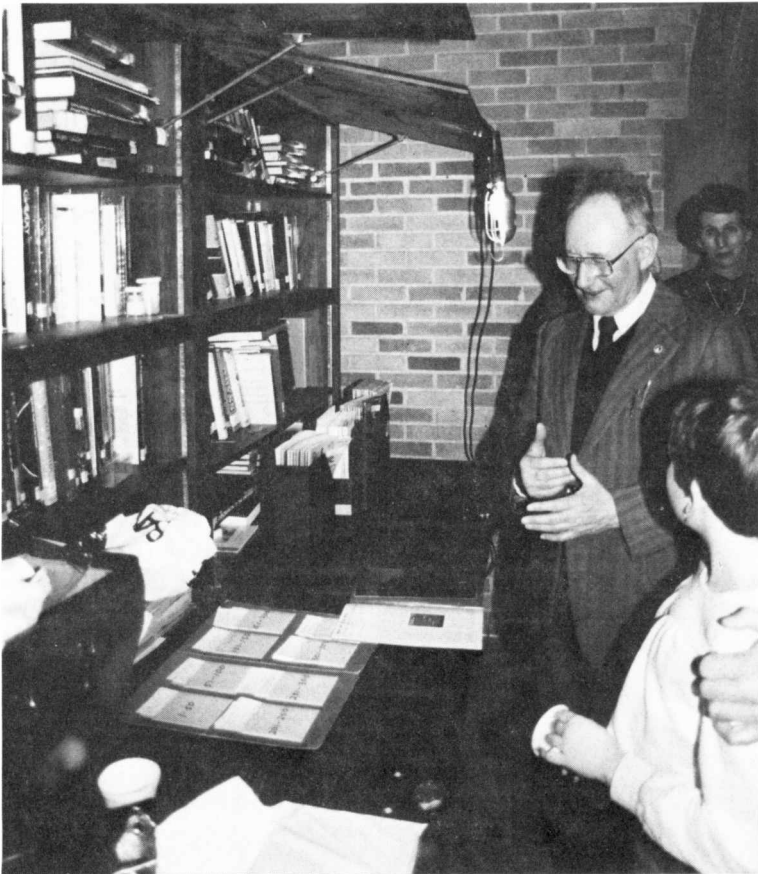


NATIONAL NEWSLETTER

October, 1984

Supplement to the JOURNAL OF THE ROYAL ASTRONOMICAL SOCIETY
OF CANADA

Vol. 78, No. 5



Stan Mott, longtime librarian of the Ottawa Centre, explaining the library holdings to a younger member. See article in this issue. *Photo by Frank Roy.*

NATIONAL NEWSLETTER

October, 1984

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Members Gather for an Enjoyable Assembly

**by Betty Robinson
Toronto Centre**

The R.A.S.C.'s annual General Assembly (G.A.) was hosted by the Hamilton and Niagara Falls Centres over the Canada Day long weekend. The setting was at McMaster University in Hamilton for the most part, with a tour and the awards banquet in Niagara Falls on Sunday, July 1. The G.A. was well attended this year, with representatives from 17 of our 20 centres, as well as unattached members. The group photo showed over 100 people.

The first of two National Council meetings started on Friday, June 29, followed by a dinner, and then a "Barbarian Bash" feast and party in the evening.

The events of general assemblies drawing the most interest are the display competition and paper sessions. Although not as numerous as last year's, the displays were no less impressive. There were several stunning colour photographic displays of the heavens; a hand-made sky atlas comprised of 1,182 photographs – an outstanding accomplishment; a colourful aurora display, and an exhibit on the "Mysterious Craters on the Moon." This moon exhibit was on display as information only. Twelve-year old Timothy Hendricks from the Niagara Centre won an award for it at the Niagara Regional Science and Technology Fair. There was also an exhibit on Mars, a new type of filter holder, deep sky, eclipses, the moon, and a paper on the Hyades star cluster – all excellent.

The paper sessions on Saturday and Sunday reflected the high quality of amateurs in the R.A.S.C. Highlights included an original talk on observing all the Messier objects in one evening; the variable star Rho Cassiopeiae; a comparison of Mt. Palomar's sky survey with that of the hand-made survey by Damien Lemay mentioned above; the space shuttle; stellar motion; radio astronomy and the Canadian long base line array; time; lunar eclipse and comet Halley expedition to Peru; Edmund Halley's other



Group photograph of the delegates to the Society's General Assembly held at McMaster University.

interests; comet and meteor observing programs and extracts from an upcoming Bart Bok biography; solar-terrestrial hydrogen studies; a trip to the French observatory Pic du Midi; search for extra-terrestrial civilization; a talk on the Canadian astronomer C.E. Beals and the lunar crater named recently after him; the Calgary Centre's Wilson Coulee Observatory, and finally, identifying asterisms in 36 constellations. The speakers ranged from amateurs to philosophers to professionals.

Ending Saturday's sessions was the presentation of a railway clock to the National Society. Canadian Pacific Railway generously gave us a beautifully restored pendulum clock "on permanent loan." It will be hung in the Society's National Office at 136 Dupont St., Toronto.

At the annual meeting on Saturday, June 30, the new president of the National Society – Dr. L. Roy Bishop – was officially welcomed. Franklin Loehde received a standing ovation as thanks from members for his two-year tenure as president. Mary Gray assumed the position of first vice-president. Lloyd Higgs took the position of second vice-president. The second National Council meeting followed the annual meeting.

The civic banquet that evening featured guest speaker Dr. Steve MacLean, one of the six Canadian astronauts. MacLean described his training and testing ordeals with a definite calm and frankness. After the dinner a number of members drove to the Hamilton Centre's observatory for a night of observing.

The awards banquet in Niagara Falls was entertaining with songs by Peter Jedicke and David Levy. The R.A.S.C.'s prestigious Service Medal was presented to Lester Powis and James Winger, Hamilton; Peter Jedicke, London; Hugh MacLean, Niagara, and Cyril Hallam and Henry Lee of Windsor.

Following are the awards for the display competition: lunar/planetary category – Mike Devillier (Hamilton); open category – Michael Watson (Toronto) first and Jack Grisbin of Detroit, second; equipment – Don Jones (Victoria); history of Canadian astronomy – the Hamilton Centre; atmospheric phenomena – Alistair Ling (Montreal); deep space – Clive Gibbons (Hamilton) first and Jack Newton (Victoria), second; and finally, one special award to Damien Lemay of the Centre de Quebec for his sky survey.

Thanks to the Hamilton and Niagara Falls Centres for all the hard work involved in organizing such an event. Next year's G.A. is in Edmonton – see you there!

New Hours for the National Library

Our Society's Library is housed in the basement of the National Headquarters at 136 Dupont Street in Toronto. Normally in the past it has been open to members only during regular business hours but in an effort to make it more accessible to members, starting this autumn, it will also be open on some Saturdays.

The Library will be open to members on the following Saturdays – October 27, November 24, January 26, February 23, March 30, and April 27. The hours of operation will be from 1:00 pm to 5:00 pm and volunteers from the National Library committee will be on hand to give assistance.

As the Library is suffering from almost total non-use by the membership, the next six months will serve as a crucial indicator in deciding just how important the Library is to members and what its future should be.

Come on over and see your library. We'll be looking for you!

Some Observations on Observing Eclipses

by **Mike Wesolowski**
Saskatoon Centre

On the morning of Wednesday, May 30, observers in North America had the chance to see a solar eclipse; for observers in Saskatoon, it was a partial eclipse, the first since February 26, 1979, when the sun was almost completely eclipsed as seen in Saskatoon. For a change, Mother Nature co-operated with observers in Saskatoon, although she apparently regretted her generosity and provided high winds and increasing cloud for the last half of the eclipse.

In general, Centre members emphasized indirect viewing of this eclipse via radio, TV, and newspaper interviews. Ron Waldron, a Centre member who teaches at Lester B. Pearson school, demonstrated effectively that it is possible to watch eclipses safely by taking his Grade 6 class outside to watch the eclipse using pinhole cameras, as well as a telescope set up for solar projection; he was shown with his class on CFQC news that evening.

This is the third eclipse of the sun that I've seen (a fourth was clouded out), but this is the first time where I did not attempt some photography. Since I was limiting myself to visual observations, I wanted to see how well some methods I'd read about would work.

A tried and true method is the pinhole camera mentioned earlier. Here you simply pass sunlight through a tiny hole onto a shaded screen where you will observe an inverted image of the sun. The hole can be made in a piece of aluminum foil (some tradeoff must be made here; the smaller the hole, the sharper the image, but it will also be dimmer); the foil is then stretched over a large aperture like the end of a tube. The tube can be pointed at the sun by watching its shadow; when it has the smallest cross-section, it should be pointed at or near the sun. While doing this the observer should keep his back to the sun in order to avoid the temptation of looking. Several of Ron Waldron's students used shoe boxes, locating the foil at one end of the box, with a ready made screen formed by the other end. A hole was cut in the side of the box for viewing. The top of the box was retained to keep the interior shaded.

The two other methods that I tried are variations on the pinhole camera. The first requires absolutely no equipment at all, other than your hands. This is useful for those who are bashful carrying shoe boxes around with them. By holding the tightly spaced fingers of one hand at right angles to the fingers of the other, a small aperture is created which will generate a small image of the eclipsed sun.

During the late spring and summer when leaves abound on trees, "pinholes" are created by the tiny gaps between the leaves. Because of this images of the sun are cast on the ground. While walking through the university campus during maximum eclipse, I kept stopping and looking at the large numbers of solar images formed; I even got my companion doing this too, to her disgust (she wasn't as interested in the eclipse as I was). The only disadvantage to this method was that the images kept moving due to the motion of the leaves in the wind. A photograph would have frozen the motion.

In the discussion of free (or at least, very inexpensive) means of observing the solar eclipse phenomena (unfortunately, after the fact), I was especially impressed by how well using one's hands to form a pinhole worked. I would think that if we suggested using this method, as opposed to the "bother" of making something, the average man on the street might have a greater incentive to have a look. Unfortunately, it will be a while before this theory can be tested in Saskatoon; I don't know when the next eclipse will take place but it's certain to be at least a year. At that, it might be rained out.

A Stellafane Adventure

by **George Fortier**
Montreal Centre

In 1923, Stellafane (the clubhouse and observatory of the Springfield Telescope Makers) was founded under the guidance and stimulus of Russell W. Porter. The Stellafane Amateur Telescope Makers Convention, which takes its name from the above, held its 50th event (annual except for the war years) on July 28th of this year, and, as usual, proved to be a meeting ground for a very diversified group of individuals devoted to an interest in astronomy and in the construction of astronomical telescopes.

Canada as usual was well represented with visitors from Ottawa (Fred Lossing, Linda and Rolf Meier who were honeymooning), several Francophone friends from various parts of the Province of Quebec and the group from our Montreal Centre. The last included President Stewart Marshall, Past President H.J. Widdop, Alister Ling, Gary Boyle (a proud father of 3 weeks), Don Alexander, Fred Clarke, Bill Strople, Constantine and Mrs. Papacosmos, and myself.

Bert Widdop and I had attended an excellent symposium by the I.A.P.P.P. (International Amateur-Professional Photoelectric Photometry) at the Hartness House in Springfield immediately prior to Stellafane, and proceeded to the hill on Friday morning. We set up my telescope (a 12.5" f/6 Newtonian which had been especially designed for photoelectric photometry) in very light, sporadic

rain and had barely covered it over with a tarpaulin when the rain intensified and gradually increased throughout the day. Fortunately we were one of the first telescopes in, so we managed to secure a good location (i.e., a relatively flat area – hard to find here) which had the dual advantage of allowing for more easy setting-up and, more importantly, making it easier for the visitors to walk about when examining the scope and also when moving about in the dark during evening observing. There undoubtedly have been worse displays of weather at Stellafane but most of us could not remember when. It rained heavily throughout the day and by the evening those areas travelled by cars and trucks were quagmires. This was a time of testing for the campers, and since the forecasts for the next day were rather depressing, a poor turnout would have surprised no one. Stellafaners, however, are a special breed of people, and they kept coming. By nightfall the campground was almost full and everyone seemed to be enjoying themselves.

The usual Friday evening talks (10 minutes and 20 slides per speaker) were held under the largest tent ever erected at Stellafane, and in spite of the rotten weather there was standing room only. The subjects were many and varied with the recent solar eclipse being the most popular. Alister Ling's slide presentation was well done and well received.

We retired, fervently hoping for a better day for the judging. Saturday dawned and what a change! Blue patches of sky had appeared and the quagmires of the previous night were gone by virtue of loads of sand which the Stellafane committee had brought in overnight. The day became progressively better and gradually turned into one of those days (and nights) we all hope for at Stellafane. After breakfast in the camper, Bert and I proceeded to the observing hill below the clubhouse to uncover the telescope and begin the day's adventure. There were already quite a few telescopes set up and it was obvious at once that this 50th convention would have a level of excellence that would be unusually high. As the morning wore on, this impression was strengthened by the arrival of more excellent telescopes.

My telescope is a 12.5" f/6 Newtonian which is fork mounted on a polar disc. It is designed specifically for photoelectric photometry, a field into which I am becoming initiated after 20 years of visual star observing. The polar axis is driven by a small DC servomotor whose rate is very accurately controlled by an integrated chip via an electronic feed-back mechanism. Into this drive is superimposed another DC servomotor which acts through an elegant differential gear complex (courtesy Harold Rasmussen) to give an over-riding slew control in R.A. The slew control in Declination is again a DC servomotor which is controlled via a power transistor and a 5-turn potentiometer. These slewing controls are necessary to accurately position the star with a tiny diaphragm, and they give slewing rates from almost nil to about 6 degrees per minute. This whole system runs on a 12 volt DC power supply and was designed by Bert Widdop, whose electronic wizardry makes this a very "user friendly" telescope.

The tube and optics are fully rotatable in a Serrurier truss support system and the minor cell with mirror is easily removable for cleaning. A 3" f/5 finder scope with an illuminated reticle completes the optics. Since I was going for broke I incorporated into the base the modern equivalent of the setting circle, i.e., electronic encoders on both axes which give a digital readout of the celestial co-ordinates.

Once the telescopes are set up the visitors and participants browse about, taking pictures, asking questions, trying out the particular features of each scope and talking about their own experiences and methods. Invariably someone appears who really knows his or her subject and then a long, intense, enjoyable discussion ensues, concerning the merits and/or defects of the particular point under scrutiny. This is where the real meat of Stellafane is found, and a telescope builder can pick up many valuable tips in a very short time which he will find only with great difficulty elsewhere.

Dobsonians were in evidence but the Poncet mount which gives them tracking ability is now rarely seen. At least 4 refractors were present, one or two Cassegrains and the rest were the ever popular Newtonian which for my liking is the configuration of choice since it is the easiest to build and use.

In addition to the main activities associated with telescope construction are the usual secondary ones. Eating is always a very popular item and it is a rare moment when you can look about and find no one doing so. Sitting in the shade quietly chatting with a friend, snoozing, reading, taking pictures or ambling back to the large camping area via the short, shady access road – take your pick. There are at least as many scopes in the camping area (probably more) as there are on the hill for judging, and for those interested in evening observing without the hassle of line-ups it is possible to find one of these – being manned by its owner, who is delighted to share it with you. This again is Stellafane, the willingness to share with others a love of things astronomical.

The judging was over, the afternoon running out and nothing pressing left to do except have supper and await the evening program. The usual format for the evening was short talks and announcements, the presenting of the awards, a main speaker and then observing until the small hours, skies permitting. We headed back to the camper, leaving the scopes as is. No one seems to worry about things being taken, and in the 20 years I've been at Stellafane I can't recall any episodes of theft or vandalism. Excitement dulled our appetites, and before long we headed back to the hill.

In previous years the winners were announced at the evening talks with a slide of the winning telescope and its owner being shown. Not this year! Since the evening promised to be a gorgeous one for viewing I wanted to have an atlas at the scope. Norton's was taken to the site, and to my surprise, joy and delight I found two ribbons hanging from the eyepiece focuser ... one a Blue – a first for mechanical design, and one a Red – a second for craftsmanship. We had won! And better yet we had won in tough competition. My friends tell me that I'm rarely at a loss for words, but at that moment it was enough just to look and feel. Two years of intensive work with all the frustrations of the inevitable problems (and the subsequent elation as each was solved) had culminated in what many ATM's hope for – a Stellafane win!

The evening talks began and Fred Lossing of the Ottawa Centre introduced Walter Scott Houston. There has always been an amiable confrontation between these two and this year Fred unquestionably came out on top with a number of barbed but humorous remarks which were thoroughly enjoyed by both the audience and "Scotty". The winners were announced and given their moments of glory to the plaudits of the crowd. Ben Mayer then gave the main talk of the evening on the joys of being an amateur astronomer.

The talks were over, the skies were gorgeous, so there was nothing to do but to go to the scopes and begin observing. The apertures varied from about 3" to 24", the latter being one of the Dobsonians. We managed to align the scope quite accurately (not a simple task with a 450 lb. monster on rocky Stellafane terrain) and it performed beautifully. Some of the objects viewed were M 11, M 22, M 8, Jupiter and its moons, M 52, but the favourite was a low power (42x) view of M 31, M 32 and NGC 205, all in the same field of view ... the line of people kept on coming. As a bonus we were into the Perseid meteor shower and every now and then a cry from the crowd indicated another had been seen.

Eventually the viewers disappeared and we put the scope to bed and retired to the camper. I was exhausted, more from the emotions of the day than any physical activity, but Bert was all fired up. Apparently this was too good an evening to pass up and he decided to continue with a Messier hunt. I dared not leave him alone, some other ambitious ATM might kidnap him for his electronic know-how, so we observed together. He picked up several more Messiers with his 16 x 50 binoculars (not an easy instrument to use), but after 3 AM had come and gone I rebelled (Past-Pres. or not) and hit the sack.

Sunday morning dawned as beautiful as the preceding night and we had a beautiful view of the valley out the back of the camper while having breakfast. The valley was completely filled with fog while the surrounding hills were brightly lit by the morning sunshine, giving a feeling of being pleasantly remote from the "real world". The fog disappeared spectacularly in a few minutes, after which we broke camp and went back to the hill for a last time to dismantle and pack the telescope with the help of Gary Boyle, Bert and several pairs of strong, young arms.

Once again *Au Revoir* Stellafane – a high not to be forgotten.

Reprinted from *Skyward*

Report of the June 1984 National Council Meetings

by Leo Enright
National Recorder

Two meetings of the National Council of the R.A.S.C. were held on the occasion of the 1984 General Assembly in Hamilton, Ontario. The first was on Friday, June 29, and the second was on the following day. Both were held in Brandon Hall, Room 112, on the campus of McMaster University. National President, Mr. Franklin Loehde, presided at the first meeting, and after the new slate of officers had been put in place at the Annual Meeting, Dr. Roy Bishop, known for a number of years as

our *Handbook* editor, and now the new President of the Society, took the chair for the second meeting. At each of the meetings, fifteen of the twenty centres of the Society were represented.

Meeting of Friday, June 29

The agenda items of the first meeting included reports from all of the officers and standing committees of the Society as well as a number of important decisions. A motion was approved to set up a Constitutional Committee whose members would examine a draft proposal of a possible set of By-Laws which had been offered by the Society's solicitor as ones that might be used by Centres. This was in an effort to streamline the procedure of ensuring Centre By-Laws are not in conflict with those of the National Society. Dr. Percy presented to Council a short document containing a list of dates, month by month, which members of Centre councils ought to keep in mind in order to meet the various annual deadlines of the Society. The document is to be sent out to all Centres. Council also received a report of the awards given for astronomy-related projects at the Canada-Wide Science Fair held in Halifax last May. Approval was given for the purchase of a subscription to the *Dark Skies for Comet Halley* journal which could be useful for members and centres in planning their activities over the next two years. Applications for membership in the Society by thirty-one unattached members and three life members were also approved by Council.

The Treasurer presented a financial statement covering the first four months of 1984 and asked for approval for a Special Projects Grant to assist the Winnipeg Centre in the publication of an astronomy booklet for children. Approval was given for a grant of \$200.00 from the Ruth Northcott Fund. The Editor of the *Observer's Handbook* reported that work was proceeding with the 1985 edition which should be issued by mid-October. He requested approval of a price schedule which included a slight price increase to \$8.50 per single copy. The schedule was approved and ways were considered to improve sales of the *Handbook*. The Astronomy Day Coordinator, Leo Enright, noted that he was quite pleased with the effort made by many of the Centres to have interesting, sometimes quite ambitious, undertakings for the last Astronomy Day which had taken place in May. To do as well next year, planning should begin as soon as possible. The event will take place on Saturday, April 27, 1985.

Mr. Peter Broughton announced his resignation as chairman of the Property Committee and reported that some final complications in the purchase of the Society's property on Dupont Street has been resolved. Announcements from the chairmen of both the Historical Committee and the Library Committee stated that some preliminary thought had been given to a possible reorganization of the National Library, with the idea of perhaps making it a resource library for both historical works and works on observational astronomy, but such discussions were at a very preliminary stage, and comments were invited from interested members. The Speakers' Exchange Committee asked for approval by Council of a number of proposals which would make it easier for members of more of the Centres to travel from one city to another under the Exchange Programme. Approval was given for the proposal, the details of which are in Section 7 (i) of the official Minutes of the meeting.

Meeting of Saturday, June 30

At this meeting Council appointed its standing committees for the year 1984-1985. These were the Executive, Editing, Finance, Property, Library, Historical, Budget, National Newsletter, and Awards Committees. Approval was given to setting up a committee to investigate the use of computers in linking the Centres of the Society.

A decision was made to accept the invitation by the Winnipeg Centre to host the General Assembly in 1986 from June 27 to July 1, at the University of Manitoba.

A new committee was established to investigate methods of giving unattached members representation on National Council, and it was asked to report its findings to the January 1985 National Council meeting.

There was discussion proposing closer cooperation between the Historical Committee and the Heritage Committee of the Canadian Astronomical Society.

The members of Council extended a vote of thanks to Mr. Creighton for his considerable effort in arranging with Canadian Pacific Railways for the permanent loan of a valuable railway clock. This would serve as a reminder of the work of Mr. Malcolm Thompson, Past President of our Society and member of the Dominion Observatory's Time Service.

Details of the items discussed at both meetings may be found in the Minutes of the meetings which were distributed to all Centre Presidents and National Council representatives. The full reports of the committees referred to above may be found in the appendices to these Minutes.

The Minutes of the 1984 Annual Meeting of the Society, held on June 30, 1984 will be published later this year in the Society's Journal.

The National Officers of the Society appreciate the interest of its membership in the business they transact on behalf of the Society.

Due\$ Due

By the time you read this page, October 1 has come and past. And have you renewed your membership in the Society yet? The Society's 1985 membership year runs from October 1, 1984 to September 30, 1985 while the national publications, the *Journal*, the *Observer's Handbook*, and the *National Newsletter* are distributed for the calendar year of the membership. If you have not renewed by January 15, your name will no longer be on the Society's mailing list.

Each Centre Treasurer must submit a list of paid-up and new members to the National Office by January 15 to update mailing lists. We are sure that those hardworking people who handle the money, the membership lists, and mailing lists for each Centre would very much appreciate members renewing as soon as possible. The new 1985 *Observer's Handbook* may already be in the hands of each Centre and ready for distribution to paid-up 1985 members.

R.A.S.C. membership is one of the best bargains around. Renew now!

Across the R.A.S.C.

by Peter Jedicke
Assistant Editor

STELLAFANE: The Society was very well represented at this annual conference in Vermont. Even Ken Hewitt-White of the Vancouver Centre was there. Although I am sure I missed many of the accomplishments of other Society members, one item I heard about repeatedly was Montreal Centre Alister Ling's presentation of outstanding aurora slides during the Friday night tent talks. Steve Dodson of the new Science North Science Centre in Sudbury came without his transportable 56cm telescope, explaining that it needed some repair work which he had been unable to do because of his work to get the science centre going. Although the weather was misty and raining on Friday night, the sky cleared marvellously after dusk on Saturday to provide excellent views. There were meteors and satellites for naked-eye observers, and three planets were favourite objects for such telescopes as a 13 cm Clark refractor mounted at the site. Stellafane is by far the most famous annual astronomy convention in the world, and every Society member should make a real effort to go there at least once to sample its combination of camaraderie, lectures, telescope displays, and observing. See also George Fortier's report in this issue of the *Newsletter*.

SUSPECTED SUPERNOVA: Another interesting item comes from Leo Enright of the Kingston Centre. Leo corresponds regularly with Gus Johnson, a Kingston Centre member who lives in Maryland. Using a 15 cm telescope on June 15 and a 20 cm on June 19 and June 26, Mr. Johnson saw a faint glimmer along one side of the spiral galaxy M100. The object was of magnitude 14.8 and he suspected it might be a supernova. This "supernova suspect" was not confirmed at press time and the Coma Cluster of galaxies, of which M100 is a member, was slipping down into the western twilight, making confirmation of the sighting impossible for several months. Anyone who might doubt the importance of this "suspected discovery" should be reminded that it was Mr. Johnson who made the discovery of a supernova in 1979 in the same galaxy, M100. Visual discoveries of supernova are very rare; for one person to claim two would be astounding; for it to be two in the same galaxy – the odds

would be astronomical! It is an understatement to say that Mr. Johnson knows that area of the sky very well, and this applies to many areas of the sky.

NIAGARA: The best kind of social event in astronomy is the Star Party, when members bring their telescopes together and occupy whole pews under the cathedral of the heavens. Such an event took place June 1 at Marvin Scott's farm near Queenston. Dennis Beach rolled in with his 43 cm and prepared for a deep sky duel with John Dekker and his 41 cm. Walter Jutting brought out his 8 cm refractor for a view of Saturn. Although the sky conditions were anything but ideal, other objects observed that night included M13, M51, NGC 4565, M57, M81, M82 and M27. The Niagara Centre certainly has an extremely active observing program: in addition to such Star Parties, Centre members visit parks and malls about once a month during the summer.

HAMILTON: You might think that, just before hosting a General Assembly, Hamilton Centre members would be too busy to think about Star Parties, but not so! On June 9, Bert Rhebergen hosted just such an evening at the Centre's Observatory. The ever-present clouds parted to reveal a beautiful sky, and turning just another night at the Observatory into a fine observing session. Some of those present included Bob Speck, Hal and Rosemary Mueller, Toni Quinn, John and Marion Field, Mike Jefferson and Robin Allen.

LONDON: Quebec Centre member Mario Lapointe, in London for most of the summer working for the Ontario Ministry of the Environment, was a surprise guest at the London Centre's regular meeting on July 20. Mario showed slides of his visit to the Pic du Midi Observatory in France.

KINGSTON: The Kingston Centre has the significant honour of having within its area the Holleford Meteor Crater, and many R.A.S.C. members have visited there over the years. On July 22, a group from the Syracuse Astronomical Society in New York State drove up to be shown around the crater. The Syracuse club participates in many R.A.S.C. activities around Lake Ontario, and also had a contingent at this year's General Assembly.

OTTAWA: Rolf Meier, discoverer of three comets a few years ago, was married to Linda McCrea on July 21. Rolf and Linda have many friends in the Society and their wedding provided a festive meeting place. How many weddings can you go to where a conversation overhead at the dinner table begins with "So, have you done any satellite predictions lately?"

MONTREAL: Continuing on a social note, congratulations to Montreal Centre Secretary, Gary Boyle, and his wife Debbie. Their first child was born on July 5. On a more business level, well-known astronomer Tobias Owen of State University of New York is the Centre's guest speaker at their October 18 meeting.

TORONTO: The Centre's two summer meetings were well attended with David Levy of the Kingston Centre, Tucson Branch, as the special guest speaker at the August meeting. In cooperation with the Harbourfront complex, the Centre put on a big public star party on the waterfront in early August. *Astronomy Toronto*, the Centre's monthly cable TV programme travelled to Algonquin Radio Observatory for its September show. Ticket sales are going well for the Awards Banquet on November 10. The David Dunlap Observatory Open House on September 14 (incorrectly listed as September 21 in the August *Newsletter*) went ahead despite competition from the Pope's visit to Toronto on that day. About half a dozen members are going to New Guinea for the November 22 total eclipse of the sun.

CENTRE FRANÇAIS DE MONTRÉAL: A chaque mardi le Centre et la Société d'Astronomie de Montréal (S.A.M.) accueillent le grand public à une conférence sur l'astronomie. Le premier mardi de chaque mois celle-ci est donnée par un conférencier de marque dans les locaux du Planétarium Dow. Le plus souvent c'est un membre du département de physique-astronomie de l'Université de Montréal qui est l'invité. Les autres mardis c'est dans nos locaux du Centre de Loisirs St-Mathieu que le public assiste à une causerie donnée par un des membres de la S.A.M. ou autre invité. De trente à cinquante personnes viennent régulièrement entendre parler d'astronomie.

EDMONTON: At time of publication, the Centre still does not have a new editor for *Stardust*.

HALIFAX: The Centre has decided to devote the entire May-June 1985 issue of *Nova Notes* to Comet Halley. Members are being encouraged to contribute by writing articles on different aspects of the comet.

WINNIPEG: Brenda Belkin acted as temporary editor of *Winnicentrics* for the summer and produced an attractive newsletter using a computer and a word-processing programme. The possibility of using a Gestatner stencil run through a printer in conjunction with a computer is also being investigated. The Centre has also produced a slide presentation titled "Cosmoose", a satire on the T.V. series "Cosmos."

Please send Centre newsletters and late items describing the activities of Centres and members to Peter Jedicke, 810-1297 Huron Street, London, Ontario N5Y 4L9. Deadline for submissions is six weeks prior to month of issue.

The Ottawa Centre Library

by Peter K. MacKinnon
Ottawa Centre

The Observers Group of the Ottawa Centre has been very active for many years. One of the cornerstones to this activity has been its library. Therefore, it was with fond memories and warm wishes that the Centre dedicated the library to Mr. Stan Mott on the occasion of his retirement after more than twenty years as Centre Librarian. Stan has made an outstanding contribution to the Centre through his years of unselfish service and his untold donations of books and periodicals.

Stan was presented with a personalized plaque expressing the Centre's gratitude and the library was officially named the Stan Mott Library. A dedication plaque was also affixed to the library in his honour. See also cover photo.

Calling all Writers

The Simon Newcomb Award is named in honour of the famous Canadian astronomer Simon Newcomb (1835–1909) who was born in Nova Scotia and later served for 20 years as Superintendent of the American Ephemeris and National Almanac Office at the United States Naval Observatory in Washington. The award was created in 1978 by the National Council on the initiative of the Halifax Centre to recognize writing ability among the members of the Society.

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

Topics: The article(s) should relate to astronomy, astrophysics, or space science and can be on modern or historical subjects. They should be of interest to average- to well-informed amateurs.

Presentation: The article(s) should be no more than 2500 words in length, be written in proper grammatical form, and be presented typewritten and double-spaced. Diagrams need not be in finished form but should be complete and ready for drafting. Photographs may also be submitted and, if possible, original negatives should accompany the submission. The author(s) name(s) should appear only on the title page and references to Centre affiliation should not appear in the article.

Submission of Entries: Articles must be received by the National Awards Committee between January 1 and March 31. Members of Centres must first submit their entries to their Centre Executive for its

approval before submission to the National Awards Committee. Unattached members make their submissions directly to the Committee c/o R.A.S.C. National Office.

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

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

For further details on the Simon Newcomb Award, contact the Awards Committee, R.A.S.C., 136 Dupont Street, Toronto, Ontario M5R 1V2 or your Centre Secretary.

Astronomers Celebrate Cepheid Bicentenary

by **John R. Percy**
David Dunlap Observatory
University of Toronto

Edward Pigott and John Goodricke, two amateur astronomers from Yorkshire, were the founders of the study of variable stars. This year, we celebrate the bicentenary of one of their most important discoveries. On September 10, 1784, Pigott observed that Eta Aquilae was variable in brightness from night to night. On October 20, 1784, Goodricke observed that Delta Cephei was variable in a similar way.

Today, such variable stars are called Cepheids, after Delta Cephei, and there are hundreds of them known. They are pulsating stars, regularly expanding and contracting as a result of internal thermodynamic instabilities. They are among the most useful stars known. There is a relation between their luminosity and their period of pulsation which allows us to determine their distance simply by measuring their period and their average brightness. Furthermore, their pulsation provides us with information about their internal structure, much as seismology provides us with information about the interior of the earth.

In May of this year, a hundred astronomers from seventeen countries on six continents gathered at the University of Toronto to take part in International Astronomical Union Colloquium 82: "Cepheids – Observation and Theory". In this way, they celebrated the bicentenary of Cepheids (and also the beginning of the fiftieth anniversary year of the University's David Dunlap Observatory) by summarizing current knowledge of these stars, and mapping out future directions for solving their remaining mysteries. Toronto astronomers were well represented at the conference: almost half of the scientific papers were given by present and past members of the host university.

The scientific program began with seven invited reviews of the fundamental properties, variability, evolution and pulsation of population I and II Cepheids in our own galaxy and beyond (the review speakers are shown in the photograph). There were also contributed oral and poster presentations, and lengthy informal discussion sessions at the end of each day. All of these papers will appear in the Proceedings, which is being edited by Barry Madore and published by Cambridge University Press.

The papers dealt extensively with the fundamental properties of Cepheids. Their temperatures are still slightly uncertain, and their luminosities even more so. Their masses continue to be an embarrassment: lacking any direct method of determining them, astronomers have used a variety of indirect methods – which give results differing by a factor of two! A noticeable trend at the conference was the widespread use of infrared techniques, which alleviate many of the problems of interstellar reddening, duplicity and composition differences between Cepheids.

Social events have become an important and memorable part of astronomical meetings in Toronto. The meeting began with a wine-and-Dixieland-music Welcome Party in the historic Croft Chapter House. Coffee and lunch breaks were long, genial and scientifically productive. A partial eclipse of the sun conveniently occurred at lunch hour on the second day of the conference and, thanks to the slight overcast, it was possible to follow the progress of the eclipse without any special optical aid. An



Cutting the cake at the bicentenary birthday party: back row from left: review speakers Michael Feast, Jan Pel, Barry Madore, John Cox, Luis Balona, Hugh Harris and Stephen Becker. Extreme right: Laszlo Szabados, who conceived the conference. Foreground: Donald Fernie, conference chairman and director of the David Dunlap Observatory. *Photograph by Louis Noreau.*

informal tour of the David Dunlap Observatory began with pizza and beer, and ended under clear skies as the last few participants (mostly theoreticians) were pried reluctantly from the eyepiece of the 74" telescope in order to catch the departing bus. The meeting closed with a bicentenary birthday party (complete with cake) at one of Toronto's Chinese restaurants, so ending a pleasant and productive celebration of an important astronomical anniversary.

Another Big Dome for Canada!

by Ian McGregor
Associate Editor

Not only did our country celebrate its birthday on July 1, but in Edmonton, the spanking new Edmonton Space Science Centre officially opened its doors to the public for the first time.

The Centre is huge with a traditional planetarium theatre, an audio visual theatre, an exhibit area with over 1 000 m of exhibit space, a restaurant, a lounge, and a science shop. All of these are located in a distinctive drum-shaped building designed by Canadian architect Douglas Cardinal.

The planetarium has a 23 m dome with a seating capacity of 220. The individual swivel and tilting chairs are placed on a conical shaped floor which rises from a level centre to the lower edge of the dome. The centrepiece of the planetarium is the totally new star projector manufactured by VEB Zeiss Jena of East Germany which is totally computer controlled and mounted on an elevator. With the projector lowered into its service bay, the theatre can be transformed into a traditional circular Elizabethan-style dramatic theatre.

The Audio Visual Theatre also has 220 seats which are placed on a 19.5 degree slope dominated by a 15 × 12 m screen. Initially, the Theatre is equipped with a twenty-one screen multi-image system, the largest in Canada, but eventually an IMAX Super Cinema Projection System will be added.

Canada has just under thirty planetarium facilities and the Space Science Centre now joins major

planetariums already existing in Vancouver, Calgary, Winnipeg, Toronto, and Montreal. I am sure we will be hearing much more about the Centre in the future and that the members of the Society will join me in wishing every success to John Hault, head of the Centre, and his staff in their work with the new Edmonton Space Sciences Centre.

A Future Centre?

by **Raymond Auclair**
Unattached member, Sydney, Nova Scotia

Three or four years ago, a Mr. Dryden who had created the Bible Hill Astronomical Group, moved into Sydney and immediately began to promote interest in astronomy. A philosopher, he would trigger profound conversations with seemingly simple questions. For example "What's beyond the Beyond?"

Well, one day Scott Palmer met him, began talking astronomy with him, and borrowed a book or two from him. First thing you know, Scott is persuading his friend Kelly to buy a telescope. With Al Dryden spreading the word, meetings began to take shape and become a regular event for the local amateurs in Sydney. Then came the desire to formalize the group's existence. The first "official" meeting was held on September 23, 1983, when the following officers were selected: President, Scott Palmer; Vice-President and Secretary, Kelly Doary; Treasurer, George Mortimer; Librarian, Al Dryden; Members-at-large, John Hanratty, Harvey Johnstone, and Richard Kreschen.

Initially, meetings were held every second week, moving from house to house until Mr. Kreschen found a permanent meeting place at the University College of Cape Breton.

In January 1984, on Friday the 13th, the thirteen members of our club decided to incorporate as a society. Goals were established, all required paperwork completed, and thirteen weeks later, we received our "papers". We were incorporated under the province of Nova Scotia as the Cape Breton Astronomical Society on April 5, 1984.

We are now awaiting the start of our first year of operation (October to September) while an interim directorate is planning programmes in cooperation with the University of Cape Breton (150 mm f/8 telescope and meeting place) and the Canadian Coast Guard College (150 mm f/8 telescope and planetarium). Wish us luck!

The A.L.P.O. Comet and Meteor Sections

by **David H. Levy**
Kingston Centre

As some members may know, last year I was invited to become the Recorder for the new Meteor Section that the Association of Lunar and Planetary Observers (A.L.P.O.) had created. The aim of the Section would be to stimulate amateurs to observe meteors on a regular basis and to reduce their data so that it would be easily useful and available to professional astronomers. We have made some progress in organizing the Section, but basic work still needs to be done in getting a staff together to work out the details of data reduction and analysis. Also, work has begun on a meteor handbook.

More recently, I have been asked to head the Comet Section as well, and with excitement building for Comet Halley's return, I consider the Comet Section to be quite important. As with meteors, we are building a staff to handle reductions and analysis, but unlike meteors, the purpose of the Section still remains to be defined. Capable organizations like the *International Comets Quarterly* and the International Halley Watch have been dealing with comet data for some time, and it will be the goal of an expanding A.L.P.O. Comet Section to work with these groups and complement the work they are already doing. Our work will be challenging, and I do suspect that once our observing procedures are set, the amateur community will have a unified way to communicate with their professional colleagues.

To serve the needs of both A.L.P.O. Sections, I have established a newsletter called, somewhat facetiously but perhaps appropriately, *Trails and Tails*. It will attempt to serve the scientific and social

needs of members of these Sections. If you wish to receive it, you should do two things: first, join the Association of Lunar and Planetary Observers, and second, send me a request to receive *Trails and Tails*, with a supply of stamps. I will try to publish the newsletter "every now and then and sometimes oftener."

Of all the bodies in the solar system, the smaller ones, represented by comets and meteors, have always fascinated me. I am glad that A.L.P.O. is committing itself to serious work in this direction, especially since comets and meteors are two areas that still offer fruitful work of scientific value that competent amateurs can accomplish.

Reprinted from *Regulus*

Editor's Note: Members interested in joining A.L.P.O. or receiving *Trails and Tails* can write to David Levy, Route 7, Box 414, Tucson, Arizona, USA 85747.

L'Astronomie sur l'Île Royale

La Société d'Astronomie du Cap Breton vient de naître. Forts d'une quinzaine de membres, nous espérons grandir sagement au cours des prochaines années et, qui sait, un jour la S.R.A.C. pourra compter un autre centre dans les maritimes. Située à Sydney, en Nouvelle-Ecosse, cette nouvelle société pourra recevoir l'appui du collège de la Garde côtière dont la bibliothèque est dotée d'une bonne collection de livres d'astronomie autant en français qu'en anglais. Ce collège possède un télescope de 150 mm (f/8) et opère un planétarium. Nous avons déjà l'aide du collège universitaire du Cap Breton (150 mm f/8 aussi) qui nous prête un local pour nos rencontres. Deux membres ont déjà commencé la construction d'un télescope (chacun) de 250 mm de type Newton.

Editor's note: Members wishing further information on this new club can contact Mr. Auclair by writing to him at 261 Rotary, Sydney, Nova Scotia B1P 6L4.

Topical Astronomy

by Pat Kelly
Halifax Centre

One of the extra pleasures of any hobby comes when it can be combined with another interest. Such has been my case as I have been able to combine my interests in both astronomy and stamp collecting. This type of interaction would have been quite futile even as few as 25 years ago. In those days, there were considerably fewer countries to issue stamps and those stamps that were printed usually commemorated events and people associated with each particular country. However, as more and more colonial states became independent, and as stamp collecting became more and more popular, it did not take long for many countries to see that they could raise considerable amounts of money by issuing many different stamps and selling them to collectors. Indeed there are cases where countries with no airline service and populations in the order of tens of thousands would print millions of stamps each year including airmail stamps!

This proliferation of stamps forced many philatelists to abandon all hope of collecting each and every new issue. Many decided to restrict themselves to fewer and fewer countries, but others saw this as a new opportunity and began what is known as "topical" collecting, that is, collecting all stamps which focus on a single topic, such as flowers, art, horses, even stamps depicting people who wear glasses or mustaches!

As public interest in the growing American and Soviet space programmes increased, stamps with space themes began to appear with increasing frequency. Today one of the major topics is astronomy and space. Stamps issued that would fall under this category include a wide variety of subjects, from the launching of communications satellites (Canada issued such a stamp in 1966 to mark the launching of

Alouette II) to the landing of probes on other planets; from pictures of celestial objects to the opening of a new planetarium.

Botswana issued a set of four stamps depicting the night sky as seen from this southern African nation and the stamps show the constellations of Orion, Scorpius, Centaurus and Crux. Both Gibraltar and the Bahamas have issued stamps showing views of their countries taken from the Landsat satellite. In 1974, Ascension Island issued a set of 14 stamps based on the theme Man in Space. Included in this set are stamps showing early Chinese rockets, Galileo and his observations of the moon, the 5-metre telescope at Mount Palomar, Mariner 7, the Apollo 11 mission and a view of a futuristic space research station. There is also a beautiful set of stamps from Yemen showing current space vehicles as well as spaceships from famous works of science fiction.

Although many stamps are issued specifically for events of national importance, there are occasional happenings which bring recognition from countries around the globe. Probably the two events which produced the most number of stamps occurred in 1969 when Neil Armstrong set foot on the moon and in 1973 which marked the 500th anniversary of the birth of Copernicus. Perhaps astronomy will once again provide a world-wide focal point for philately in 1986 with the return of Halley's comet.

On The Go Again

by Dr. J.D. Ferme
David Dunlap Observatory

March 27, 1984 marked yet another move for that most venerable of telescopes, the six-inch Cooke refractor. A team from the National Museum of Science and Technology dismantled and crated the century-old instrument for removal to Ottawa and its eventual re-erection at the Museum there.

A full description of the telescope and its history has been given by Brian Beattie in the *Journal of the R.A.S.C.* (vol. 76, page 109, 1982) but in brief the instrument was built by Cooke & Sons in England in 1882 and brought to Toronto for the transit of Venus in that year. It spent the next twenty-seven years in the old Magnetic Observatory that stood near Convocation Hall, and then in 1909, after the Observatory was demolished, moved to the Meteorological Service's new building (now the University's Office of Admissions) on Bloor Street.

Generations of university students used it there, and when in 1930 the Meteorological Service decided it had no need for the telescope, the University acquired it and moved it into the Observatory just east of University College. There it served as the Department's main campus instrument until 1952, when the University assigned the campus observatory to other purposes, and the telescope moved to the David Dunlap Observatory in Richmond Hill just north of Toronto.

Here too it served many an undergraduate class, but once the new McLennan Labs with the 16-inch and 8-inch opened on campus in 1966 there was little incentive to use the old 6-inch. Neither was it suited to crowds on visitors' nights since access to it was via narrow stairways. Thus the venerable old telescope, although still a fine instrument and in good working order, fell into disuse and desecration by intruding pigeons.

It seemed that a more fitting home for the telescope would be the National Museum of Science and Technology in Ottawa, where it could be displayed to and perhaps even used by the public. Mary Grey, in charge of astronomical matters at the Museum, was enthusiastic about the move, the University officially agreeable, and so after a hundred-and-two years in Toronto the old telescope has undergone perhaps its final remove. Not, one hopes, to the equivalent of a glass case, but to a renewed life of usefulness in bringing pleasure to new generations. Long may it continue.

Reprinted from *David Dunlap Doings*