second! More recently, a less difficult measure has been used, the oscillations of quartz crystals – as in many of the watches sold daily to us common folk. Timeballs to quartz in 150 years.

Reprinted from *Skynews Victoria*

## Sir Martin Ryle

Sir Martin Ryle, a British pioneer in radio astronomy, Astronomer Royal from 1972 to 1982, and an Honorary Member of our Society since 1973 passed away last October after a long illness at the age of 66.

In 1974, Sir Martin Ryle and one of his team of coworkers, Anthony Hewish, were awarded jointly the Nobel prize for physics for their contributions to radio astronomy. In particular, Ryle was recognized for his development of the technique of aperture synthesis whereby an array of several small telescopes could serve as the equivalent of a much larger instrument. The existing Very Large Array (VLA) in New Mexico and the proposed Canadian Long Baseline Array (CLBA) are examples of the application of this technique.

Sir Martin Ryle is survived by his wife, a son, and two daughters.

## Due\$ Due

Yes, once again, it's renewal time: the 1985 membership fees were payable as of last October 1, 1984. National fees are \$20.00 for Regular membership, and \$12.50 for Youth members under the age of 18 years, payable to your Centre. Unattached members should remit their fees directly to the National Office. Certain Centres have added surcharges to the basic national fee structure and members should check with their Centre Treasurers. Members wishing to transfer to Life Membership in the Society should apply directly to the National Office, remitting the fee of \$300.00 directly to the National Office. Members who have not renewed by December 31, 1984 will be dropped from the publications mailing list, so please send your dues now. The Society's publications are distributed for the calendar year of the membership. Don't miss your 1985 issue of the *Observer's Handbook*, or any issues of the *Journal* or *National Newsletter*.

## National Library Open Saturdays

Members doing research projects, or interested in something for casual reading in astronomy should note the extended National Library hours until April. The Library is usually open weekdays during regular business hours. But on the last Saturday of the month from January to April, volunteers from the National Library Committee will be on hand between 1 and 5 p.m. to welcome members to the National Office and Library.

In addition to a large collection of books, many of historical interest, the Library contains an extensive periodical collection including many popular astronomy magazines, Centre newsletters, and specialised publications. The Library can be used as a Reading Room, or materials can go out on loan to members.

The Library will be open on the following Saturdays: January 19, February 23, March 30, and April 27. The National Library and Office are located at 136 Dupont Street in Toronto, and while there is limited parking in the area, there is convenient public transportation. The Office can be contacted at (416) 924-7973.

## Call for Slides

by Philip Mozel  
National Librarian

Surrounded as one is in the National Library, by a wealth of historical material, it is unfortunate that more of it does not relate to current or even past Centre activities. Specifically, the slide collection is a little on the thin side. In future years, a pictorial record of our activities will doubtless prove of interest to our successors. All centres, and several institutions, have been contacted, and I thank those who have responded. More is needed, however, and the National Librarian looks forward to a full mailbox in the near future. Donations should be sent to: National Librarian, Royal Astronomical Society of Canada, 136 Dupont Street, Toronto, Ontario, M5R 1V2.

## Astrophotography – A First Attempt

By Mary Anne Harrington  
Toronto Centre

At the Toronto Centre meeting on Thursday, July 19, I presented my first photographs and slides of the night sky taken during my vacation.

The first item needed to photograph the stars is a 35 mm SLR camera. Therefore my first investment was a Nikon FM2 camera with a standard 50 mm 1.8 Series E Nikon lens. This turned into my first



problem because I had neither owned nor used such a camera before. The remaining items needed for astrophotography are a good, sturdy tripod, a cable release, fast film and a lot of patience. Most of the above may be purchased in any good camera shop – except for patience. If you are not born with it, it must be developed over a period of time to prevent muttering at the full moon, cursing clouds and going grey over misted lenses.

My first film was a black and white print film, Kodak Tri-X. I used 10-minute exposures for all the star pictures and varied the f-stops using  $f/2.8$ ,  $f/4$  and  $f/5.6$ . I also took two exposures of the moon using  $f/11$  and  $f/22$  for 10 seconds. Unfortunately, only seven developed, and with all the star trails, it was hard to even recognize the constellations in the photos.

Next I tried colour slide film – Kodak Ektachrome 400. The first three slides on this film were taken before I had my black and white film developed, so to start with, I was still using a 10-minute exposure at  $f/4$ . I soon realized that I must drastically reduce my exposure times. Unfortunately this experiment had to wait – I was clouded out for the next two weeks of my vacation. Skies finally cleared for my last two nights; there was a full moon.

This did not give me the dark skies I had been hoping for, but by this time, I was becoming desperate to shoot some stars. So I decided to try some shots of the moon using  $f/11$ . I varied the exposure times: 1/125, one, five and ten seconds. I was lucky indeed to take two beautiful shots of the full moon shining across the lake with Jupiter directly above it with both the five- and 10-second exposures. These two shots made my first attempt a rewarding experience.

I then concentrated on constellations – the Big Dipper, Cassiopeia, Cygnus and Lyra. All of these pictures I took at both  $f/2.8$  and  $f/4$ , using both 2.5- and five-minute exposure times. This time *all* the star pictures developed, but I still had star trails, although not as noticeable. I also tried doing some star trails focusing on Polaris at  $f/1.8$  and  $f/2.8$  for 30 minutes. Longer exposures did not turn out because the lens fogged up.

I encountered a number of problems during this first attempt at astrophotography, the most obvious of which was lengthy exposure times. Another problem was my cable release – it released when it wasn't supposed to. There is nothing worse on a cold night than waiting 10 minutes for an exposure only to find that the shutter had been closed the whole time. Another thing, if you have a tripod with a number of knobs to tighten to hold your camera in place, remember to tighten all of them, or you will return to find your camera pointing in a different direction than where you left it.

Finally, I would like to thank those kind people who took the time to come over and speak to me after the meeting that evening. Their words of encouragement and advice were greatly appreciated.

Reprinted from 'Scope

## Modifying for the Planets

by Bill Laurence

In the modification of my 6"  $f/4$  telescope, "experience," as the old saying goes "has been the greatest teacher."

I bought the telescope in 1976 because it fit nicely into the back seat of my mother's Mustang. I liked deep-sky viewing, but I also liked the planets. The former owner of the telescope had been James Rouse, an astrophotographer living in Florida. Jim's shot of Saturn in *Astronomy* magazine reassured me that I'd made a reliable mail order purchase from *Astronomy*'s classified ads. "What about viewing the planets?" I wrote him. Jim patiently wrote back that the telescope's performance on the planets would not be comparable to a Celestron-5 because of its short focal length and low focal ratio. Perfect alignment was more difficult to obtain, as proved by trying to draw high powers from the scope. Seven years later, I believe I've overcome these limitations and have a fine rich-field and planet telescope.

From Naples, Florida, I received Jim's home-made R.F. telescope. The secondary mirror was placed 12" from the main mirror. Jim sent two secondaries, each glued to a plate held on by a big bolt to the spider setup. The 2.14" diagonal secondary missed at most half the cone of light from the primary. In went the large 2.6" diagonal that Jim recommended for photography. A lot more light was collected from the primary, but light was also blocked from reaching the primary.



I would overcome this, I thought, by using the smaller diagonal and moving back the main mirror. I then wouldn't need a drainpipe extension in the focuser to reach the focal point, either. I augered out little holes in each end of three popsicle sticks, the right distance apart to keep the primary away (not all the same for each hole, strangely enough). With the mirror and cell out of the tube, I screwed in one end of each of these attachments to the tube; then attached the cell to the other ends. The popsicle sticks sagged, and no monumental fussing could even provide an improved view of the top of the other end of the tube. I threw down the tube in a tantrum. The secondary mirror flew loose, bolt and all, from the homemade curved spiders and took a big chip out of my Coulter one-eighth wave primary. The chip is now covered carefully with electrical tape. So ended one of my first lessons.

Bill Peters came to the rescue. We screwed the cell back into its proper place after cutting out a focuser hole at the proper point where the smashed diagonal could be later replaced by a new 2.14" that would collect all the light cone. We stuck in the mammoth 2.6" after he had taken great pains to drill tiny holes through screws and plug them with tiny beheaded brass nails that connected a rebuilt spider to the tube. He had also threaded larger holes into the aluminum mirror cell, beefing up its connections to the tube. Though I'm not sure if I saw diffraction rings with this arrangement, it did not display the Spirograph-like images I was getting before the modification, even without the popsicle sticks. The smaller components of Lyra's "double-double" could be separated at 100 power. However, my goal still included planetary views, and my two-inch refractor could still rival the six, except in brightness. At the 200 power my homemade Barlow provided with the six-inch, the planets were mush. However at much lower powers, in the dark skies of rural Saskatchewan, I could easily see the Owl Nebula, and vaguely detect the Sombrero galaxy's dust lane, and the glow within the sweep of M51's southerly spiral arm.

Back in Winnipeg's sodium vapour canopy, the planets and moon must provide the rewards. The clumsy 2.6" diagonal was interfering with the resolution and contrast that even an  $f/4$  six-inch should provide. The painstaking efforts that soon followed my return from Saskatchewan have produced a telescope that, at first, seemed impractical, if not impossible, according to the usual design for RFT's; but experience has shown that making modifications to your telescope can be quite simple, once you know how.

[Mr. Laurence is a former Winnipeg Centre member and a continuing supporter of R.A.S.C. activities.]

Reprinted from *Winnicentrics*

## Across the R.A.S.C.

by Peter Jedicke and Ian McGregor

OTTAWA: Centre members held their 12th Annual "Deep Sky" Weekend at the Indian River Observatory, September 21–23. Although no one actually admitted to camping there all weekend, over two dozen people, including many new members attended on the one night the skies were clear. There were about ten telescopes present. Early in the evening the participants were treated to a view of the new Comet Meier (1984o), which had just been discovered a few nights earlier by Centre member, Rolf Meier.

SARNIA: All Centres please note. The permanent mailing address for the Sarnia Centre is now: Sarnia Centre, Royal Astronomical Society of Canada, Box 2583, Sarnia, Ontario N7T 7V8.

TORONTO: Four new Centre awards have been set up to annually recognize contributions of members over the year past. Three of these are named after members who made major contributions to the Centre, Society, and observing activities: the Andrew Elvins Award, the Bertram J. Topham Award, and the Jesse Ketchum Award. Centre membership has also skyrocketed for 1985. By late October, over 400 members had already renewed for 1985 and an active public programme has brought in almost 100 new members.

CALGARY: Last summer Don Hladiuk played a major role in bringing a 10-week radio series on astronomy to the local CBC radio programme *Eyeopener*. The CBC also helped to promote a big Star Night as the grand finale for the series. As many as 1000 people were present in Glenmore Park on August 29 where several Centre members had their telescopes set up.

SASKATOON: Finding sidereal time is the goal of a BASIC computer programme written by Gordon Patterson and described in a current newsletter. (Frank Roy's efforts in this direction were also recently described in an Ottawa Centre newsletter – perhaps finding sidereal time is going to be the next “hot” item in amateur astronomy?) The Duncan refractor at the University of Saskatchewan observatory has received a new 15 cm objective, and is once again viewing the heavens.

WINDSOR: The Centre is active in planning joint observing sessions with other clubs and in October planned a session at Point Pelee Park with the Detroit Astronomy Club, the Sarnia Centre, and the Chatham Astronomy Club.

VICTORIA: To assist members without telescopes the Centre has several instruments available for loan to members. Centre members enjoyed eight clear Saturday nights at the Dominion Astrophysical Observatory last summer on the Observatory's public nights. Malcolm Scrimger, a CB radio ham on Vancouver Island is looking for other CBer's to talk to. Malcolm can be contacted at (604) 386-9443.

CENTRE FRANCAIS DE MONTREAL: La fabrication de telescope se fait toujours à notre centre. Bien qu'il soit plus facile qu'autrefois de trouver un bon telescope dans le commerce plusieurs de nos membres tiennent à monter eux-mêmes leurs instruments. On peut aussi aluminiser son miroir à nos locaux. Pour l'observation, nous avons le terrain de la Société d'Astronomie de Montréal et le petit chalet chauffé, éclairé avec eau courante pour se restaurer. Situé à St.-Valérien à 75 km à l'est de Montréal, le ciel y est libre de la pollution lumineuse que l'on connaît en ville.

NIAGARA FALLS: The Centre was host to the autumn meeting of the Niagara Frontier Council of Amateur Astronomical Associations (N.F.C.A.A.A.) in November. A buffet dinner followed by a guest lecture were held at the Skylon Tower. Bob Winder had almost finished his 26-inch mirror in September, and Bob also highly recommends “How To Make A Telescope” by Jean Texereau for members building their own telescopes.

Please send Centre newsletters and late items describing the activities of Centres and members to Peter Jedicke, 810-1297 Huron Street, London, Ontario, Canada N5Y 4L9. Would Centre Presidents please delegate one member to call in late items and social notes by telephone during the first few days of February for the April issue of the *Newsletter*? Call (519) 455-5907. Instead of calling in the evening when rates are low, could you please call early in the morning, before 0800 hours, when rates are also at their lowest.

## The Ill-fated Sept-Iles Observatory

by Bernard Bois  
David Dunlap Observatory

While professional astronomers plan space telescopes or ultra-long baseline radio telescopes, amateurs too have their own dreams. Owning an observatory equipped with a 12- or 14-inch telescope is one of the most common.

If you've got enough money you may have your own backyard observatory. But since most amateur (and professional) astronomers are poor, the alternative is to build one through an astronomy club. Many years ago, I founded with others a small group in Sept-Iles, Quebec (about 1500 km NE of Toronto), called Club Orion. At one of our meetings in late 1974, someone suggested that if we wanted to be serious, we must have our own observatory. Though we had neither the funds nor the experience needed to start such a project, we jumped on it. At this time, 75% of us were highschoolers, and ready to take any challenge, so a committee was set up to study the project.

We wanted a fully equipped observatory, with a 12-inch telescope, but the minimal cost ran around \$15000. We had only \$500. What to do? We decided to build the observatory ourselves and keep our slim resources for the instrument. To keep the cost at zero, we planned to use tree logs for the building. Many club members and friends offered help, and others provided us with second-hand building products.

The next step was to find a good site, far from city lights, and not too easy to reach, so as to discourage unwanted visitors. We chose a hilltop some 14 km north of the city. There, the sky was magnificent and the Milky Way visible all the way down to the horizon. A 2 km trail had to be opened through dense forests (and mosquitoes) in the summer of 1975. Then the actual construction began. The hardest part was to carry the logs to the building site, after they had been axed down and cut to the right length. Fortunately, the building was quite small and did not require too much wood. The first floor was completed by December, 1975. Another hard task was to lift the materials (including a wood stove and concrete bags for the pillar) to the top of the hill. Winter slowed the work, but we brought small instruments to profit from the excellent skies there. Several club members spent much time there, providing an almost continual occupation. It was pretty cramped for more than four people but sometimes we were as many as 12. In winter, the road leading to the beginning of our access road was closed, and we now had 10 km to do either by foot, ski or skidoo. Sometimes we were stranded there for one or two days due to bad weather. (This may sound familiar to those of us who've been stranded at DDO when our late station wagon was malfunctioning).

The next summer we finished the second floor. Since our funds had melted away in the meantime, we decided to get a smaller telescope, to start full use of the observatory at once, and try to save up money for the big instrument. Since the specialties of the club were mainly variable stars, Deep-Sky observing and photography, we bought parts to install an 8-inch rich-field telescope.

Observation with this instrument began in August 1976. The Pegasus observatory was now fully operational and our dream came true. But there were still many problems. The closest usable water spring was 500 metres away. The power for telescope drive, lights, etc. had to be provided by a car battery which needed frequent recharging. The lower floor was heated by the wood stove, which of course had to be turned off before observing. When the temperature goes to  $-30$  C, people below observers (observers too) became quickly frozen to the bones.

In spite of those problems, observation went on quite well during the next 18 months. I made hundreds of observations of galaxies, double stars, and nebulae, and thousands of variable star magnitude estimates. Others took pictures, did variable star work (quite popular in our club), observed sunspots, meteors, planets and comets. Some of the work done has been published in Quebec's amateur astronomy magazines (there were two provincial magazines at that time).

During the summer of 1977, we installed a radio link with another site at Matamek (35 km E of Sept-Iles) where one of us was building his own observatory. We used it for some projects (measuring meteor heights) and for fun too.

The second half of 1977 was the best time for both the club Orion and the Pegasus Observatory. Apart from the stationary 8-inch, there were a portable 6-inch and several smaller instruments. The club had 35 members, of which 20 were regular observers. We spent our weekly meetings giving short talks about our last week's observations. In one night of December 1977, the club members altogether logged 113 observing hours, of which 46 were made at the observatory.

Bad news came in March 1978, when the city started the development of a new industrial area just 2 km from our site. Our so beautiful skies took on a whitish tint. At that time, a second private observatory was under way, and both new sites were much more conveniently placed. Their owners made them accessible to serious club members. In June 1978, we decided to take the telescopes back from the observatory. They have been used "on loan," something very convenient for our members who hadn't telescopes.

Today, both Pegasus Observatory and Club Orion have disappeared. The former was destroyed in a blaze probably due to lightning. The club collapsed in 1980, when the big exodus started in my town due to the fading economy. However, many former club members are still active amateurs.

When I meet an old chap from the club (very rarely now), we can spend hours remembering the good times we had!

## Exhibit Details for the 1985 General Assembly

The following is a list of the exhibit categories for the 1985 General Assembly (June 28–July 1). Entries are generally at the discretion of the submitter, providing that they follow the requirements listed below. The entries do not necessarily have to be based on observations.

- |                                  |                             |
|----------------------------------|-----------------------------|
| 1 Solar                          | 7 Variable Stars            |
| 2 Lunar                          | 8 Radioastronomy            |
| 3 Comets, Asteroids, and Planets | 9 Center Display            |
| 4 Deep Sky                       | 10 Computer Aided Astronomy |
| 5 Atmospheric Phenomena          | 11 Open Category*           |
| 6 Astro-photography              |                             |

### Entrance Requirements

- 1 Any member or group of members in good standing are eligible to enter displays. If the display is a group project and it wins an award then only one prize will be awarded for the group.
- 2 Entries must be original ideas, not having been previously exhibited at a General Assembly, and must have been completed within the last two years.
- 3 Individuals may enter in a maximum of three categories, with only one entry per category. A group of members may enter in only one category, but members of the group may enter their own exhibits.
- 4 Entrants are not required to appear in person, although this is preferred. If a submitter does not accompany their exhibit then he/she must make their own arrangements for the transportation of their displays.
- 5 Persons wishing to enter exhibits should obtain a detailed application form by writing to the address at the bottom of this page.

Exhibit Committee  
R.A.S.C. 1985 General Assembly  
c/o Howard A. Gibbons  
#705, 9915 – 115 Street  
Edmonton, Alberta, Canada T5K 1S5

- \* With the addition of the category “Computer Aided Astronomy” the Open Category will now include all submissions that were previously classified under the equipment section, i.e., telescopes, camera equipment, etc.

## Détails du concours pour l’Assemblée Générale 1985

Voici la liste des diverses catégories de travaux pour l’Assemblée Générale 1985 (28 juin au 1<sup>er</sup> juillet). Chaque entrée, basée ou non sur l’observation, est à la discrétion des participants à condition qu’ils suivent les règles ci-après définies.

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| 1 Soleil                          | 7 Étoiles variables               |
| 2 Lune                            | 8 Radioastronomie                 |
| 3 Comètes, astéroïdes et planètes | 9 Exposition d’un centre          |
| 4 Objets lointains (Deep Sky)     | 10 Micro-ordinateur en astronomie |
| 5 Phénomènes atmosphériques       | 11 Libre*                         |
| 6 Astro-photographie              |                                   |

### Règlements

- 1 Tout membre ou groupe de membres en règle peut participer. Si un groupe gagne dans une catégorie, un seul prix sera remis au groupe.

- 2 Chaque entrée doit être originale, i.e. ne pas avoir été présentée à une Assemblée Générale et avoir été complétée au cours des deux dernières années.
- 3 Un individu peut participer à un maximum de trois catégories, avec seulement une entrée par catégorie.
- 4 Les participants ne sont pas requis de participer en personne, bien que ce soit préférable. Si non présent, vous devez faire vos propres arrangements pour le transport et l'installation de votre matériel.
- 5 Ceux qui désirent participer doivent se procurer et compléter le formulaire approprié qui peut être obtenu à l'adresse ci-bas.

Exhibit Committee  
 R.A.S.C. 1985 General Assembly  
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- \* Avec l'addition de la catégorie "Micro-ordinateur en astronomie," la catégorie libre va maintenant inclure toutes les entrées qui ont rapport à l'équipement, i.e. telescope, camera, etc.

## **L'Envoi Thirty Days Hath ... ?!**

**by Harlan Creighton  
 Assistant Editor**

Members who attended the 1984 General Assembly received as part of the registration package the beautiful *Galaxies Calendar 1984*. In addition to the stunning photographs, another item of interest is a calendar for September showing thirty-one (count 'em!) days.

And that's not all. I recently received an envelope from the Manitoba Astronomy Club of the Manitoba Planetarium, whose postal meter was set to read "31 IX '84."

Mulroney promised change, but isn't this a bit ridiculous?

## **Stop the Press ... and Rockets!**

Among the casualties of the federal government's cost-cutting measures will be the two National Research Council establishments dedicated to upper atmosphere and space research. The Churchill Research Range, which is the launching site of Canada's Black Brant research rockets, and the Space Research Facilities – Gimli, Manitoba, Canada's scientific balloon launching site, will be closed on April 1, 1985 according to a report broadcast by CBC-Winnipeg on November 15. This is a result of the economic statement read in the House of Commons by Finance Minister Michael Wilson. Your editors hope the government's cuts in our country's research activity won't balloon any further!

# NATIONAL NEWSLETTER

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(*Editor's Note:* Special thanks to Harlan Creighton for compiling this year's Index.)

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