

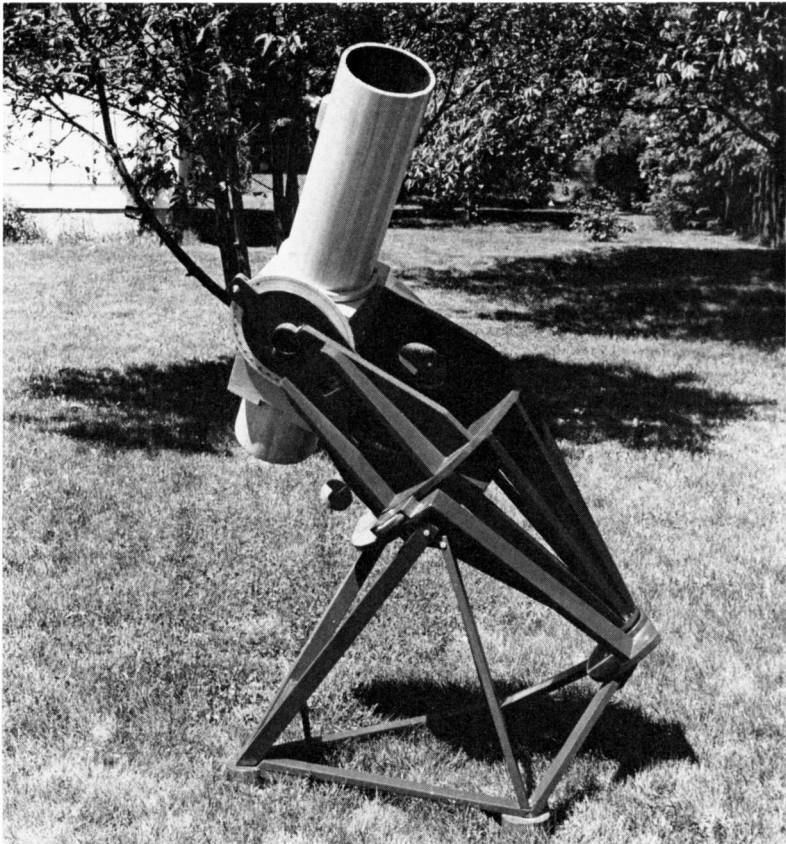
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# NATIONAL NEWSLETTER

Royal Astronomical Society of Canada  
Supplement to the *Journal*

Vol. 80, No. 5 October 1986

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The finished product – an example of the telescopes being built at Science North. Of special interest is the octahedral mount which provides strength and rigidity. See accompanying article in this issue.  
*Photo by Steve Dodson*

## NATIONAL NEWSLETTER

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

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Deadline for February issue is December 15.

### Editorial

by Ian G. McGregor

One of the great challenges faced by a newsletter editor is getting interesting and current material in time for the publication of each issue. Because of the broad spectrum of interests of our members from observer to armchair enthusiast, from long-time member to beginner, from amateur to theoretician, it is sometimes difficult to get a good balance of material in each issue. In particular, the long lead time from assembly of each issue, proofreading and printing, and then mailing to members means many potential items become out-of-date.

For very good budgetary reasons the *Newsletter's* optimal size is the current sixteen pages of material for each issue, or ninety-six pages per volume. This represents quite a few articles and a look through the annual index in the December issue reveals a great variety of topics.

For most of the seventeen years the *Newsletter* has been in existence, it has been dependent upon being able to reprint articles appearing in Centre newsletters for the bulk of its material. Appropriate credit has always been given where necessary and items which might interest a broad range of the astronomical community have been shared rather than limited to the members of one centre, club, or organization. On occasion as well, other publications such as the *David Dunlap Doings* (newsletter of the David Dunlap Observatory), *Cassiopeia* (newsletter of the Canadian Astronomical Society), and *North Star* (newsletter of the Planetarium Association of Canada) to name just three have been sources for interesting and informative items which might otherwise be seen by only a smaller, more specialized audience.

For this material the editors of the *Newsletter* have been appreciative of the support and cooperation of the approximately twenty-five other astronomy editors in Canada and their predecessors and past verbal and written agreements to share material for the common interest which have developed over the years.

One of the objectives I set for myself when I became editor just over a year ago was to increase the quantity of original material appearing in the *Newsletter*. It has meant a lot of letter writing and not a few phone calls but a review of recent issues shows some success in this area.

I have also worked in the belief that the *Newsletter* is more than just a popular publication for R.A.S.C. members and their activities alone. Instead, I see the *Newsletter* as sharing ideas on a wide range of astronomy and space science topics with people of all backgrounds. Since such a publication is otherwise lacking in our nation, I hope in some way, the *Newsletter* can increase reader awareness with a special Canadian viewpoint. With your support we can all benefit.

## Telescopes North

by Steve Dodson  
Science North Sudbury

*Editor:* Science North is located in Sudbury, Ontario. It displays and exhibits the natural history of northern Ontario while offering a hands-on, personalized approach to science and technology. It opened in June 1984.

Several years ago I set out to create a public solar observatory at Science North. While doing this I discovered an unexpected human resource, the newly-formed Sudbury Astronomy Club, which was itself looking for a new challenge. The Club helped me build an optical workshop where visitors to Science North have watched us make a variety of lenses and mirrors up to 45 cm in diameter for the solar observatory and other telescopes. Because of their ability to communicate their knowledge and enthusiasm to the public as they worked, the members of the Sudbury Astronomy Club enabled many visitors to leave Science North with a real interest in telescope making.

It was not long before the club's telescope makers began to respond to public requests for assistance in the construction of telescopes. A program was started called "Telescopes North" in which novice observers would be able to construct their own well-built instrument at a cost equivalent to the frustratingly inadequate department store telescopes. In fact, the total cost including optics amounts to \$195. The only problem to be solved was that in the past many mirrors made in the Sudbury area were not being effectively used because of a scarcity of adequate mountings.

I developed a new mechanical design for a telescope and a "telescope-making workshop" concept to go along with it. Interested people who might be completely new to astronomy would pay for materials and would be assured a finished working telescope in a few months. We would even assist them in getting experience observing with it. We would provide all the materials and supplies to make the mirror and the rest of the scope and mounting. Members of the Sudbury Astronomy Club would supply all the guidance and instruction necessary for excellent results and the workshop would be equipped with templates and assembly jigs to simplify the job of mechanical assembly.

The mounting was to be largely wooden, collapsible to fit in the back seat of a car, easily set up, very steady, very smooth in operation, and a lot lighter than the old pipe-mounts.

The base of the mounting owes its strength and rigidity to its modified octahedral form (see front cover photograph). The octahedron is the strongest possible shape possible for a space-frame type structure having sides opposite sides. The larger top triangle of the mounting's octahedron is tilted and modified so that it can support the cone-shaped polar axis assembly at the proper angle. The cone and polar disc supporting the mounting fork are supported on two rollers at widely separated positions and a lower bearing thus assuring greater stability. The fork is solidly braced while tube rotation, declination slow motion, and setting circles are part of all of these instruments. The polar disc is readily driven by a clock drive described by J. Pearson on page 303 of *Sky & Telescope* magazine for March 1986.

Often people wishing to make their own telescopes decide not to make their mirror because one can be bought ready-made for a similar cost. Our participants have not been lured away by that approach. Because of the enthusiasm for mirror making among Sudbury Astronomy Club telescope-makers, all participants have experienced the thrill of building a high-precision instrument with their own hands and simple tests. Besides, after they have paid an all-inclusive fee we give them all their mirror-making materials at a cost which is so low it discourages comparison-shopping!

By providing a proven design, personal guidance, and a well-equipped place to work, Telescopes North has made the thrill of seeing the universe clearly through an excellent telescope of one's own making available to a broader portion of the public. Several participants have joined the Sudbury Astronomy Club since starting their telescopes. We look forward to expanding the number of new telescope-makers even further in the near future.

## Amateur Builds Remarkable Star Globes

by F. Graham Millar  
Halifax Centre

Last June Halifax Centre member Milton S. Doyle invited Centre President Dr. Norman Scrimger and myself to see his celestial globes at his home. He showed us a small completed one, and a larger, partially finished one that will eventually enclose an orrery (a simple mechanism to illustrate the motions of the planets).

Mr. Doyle showed us first a globe he had built as a pilot project. It was about 50 cm in diameter and mounted on a pedestal of basin form, so that the lower half is enclosed. The upper half is clear plastic, the lower half painted blue and illuminated by a lamp from below. Both hemispheres are engraved with the principal stars, the hour and declination circles, and in addition, with the circle on which the celestial pole precesses with a period of 26,000 years — with a small-scale sinuosity imposed on the circle indicating the nutation symbolically but not exactly. A little Earth is mounted in the interior centre of the sphere. As an accessory, a blue plastic flat ring 12 cm in diameter is mounted outside the globe on which the stars and signs of the zodiac are repeated. The ring can be adjusted to illustrate the effect of precession.

The larger globe is about 1.5 m in diameter and would facilitate demonstrations on an institutional scale with an orrery installed inside it. When completed the transparent shells will be double — the stars shown on the outer shell, and the coordinate circles on both. With adjustment of the inner shell, the effect of precession on the hour angle and declination of a star can be easily understood.

Interesting engineering problems arose in the construction of the large sphere relating to reinforcement of the pole positions with clear plastic plates to bear the stress of the rotational axis, the jointing of the hemispheres, rotation on ball bearings, and a massive base on piano castors and jacks. The design will ensure that the large globe will revolve at a touch, yet not shake. The mechanical parts are stainless steel, or other noncorroding materials. The investment in materials has exceeded \$10,000.

Mr. Doyle served in the Canadian Army during the Second World War and then spent a working lifetime as a ship's engineer. For 25 years he served with the Coast Guard in the famous icebreaker Labrador. With this background, he is at home with large machinery and enjoys working with heavy items.

These globes would be of value to a planetarium or other institution and Mr. Doyle wishes to invite any official of a planetarium, museum or college to apply to him for more information, with a view to acquiring one or both spheres. His address is 20 Dunston Street, Dartmouth, Nova Scotia B2Y 3T6, or phone (902) 469-1412.

### Toronto hosts 1987 General Assembly

Now is the time to start planning to attend the 1987 General Assembly of the Society which will be held May 15–18, 1987 in Toronto. All members are invited to take part and bring their families. In addition to a full schedule for G.A. participants, a special programme for spouses and family members is being organized to acquaint visitors to Toronto with the many sights of the city. There will definitely be something for everyone.

More information about the 1987 General Assembly will appear in future issues of the *National Newsletter*. If you require any information now to plan your Victoria Day holiday weekend in Toronto, please write to:

R.A.S.C. Toronto Centre  
1987 General Assembly  
c/o McLaughlin Planetarium  
100 Queen's Park  
Toronto, Ontario M5S 2C6

Also phone Randy Attwood, (416) 624-4629 evenings.

## The 1986 General Assembly

by Mary Anne Harrington  
Toronto Centre

The University of Manitoba was the setting for the 1986 General Assembly (GA.) hosted by the Winnipeg Centre on the Canada Day weekend. The G.A. was well attended with delegates from 14 of the 20 Centres, as well as some unattached members.

On Thursday evening the second annual Helen Sawyer Hogg Public Lecture was held. This lecture is sponsored by both the Royal Astronomical Society of Canada and the Canadian Astronomical Society. The speaker was Dr. Barry F. Madore from the Department of Astronomy at the University of Toronto. His talk for the evening was entitled "Space Telescope: Mankind's New Tool for Measuring the Ultimate Frontier."

The agenda for Friday included a National Council Meeting in the afternoon followed by a Buffalo Bash in the evening. Also included was a "Murphy Slide Contest" won by Leo Enright (Kingston) and a "Song Contest" won by the Winnipeg Centre. The night concluded with a visit to the Glenlea Observatory to see the Centre's new Ash Dome. Their observatory was a truly impressive sight and it must be a source of great pride for Centre members. However, the unexpected highlight was a spectacular aurora display 180° in azimuth stretching from the horizon to the zenith. The sky was alive with its shimmering and rippling rays glowing green and yellow with fantastic explosions of red! It was a truly unforgettable sight!

The paper sessions were held on both Saturday and Sunday mornings. The special invited papers were: "A Look Back At Comet Halley" by Stephen J. Edberg from the Jet Propulsion Laboratory in California and "In The Shadow of Kitt Peak" by David Levy of the Kingston Centre – Tucson Branch. Several other excellent talks discussed celestial navigation using computers, activities of Japanese amateurs, forecasting methods for aurora activity, oddities of the solar system, and a photographic tour of southern hemisphere skies.

Saturday afternoon saw a trip by double-decker buses to the Museum of Man and Nature to see the newly opened "hands-on" science gallery Touch the Universe followed by their new Planetarium show called "Voyager Tales". Saturday evening was time for a very relaxing cruise on the River Rouge down both the Red and Assiniboine Rivers.

The Annual Meeting was held Sunday afternoon. Although a number of issues were discussed the item which created the most interest was the proposed increases in membership fees. After a lengthy debate the new rates were approved by the membership. Therefore as of October 1, 1986, the annual fees became: Regular \$25; Youth \$15; and Life \$500. In other news, the proposal made by the Victoria Centre to host the 1988 GA was approved. This will be a very special joint meeting with the Astronomical Society of the Pacific! It was also announced that the winner of the Canada Wide Science Fair – Astronomy Division was Peter Brown of the Edmonton Centre.

The National Council Meeting which followed was of a special significance as four of the top positions changed hands. Dr. Ralph Chou (Toronto) commenced a 3 year term as National Treasurer; Damien LeMay (Quebec) commenced a 2 year term as 2nd Vice-President and Mary Gray (Ottawa) commenced her 2 year term as the new President of the R.A.S.C.

Sunday evening the Banquet was held in the Beausejour Room at the University Centre. This evening the 75th anniversary of the Winnipeg Centre was also being celebrated. After a superb dinner and special anniversary cake the awards presentations took place. The Chant Medal was presented to Warren Morrison of the Kingston Centre; Service Awards were presented to Randall Brooks of the Halifax Centre and to Leo Enright of the Kingston Centre; the Simon Newcomb Award was presented to David Chapman of the Halifax Centre and the Winnipeg Centre presented a special award to one of their members – Guy Westcott. The winners of the display competition were: Leo Enright (Kingston) for his report of observing and photographing the evening zodiacal light of the past two years and Leo also won first prize in the Telescope and Equipment category; Frank Roy (Ottawa) for some high sensitivity radio observation from an amateur radio telescope; Ed Lepieszko (Winnipeg) for computer starcharts and amateur astronomy; the Winnipeg Centre for their display of "once upon a dome"; James Lucyk (London) in the open category for his astrophotos and finally Michael Watson (Toronto) who won not only the Astrophotography category but also the Grand Prize for his display entitled "Cosmochrome".

Following the awards, outgoing National President Dr. Roy L. Bishop presented a very interesting talk entitled "What We Bring We Find" in which he described four neglected facets of visual perception and their relevance to observational astronomy.

Monday was an all-day bus tour to the Pinawa Nuclear Research Station and then to the Seven Sisters, a Hydro-electric Generating Station.

Many thanks to the GA organizing committee and all the members of the Winnipeg Centre who put so much time and effort into making this an extremely enjoyable event.

The 1987 GA will be held in Toronto on the Victoria Day weekend, May 16–18, 1987. See you there!

## **Abstracts of Papers Presented at the 1986 Winnipeg General Assembly**

### INVITED PAPERS

*A Look Back at Comet Halley* by Stephen Edberg, Jet Propulsion Laboratory, Pasadena, California. Comet Halley provoked not only the greatest scientific effort to study a comet but also the greatest entrepreneurial efforts associated with an astronomical event. The scientific results as well as the human interest aspects of this Halley apparition were discussed.

*In the Shadow of Kit Peak* by David Levy, Lunar and Planetary Laboratory, Tucson, Arizona.

### SUBMITTED PAPERS

*R.M. Petrie, 1906–1966* by Alan Batten, Victoria, British Columbia.

The year 1986 is the twentieth anniversary of the death of one of Canada's foremost astronomers. The paper contained an appreciation of his scientific work and some personal reminiscences of the man.

*The Astronomical Position Line* by Hein van Asperen, Kingston, Ontario.

The standard method used by a navigator to determine his position using observations of three stars can be greatly improved by the use of a computer and Mercator mapping.

*Arizona's New "Eye in the Sky 2.4 m McGraw-Hill Telescope* by Paul Delaney, Tucson, Arizona.

This new telescope at the Kitt Peak National Observatory was completed in 1985. A description of the instrument and its planned observing programmes were outlined.

*Design of a Microstepping Step Motor Controller for Large Telescopes* by Andrew Lawless, Winnipeg, Manitoba.

The design of a microstepping controller capable of reducing the steps for step motors driving large telescopes to an accuracy of less than an arc second was described.

*Forecasting Periods of Geomagnetic Activity Near Solar Minima* by Peter Brown, Fort McMurray, Alberta.

In high latitudes, the presence of aurora activity can be as much of a problem to observers as the moon and the weather. A discussion of our current understanding of the cause and predictability of auroral storms highlighted the presentation.

*Herschel Activity in Japan* by Osao Shigehisa, Yamato, Kanagawa, Japan.

The Herschel Society of Japan was established in 1984. Meetings of the group include both the astronomy and music of William Herschel with special events this year for Voyager's encounter with Uranus, the planet discovered by William Herschel.

*Computer-Generated Starcharts in Amateur Astronomy* by Ed Lepieszko and Andy Kunz, Winnipeg, Manitoba.

A computer program titled "The Observer's Data Base" and marketed by the authors contains 2,500



stars and objects. The programme allows the creation of flexible user starcharts on a monitor or in a printout.

*A Laser Disc System for Astronomical Education* by Richard Bochonko and Prasad Gowdar, Winnipeg, Manitoba.

*Historical Research in Astronomy – A Progress Report* on the Odell Quadrant by Ed Kennedy, Saskatoon, Saskatchewan.

This quadrant was presented one hundred and forty years ago to King's College, Fredericton, New Brunswick. A detailed study by the National Maritime Museum, Greenwich, England suggests the quadrant may rank as one of the most significant of the early astronomical surveying instruments which have been preserved as part of our heritage.

*Oddities and Enigmas of the Solar System* by Martin Clutton-Brock, Winnipeg, Manitoba. Study of a table of the orbital and physical elements of the planets and their satellites shows many oddities. A brief description of a current theory of the origin of the solar system draws attention to the enigmatic nature of these oddities.

*The Use of Astronomical Instruments for Arms Control and Verification Systems* by Chris Rutkowski, Winnipeg, Manitoba.

Many arms control proposals involve inspection by satellites in earth orbit or aerial vantage points which would employ optical instruments used in civilian astronomical research. The role of astronomy in arms control is more significant than is generally realized.

*A Conceptual Outline of a New Specific Theory of Relativity* by Herb Sellin, Calgary, Alberta. A new perspective on the interrelationships of the laws of motion, relativity, thermodynamics, and conservation leads to a new theory which may help to explain some of the major problems in current astronomical research.

*South of Capricorn* by Michael Watson, Toronto, Ontario.

This beautifully prepared audiovisual presentation explored the skies of the southern hemisphere as seen by the author and his 20cm Schmidt Camera while in Australia Halley-hunting in April 1986.

## **Display Competition Winners at Winnipeg G.A.**

The annual Display Competition held at each General Assembly is an opportunity for members to share their projects with the membership and also to win some very nice prizes. Details of the 1986 competition appeared in the December 1985 *National Newsletter*. Congratulations to the following winners of prizes listed by category in the 1986 Display Competition at Winnipeg.

*Comets, Asteroids and Other Phenomena*

First Prize – Leo Enright (Cash certificate from Lumicon; book *Astronomy Visualized*).

Second prize – Peter Brown (Book *The Solar System*).

*Astrophotography*

Michael Watson (Book *The Focal Encyclopaedia of Photography*; Cash certificate from Lumicon).

*Radioastronomy*

Frank P. Roy (Book *Subatomic Particles*; book *The Cosmological Distance Scale*).

*Computer Astronomy and Software*

Ed Lepieszio (Book *The Second Law*; 6-month subscription to *Astronomy* magazine; eyepiece case from Meade).

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*Centre Display*

Winnipeg Centre (Book *Realm of the Long Eyes*; book *The Case for Mars II*)

*Open Category*

First Prize – James Lucyk (Astro Cards Sets #1, 2, 3; 20 mm research grade eyepiece from Meade Instruments).

Second Prize – Hein Van Aspern (6-month subscription to *Astronomy* magazine).

Honorable Mention – Osao Shigehisa (Book *Einstein's Legacy*).

Honorable Mention – Chris Rutkowski (Book *The Joy of Gazing*).

*Telescopes and Equipment*

First Prize – Leo Enright (1-year subscription to *Telescope Making* magazine).

Second Prize – A.T. Holmes (2x teleneegative amplifier from Meade).

*Grand Prize*

Michael Watson (*Sky Atlas 2000* from Sky Publishing; 1-year subscription to *Deep Sky* magazine).

*Special Award*

Osao Shigehisa (Book *Sun and Earth*).

Osao travelled over 12,000 km to attend the General Assembly.

*Door Prize*

Rebecca Swartz (Book *The Joy of Gazing*; book *Handbook of Soviet Lunar and Planetary Exploration*).

Details of the 1987 Display Competition to be held at the Toronto General Assembly, May 15–18, will appear in a future *National Newsletter*.

## **Report of the June 1986 National Council Meetings**

**by Leo Enright  
National Recorder**

The National Council of our Society held two meetings at the 1986 General Assembly in Winnipeg, Manitoba. Both were held on the campus of the University of Manitoba, the first on June 27 and the second two days later following the Society's Annual Meeting. Outgoing National President, Dr. Roy Bishop and incoming National President, Mrs. Mary Grey, shared the chairmanship of these two meetings. Fourteen of the Society's twenty Centres were represented at these meetings.

*Meeting of June 27*

The first meeting included reports from all the officers and standing committees of the Society. As well, approval was given to a proposal to continue to share the costs of the annual Helen Hogg Public Lecture with the Canadian Astronomical Society and also to a request from the Hamilton Centre that a grant used to assist in the construction of the Centre's new observatory be converted into a loan.

National Treasurer, Dr. Ralph Chou, presented the 1985 Financial Statement and commented on the healthy state of the Society, thanks in part to the increase in membership and the brisk sale of *Observer's Handbooks* spurred by the appearance of Comet Halley. Dr. Batten, the editor of the Journal, presented the results of a study of production costs of the *Journal* over the past eight years and noted the possibility that production costs over the next few years might decrease though this might be offset by increased distribution costs. National Council approved the editor's recommendation that the University of Toronto continue to print the Society's three major publications. Dr. Roy Bishop, editor of the *Observer's Handbook*, reported that the original printing of 14,000 copies of the *Handbook* had been sold out in February, and as a result, 1,700 more were printed, most of which had also been sold.



National Librarian Mr. Brian Beattie discussed the joint meeting with the Historical Committee and the progress to date in converting the Library into an historical archive. As Astronomy Day Coordinator, Mr. Leo Enright, reported on the success of the 1986 event and announced the next International Astronomy Day would be Saturday, May 9, 1987. Mr. Franklin Loehde, chairman of the Computer Use Committee, reported that an IBM-compatible system would be purchased for the National Office. Dr. Lloyd Higgs of the Gold Medal Committee announced progress on designing a new national award to be called the Plaskett Medal for graduate students in astronomy.

#### *Meeting of June 29*

The second National Council meeting follows the Society's Annual Meeting. At this time the standing committees for the coming year are appointed. For 1986–1987 the committees are as follows (chairman's name in brackets): Awards (Mr. Franklin Loehde); Budget (Dr. Ralph Chou); Editing (Dr. Alan Batten); Executive (Mrs. Mary Grey); Finance (Dr. Ralph Chou); Historical (Dr. Peter Millman); Library (Mr. Brian Beattie); National Newsletter (Mr. Ian McGregor); and Property (Mr. Kim Rowe). In addition, a new committee under the chairmanship of Mr. Peter Jedicke was established to study the federal government's import duties on astronomical equipment.

The next two meetings of the National Council will be held on Saturday, September 27 and Saturday, January 31. Complete details of all the items discussed at both meetings may be found in the official Minutes distributed to all Centre Presidents and National Council representatives. The Minutes of the 1986 Annual Meeting appear in the October issue of the Journal.

## **Awards of the R.A.S.C. for 1986–87**

As outlined in the *Annual Report* of the Society for 1978, page 31 ff, awards may from time to time be conferred upon members in recognition of meritorious service or achievement. Recommendations for such awards should in most cases be made through the Council of the local Centre. Unattached members may submit recommendations, if they so wish, to the National Office for consideration by the National Council. Centre Councils will, of course, submit recommendations as they see fit to the National Council for final approval.

### CHANT MEDAL

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

### SERVICE AWARD MEDAL

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

### KEN CHILTON PRIZE

The Ken Chilton Prize was established in 1977 by the National Council of the Society in remembrance of K.E. Chilton, an active member of the Hamilton Centre. The prize is awarded annually to an amateur astronomer resident in Canada, in recognition of a significant piece of astronomical work carried out or published during the year. Nominations should reach the National Office by December 31.

## SIMON NEWCOMB AWARD

The Simon Newcomb Award is named in honour of the famous 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. The intent of the Simon Newcomb Award is to recognize literary ability among members of the Society who are not professional astronomers. Submitted articles must be original and should not have been previously published in any substantially similar form (although appearance in Centre newsletters is permissible).

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

*Topics:* The article(s) should be no more than 2,500 words in length, be written in proper grammatical form, and be presented typewritten and double-spaced. Diagrams need not be in 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.

## Due\$ Due

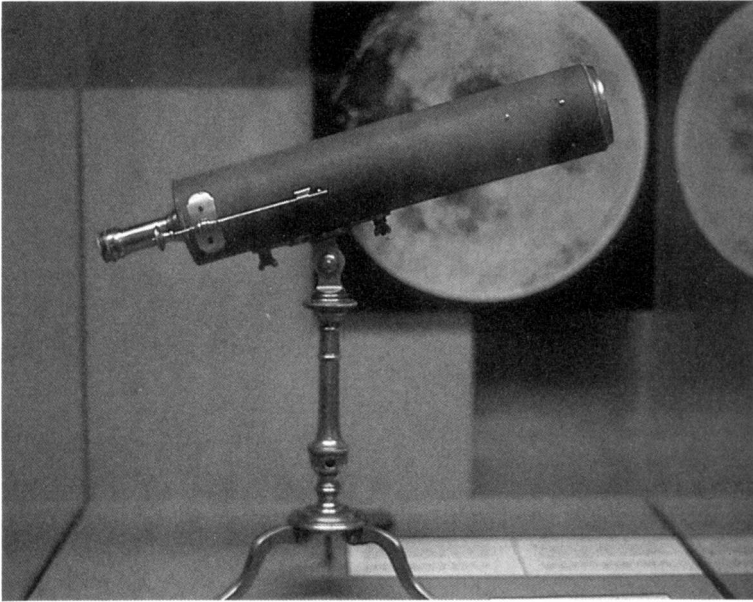
The 1987 membership year began October 1, 1986. It is time for all regular and youth members to renew their memberships with the Society. At the Winnipeg Annual Meeting the following national fees were approved for the 1987 year.

|  |          |
|--|----------|
| – Regular Membership                       | \$25.00  |
| – Youth Membership (under 18 years of age) | \$15.00  |
| – Life Membership                          | \$500.00 |

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

Fees should be sent to your Centre Treasurer, or if you are an unattached member, directly to the National Office. By the time you read this note the new 1987 *Observer's Handbook* should be in the hands of Centres and ready for distribution to paid-up 1987 members.

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



The Gregorian-design telescope at Fort Malden built by J. Van der Bildt.

## The Fort Malden Telescope

by Philip Mozel  
Toronto Centre

A feeling of déjà vu struck last summer as my wife, Debbie, and I toured the remains of Fort Malden in Amherstburg near Windsor, Ontario. Among displays dealing with the War of 1812 was an obviously old telescope. “Not again!” Debbie sighed as I began contemplating the historical prospects and possibilities for research. She well-remembered a similar episode several years ago when we came across another telescope in Moose Factory. That instrument provided work for several years (see the *National Newsletter* for August 1985) and lucky us, here was another! Fortunately, the Fort Malden instrument had already been reasonably well-researched. Sitting in a glass case, as does the one in Moose Factory, the manufacturer’s name on the tube could, this time, be immediately read: J. VAN DER BILDT FRANEKER. A nearby sign indicated that this was a Gregorian reflector once belonging to Alexander McKee, a one-time high-ranking official in the British Indian Department. After pestering the museum staff to turn up the lights for photography, we departed with hopes of learning more about both manufacturer and owner.

As we discovered, McKee was no desk-bound bureaucrat but was intimately involved with the Indians. Living and trading among them, he exerted considerable influence, a talent coveted by his British superiors. During the time of the Seven Years War (the French and Indian War on this side of the Atlantic) McKee was involved in the British action to relieve Fort Pitt (Pittsburgh) in 1758. To penetrate French-controlled territory, a road through the bush was built by the army and this required the use of surveying equipment. McKee used the Gregorian for this purpose, or so the story goes. History is actually silent on this last detail. A Gregorian is generally thought of as an astronomical instrument but perhaps it was pressed into unusual service during the war years. It is possible it was

used for spying out troop dispositions as well? Or was McKee, in those more rugged times, one of our first amateur astronomers?

Remaining loyal to the Crown during the American Revolution, McKee made his way to the Amherstburg area. Both McKee, and subsequently his son, were forever reviled in the United States for stirring up the Indians against the Americans during the American Revolution and the War of 1812 respectively.

As for Jan Pytters van der Bildt, the telescope's maker, he was born in September 1709 in Vrouwenparochie, the Netherlands. In 1734 he moved to Franeker where he made clocks, watches and telescopes and by 1750 he was famous for the latter. The transits of Venus across the face of the Sun in 1761 and 1769 likely assured him of a flourishing business. One of his sons also produced telescopes (presumably not the one at Fort Malden) but these were of relatively poor quality. The elder van der Bildt died in 1791.

If you happen to be in the Amherstburg area, why not pay a visit to Fort Maiden? There, reposing prominently, you will see a part of our past still shrouded in mystery.

## **3rd Annual Mount Kobau Star Party**

**by Malcolm Scrimger  
Victoria Centre**

Once again the Okanagan Astronomical Society has hosted a very successful star party on Mount Kobau. Approximately 200 people from all over North America attended this event which was held from July 31st to August 4th.

The weather was excellent on three of the four nights that I attended. The skies were clear and very dark. During the night sporadic meteors and aurora displays were seen. On the third night, as I was driving up the mountain, I observed very large thunderclouds forming and an hour later we had a spectacular lightning storm which struck a nearby antenna tower several times. This "fireworks" display gave us an impressive start for the evening's viewing. Soon after the storm a rainbow appeared and as the storm moved off into the distance, a large forest fire could be seen in its wake.

A great variety of telescopes were there ranging from 60 mm to a couple of 45 cm telescopes belonging to the Victoria and Calgary Centres. Of all the telescopes, there seemed to be an abundance of hand-made Dobsonians, many of which were entered in the telescope-making contest.

Guest speakers who attended the star party included John Dobson of the San Francisco Sidewalk Astronomers who gave two talks on "The Nature of the Universe" and "Building Dobsonian Telescopes." Simon Hum of Quaser Optics in Calgary gave an astrophotography lecture with slides, and David Dodge of the Vancouver Observatory spoke on "The Astronomical Year in Review."

Overall the Mount Kobau Star Party was a big success and the people who organized it are to be congratulated for a job well done. I hope that we may see more people next year enjoying the hot sunny days at Lake Okanagan in Osoyoos and the cool clear dark nights on top of Mount Kobau.

## **China May Launch Canadian Satellite**

Following the decision by the United States National Aeronautics and Space Administration not to carry any more commercial payloads on the three remaining Space Shuttles, many countries and business companies are looking for alternatives to launch their satellites.

Canada's next satellite scheduled to go into space is the communications satellite, Anik E, and China has notified Canada that their Long March 3 rocket would be available. While the Anik E is not scheduled for launch until the early 1990's the China Great Wall Industry Corporation, responsible for the Chinese space program, has already contracts to launch satellites for the United States and Sweden.

## Showers From Halley

by Peter Brown and Mark Zalcik  
Edmonton Centre

At this most memorable of years wanes, many skywatchers still have their glimpses of Comet Halley fresh in their minds. But two other events are also associated with the comet which are of special interest to observers this year. Twice each year the Earth crosses the comet's orbit and the Earth experiences a meteor shower from the swarm of material travelling in the orbit of the comet. These two annual meteor showers are the May Eta Aquarids and the October Orionids. However, last May's encounter with the outward bound debris of the comet produced no spectacular events for naked-eye observers.

The peak for the Eta Aquarids was predicted for 19:00 UT on May 4. Because of the proximity of the parent body for the meteors, an enhancement of Eta Aquarid rates above the single observer hourly rate of 20 was very much hoped for, and even anticipated. One observer, Todd Lohvinenko of Winnipeg, observed several shower meteors early on the morning of May 3, about a day and a half before activity was expected, when the shower radiant was still below the horizon. Corrected for the radiant being directly overhead the hourly rate would have been a stunning 40, an impressive pre-maximum rate. On the other hand, Mark Zalcik observed no Eta Aquarid meteors at all during an observing run about 24 hours later and only nine hours before predicted peak activity.

In October, the Earth passes through the sunward bound stream of comet material, in the form of the Orionids which this year peak on October 21 at 17:00 UT. The Orionids are characterized by a month long stretch of activity, from early October to early November. A plateau of five nights, October 19 to 23, possesses good rates of about 10 or more per hour, with the best rates occurring on the morning of October 21. The radiant is up at midnight and is highest at about 4 am. local time. Like the Eta Aquarids, the Orionids are very swift, appearing as fleeting streaks and moving faster than the well-known August Perseids. About 30 percent of the Orionids leave enduring ionization trails.

Reports from 1985 showed Orionid activity to be at least in the normal range of 20 or more per hour near the peak of their activity. Unfortunately, a nearly Full Moon will interfere with attempts to see the Orionids in 1986. Yet with the parent comet still relatively close by, it would still be worthwhile to see if there is any unusual increase in observed rates.

*Note:* The authors would be pleased to receive observations of the Orionids, or any other meteor showers. Write to Peter Brown, 181 Sifton Avenue, Ft. McMurray, Alberta T9H 4V7, or Mark Zalcik, #2-14225 82 Street, Edmonton, Alberta T5E 2V7.

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

HALIFAX: At the 1986 General Assembly, Halifax member Randall Brooks received the Service Award, and David Chapman won the Simon Newcomb Award.

OTTAWA: Ottawa Centre is no longer using the National Research Council address. Mail should be sent to P.O. Box 6617, Station J, Ottawa, Ontario K2A 3Y7. With members' star nights, public star nights and its annual picnic, the Ottawa Centre is keeping active throughout the summer. Frank Roy won an award in the G.A. display competition for some high sensitivity radio observations from an amateur radio telescope.

CALGARY: *Starseeker* editor is making headway with the use of electronic transmission to publish their newsletter. More than 90% of the June 1986 issue was transferred via the phone lines from the editor's computer to the downtown location where *Starseeker* is produced. Calgary Centre has a series of impressive talks and speakers arranged already for the entire membership year.

MONTREAL: Mario Caluori writes in *Skyward* that members Constantine Papacosmas, Keith Gilette and Bill Strople undertook a painting and renovation project of their main meeting room. They worked

extra hard to finish the job before their open house. Jimmy Letourneau is organizing a trip to Mount Megantic, tentatively scheduled for September 13, 1986.

NIAGARA: Niagara Centre is staying active throughout the summer with visits planned to the Syracuse Astronomical Society Summer Seminar and Stellafane. Public star nights are also planned for later in the summer. Bob Winder reports that the May 9 star night for Comet Halley was probably the greatest star night the Niagara Centre has ever had. There were many telescopes and about 250 people attending. The comet stood boldly in a very clear sky at John Allen Park.

WINNIPEG: The Winnipeg Centre organized an extremely enjoyable General Assembly over the Canada Day weekend. They were able to obtain many special speakers, including Barry Madore, University of Toronto, on the space telescope; Stephen Edberg from the Jet Propulsion Laboratory, California, on comet Halley; and David Levy, Kingston Centre (Tucson Branch), on Kitt Peak and amateur astronomy. Winnipeg Centre also won four awards: they awarded a special award to their own member Guy Westcott; Ed Lepieszko in the display competition for computer star charts and amateur astronomy; the centre itself for their display, "Once upon a dome"; Winnipeg Centre also won the song contest. The 1986 G.A. was also a celebration of the 75th anniversary of the Winnipeg Centre.

KINGSTON: Leo Enright won the Murphy Slide Contest at the Winnipeg Assembly, as well as receiving the Service Award, and, in the display competition, won an award for his report of observing and photographing the evening zodiacal light for the past two years; in addition (!), Leo also won first prize in the telescope and equipment category. Warren Morrison won the Chant Medal. Kingston Centre's 25 cm Newtonian telescope (the A. Vibert Douglas telescope) was unusable because of a wobbly equatorial mount. Larry Manuel took the initiative and the time to build a Dobsonian mount: the telescope now performs wonderfully. The second half of the Kingston-London Centre exchange took place on July 18, with the talk, "Astrophotographic results with the new superfast Fujichrome P1600D film."

VICTORIA: Victoria Centre will be hosting the 1988 General Assembly, which will be a special joint meeting with the Astronomical Society of the Pacific.

EDMONTON: Member Peter Brown won a prize in the astronomy division of the Canada-Wide Science Fair.

LONDON: James Lucyk won the award in the open category of the display competition of the General Assembly for his book, *A Reference Index of Deep-Sky Objects*.

VANCOUVER: This centre has an active summer planned for planet observing. John Dobson visited several parks during July.

TORONTO: Michael Watson won the award in the astrophotography category, as well as the grand prize of the GA display competition, for his display, "Cosmochrome." The Toronto Centre has temporarily shut down observing sessions at the observatory in Schomberg pending a study by a special working group reviewing the observing activities of the centre. The Toronto Centre also received a donation of a 8 cm Banks refractor from Gary Maybee, son of J. Edward Maybee (J. Edward Maybee joined the society in 1896). The donation included a scrapbook of newspaper clippings and photographs relating to the 1905 solar eclipse on the coast of Labrador. In this scrapbook are impressive signatures: J.S. Plaskett, C.A. Chant and E.W. Maunder. Because of the absence of many Toronto Centre members (who were Halley-hunting) in April, the centre held its Astronomy Day in August instead of April. A huge tent was set up at the city's Harbourfront complex with displays and telescopes trained on the sun. Later the centre showed 300-400 people the planets Saturn and Mars, as well as the Moon. The annual picnic and open house at the David Dunlap Observatory was scheduled for September 13, 1986.

*Across the R.A.S.C.* is a regular feature of the *Newsletter*. Centre editors and/or secretaries should send reports and newsletters to the Newsletter editor. Deadline for the February issue is December 15.

## Starfest '86

by Steven Spinney  
Assistant Editor

On the second weekend in August I attended the North York Astronomical Association's fifth annual observing convention, Starfest '86, at a campground near Mount Forest, Ontario about a two-hour drive outside of Toronto.

The weather did not look promising on the Friday night. It rained almost continuously very early in the evening but had stopped by the time I arrived and I was able to set up my tent. The sky cleared before sunset with Venus and a three day old Moon making a striking pair in the west. After twilight, the skies remained clear for about an hour and some time was spent picking out Messier objects until fog rolled in.

The next morning the program started with a session called "A Tribute to Halley." Warren Morrison, a well-known variable star observer and a regional coordinator for the International Halley Watch, reviewed the appearance of Comet Halley during its recent return. He showed light curves that plotted Halley's predicted magnitude against estimates sent by observers and explained that the comet's poor performance during early April should have been predicted because of the configuration of the Sun, Earth, and comet. The talk was followed by a variety of slide presentations showing Halley as seen from different parts of the world. From Spain to the Galapagos Islands and from the Florida Keys to airborne observation, it was interesting to see the different impressions that Comet Halley made upon those that saw it.

Other topics discussed during the day included building a portable observatory, making a heated dew cap, Schmidt camera photography, photographic polar alignment, and an astrophotography workshop.

After dinner it was time for the guest speakers. Michael Watson from the Toronto Centre showed his spectacular audio/visual presentation "South of Capricorn" about his recent trip to Australia to photograph Comet Halley and the southern skies. Michael's photograph of Halley as it appeared during the April 24 total lunar eclipse was the best I have seen taken by an amateur. Next, Terence Dickinson, author of the popular astronomy book *Nightwatch* gave a talk titled "Revolution, Evolution and Mythology in Visual Astronomy." One topic that he spoke about was the Schmidt-Cassegrain telescope and how it revolutionized amateur astronomy but at the expense of visual planetary observing. It was shown that while the Schmidt-Cassegrain or even Newtonian design telescopes were good general-purpose instruments, they were not suited for planetary observation. A small refractor can, in theory, perform as well as a much larger reflecting telescope when viewing the planets.

The skies were clear that night and as usual, many people set up their telescopes. There was a wide variety of instruments available for viewing with about one-quarter of the telescopes being refractors. This enabled the participants to compare the performance of the refractors and reflectors when viewing the planets. The seeing was not ideal but I still had one of the best views of Jupiter I have ever seen through a 13cm f/12 refractor.

Over the last five years, Starfest has had a remarkable record of clear Saturday nights and the approximately 180 people who attended were not disappointed. If you get a chance, it is well worth your while to go to an observing weekend such as Starfest. Whether you are a beginner or an experienced observer, there is always something for everyone.

## Observer's Cage

by David H. Levy

Astronomers are poets, Leslie Peltier once said to Walter Scott Houston. Poetry in astronomy is not a new concept. When Copernicus first proposed his theory, the greatest poets reacted. Wanting to write an epic for all time, Milton hedged his bets in "Paradise Lost," making sure that the angels did not commit themselves on a geocentric or a heliocentric universe.



One can travel either way on the road that joins astronomy with poetry. Gerard Manley Hopkins, one of the best known poets of the 19th century, began his writing career from a carefully structured view of nature. In 1864, he observed Comet Tempel-Respighi, an object that became moderately bright for a short time as it passed near the earth. What seemed to move Hopkins more than the comet, however, was its position in the sky on August 4, its head near Iota Aurigae and its tail near Beta Tauri. That observation found expression in a poem he wrote soon after the sighting: "I am like a Slip of Comet," he wrote,

"Scarce worth Discovery,  
Bridging the slender difference of two stars."

In this remarkable poem Hopkins describes a comet in human terms.

"It grows and sizes  
While her central star  
Shakes its cocooning mists."

Comets know poetry. With each rotation, the nucleus of a major comet turns its more active side to the sun. Because Halley shedded its "cocooning mists" in the form of major jet eruptions every 2.2 days, these were successfully predicted by the International Halley Watch Near Nucleus Studies net in time for use during the Vega and Giotto encounters. If Hopkins could have been here to see this he may not have been astonished. He probably suspected that the regular emanations of "cocooning mists" from the nucleus were an important clue to the nature of comets, a clue so important that it became part of a poem.

One need not discover the poetry that is so rich in astronomy only through observing. Through the lenses he grounds, John Brashear knew the joy of turning a piece of raw glass into a magic window to the heavens. On the graves of John and Emily Brashear are words that are also in the minds of many of us: "We have loved the stars too fondly to be fearful of the night."

We astronomers do not take life lightly, for our fondness for the stars has touched our souls. We all share the feeling of discovery, whether the object we have found is new to all or new only to us. The thrill penetrates our being. It can't be described in words how our souls have been changed by the universe sharing a secret with us. It is a feeling that observers get. Leslie Peltier shared it with Walter Scott Houston, and years later Houston would share it with us. "Last night I looked up," he said during a recent speech, "and saw the Milky Way from a dark Texas sky. And it looked better than it ever could from my home. And I felt so good. I always feel good when I look up at the stars."

## Comet Wilson 1986I

Congratulations to Christine Wilson who discovered a new comet last August 4. Currently approaching the Sun, by next spring this comet may be a fairly bright object at magnitude +3.4.

Christine studied at the University of Toronto and was head of the Innis College Student's Association. Currently, she is studying at the California Institute of Technology. When she made the discovery she was examining photographic plates she had taken on the 1.2 m Schmidt telescope at the Mount Palomar Observatory as a part of the new Palomar Sky Survey project.

Comet Wilson was discovered in the constellation Pegasus. During the autumn it has been moving through Delphinus and Aquila. The comet will reach perihelion in April when it will also be brightest but unfortunately for northern hemisphere observers it will be at declinations of between  $-40$  and  $-70$  during April and May and well below the horizon.

If Comet Wilson reaches its predicted magnitude of +3.4, it will be one of the brightest comets of the past two decades. More details will appear in the next *Newsletter*.