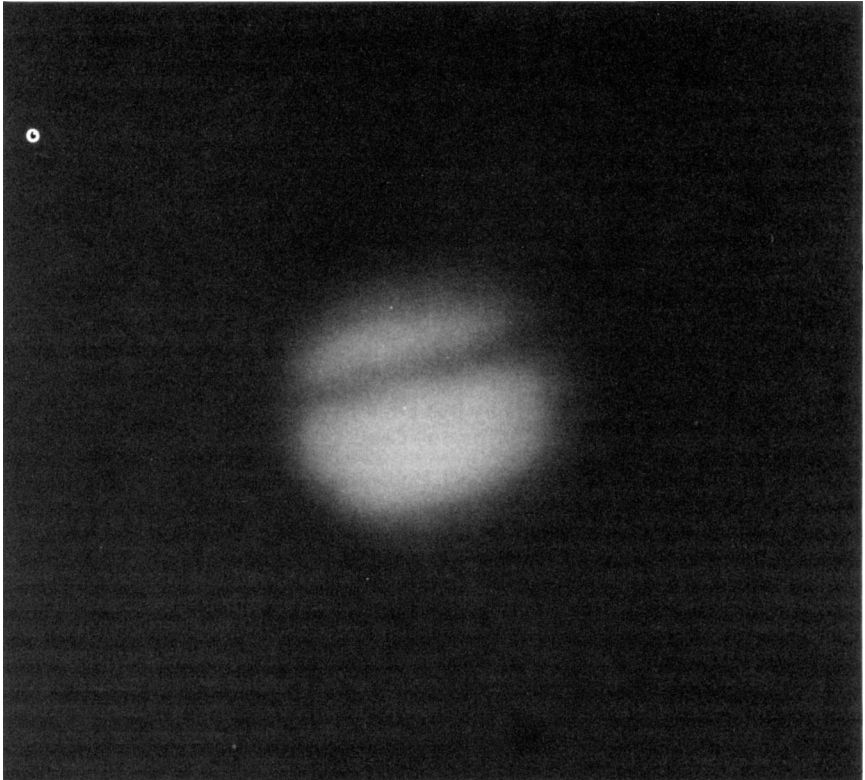

NEWSLETTER/BULLETIN

Formerly the National Newsletter

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

Supplement to the *Journal* Vol. 83/6
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December/décembre 1989



Jupiter a perdu sa bande équatoriale sud (SEB) en juillet dernier et selon les spécialistes de l'ALPO ce pourrait être le signe d'une future activité importante de cette région. Telescope: Celestron-8, film TP 2415. Photo par Marc A. Gélinas.

NEWSLETTER/BULLETIN

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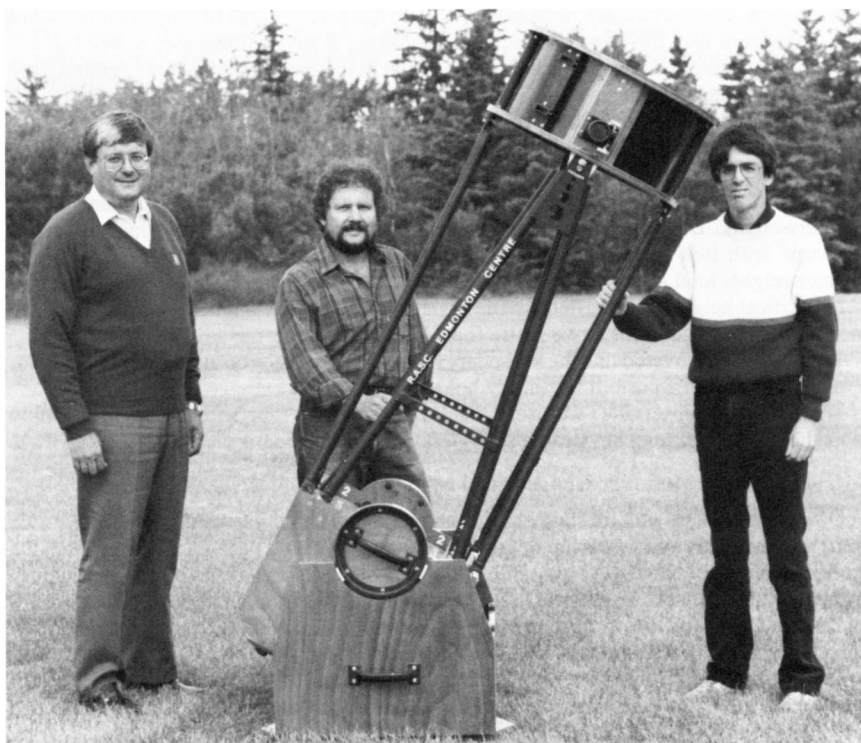
The Edmonton Centre's New Telescope

by **Bob Drew**
Edmonton Centre

The Edmonton Centre's first 17-1/2-inch Dobsonian telescope, built in 1982, brought "large" aperture observing to local amateurs. Built very sturdily, the telescope's construction followed the conventional wisdom of that time. However, it could only be transported in a full-sized van, which turned out to be a limitation. Use became sporadic, and as luck would have it, the primary mirror was stolen from a member's van only two months before the 1985–1986 Halley apparition! The replacement primary arrived from Coulter Optical after an eleven month delay. The figure of the mirror was evaluated as being quite good.

When upgrading the spider, a volunteer amateur/professional optician dropped the secondary, damaged it and a replacement secondary was provided. The Centre actually benefited as the replacement was polished to better than a 1/10th wave and aluminized at a local company.

The Edmonton Centre had wrestled with just what type of instrument would best serve its needs. The members were fully aware of the functional benefits of a proper, equatorially mounted, large instrument housed in a permanent observatory. We were also aware of the downside: light pollution, maintenance, security, demands on volunteer time, the potential for divisive, internal political squabbling and the limited number of members who would



Builder's of the Centre's prize winning telescope. Standing left to right are Bob Drew, Randy Pakan and Paul Campbell.

likely benefit with booked time. The Centre opted to continue with a portable telescope that might be taken to a number of observing sites near Edmonton.

The Telescope

At the November 1987 Centre meeting, the membership accepted my design and authorized my co-ordinating the construction of a 17-1/2-inch breakdown portable telescope.

My design goals and objectives were to make the telescope lighter and more transportable, to reduce the eyepiece-to-ground height at zenith, and especially to try and achieve reliable, accurate and quick assembly. As it was for the use of the club, durability was also important.

To build the instrument I borrowed heavily from proven racing sailboat technology. Wood, where used, was nine ply marine Gaboon mahogany. Also used extensively was aluminum, fiberglass and stainless steel fittings. All wood was epoxy saturated with West System Epoxy and overcoated with Varathane for ultraviolet screening.

This breakdown design incorporated a Surrurier truss concept with a difference. Instead of loose individual tubes, we used welded A-frame aluminum tube pairs. Another innovation was the attachment hardware. Stainless steel pins locate the trusses in shear, white 3/8-inch stainless bolts and custom welded stainless captive nuts work in

compression. The four trusses, with custom milled hardware, weigh in at 6.5 kg total. After eight months of use, the telescope requires very little, if any, collimation, before use.

Without rushing the telescope can be assembled in the dark in under eight minutes, and broken down and loaded in only five minutes. To fit into smaller vehicles, the rocker box/mirror box had to be of low profile. The rocker box is only 0.5 m high. Nested for transport with the mirror box, together they are only 0.6 m high. The telescope is now more transportable and can easily be loaded into a mid-sized station wagon.

This low profile “compromise” necessitated the use of 14.5 kg of permanent lead counterweights. But that is the price of portability. Including these weights, the entire telescope with two finders weighs in at 78 kg. Of this, the minor box, primary, and counterweights total 47 kg. Two people must load it but only one can easily assemble it.

No vertical height was “wasted” in the design. The eyepiece height at zenith is only 1.9 m, which is quite good for a two metre focal length telescope.

When it was discovered that the secondary holder had also been destroyed, Barry Arnold, a member, donated a custom secondary holder.

When actually observing, we use a black rip-stop cloth tube shroud which is simply zipped on. A 0.1 m long kevlar and fiberglass baffle extension is also added.

The People

Of the dozen or so volunteers that touched the project, it is interesting to note that two were non-members and four were new members. Barry Arnold did some milling and lathe work for the attachment software. Bill Wells contributed many hours of epoxy sanding. Although a number of members assisted, essentially, Paul Campbell, Randy Pagan and I constructed most of the instrument. The telescope was unveiled one year later at the November 1988 Centre meeting and saw first light in early December. It has since seen active use and can be signed out by members for personal use. Active members use it to supplement their own smaller telescopes and to seek Alan Dyer’s “RASC Challenge Objects” (see *Observer’s Handbook*).

Riverside, California

The telescope was shown at the Riverside Telescope Makers Conference in May 1989. The conference had over 1800 registrants, including eight from Victoria, three from Ottawa, quite a number of unattached or ex-members, and seven from the Edmonton Centre.

The main goal was to publicize the Edmonton Centre and the RASC through our entry. I had clearly letterset “R.A.S.C.” and our Centre name on the instrument. This did seem to attract quite a number of people with RASC associations.

Bob Breckenridge hauled the telescope down in his Ford Ranger since he planned to do some observing in Arizona following Riverside. I flew commercially while Dave Parker flew directly to nearby Big Bear Lake in his jet. Peter Ceravolo met the group there.

We could not pretend that our portable alt-azimuth telescope was as grand as some of the magnificent instruments there. It was a simple telescope, made to a very high standard. From the many kind compliments received, we thought it showed quite well.

Since the telescope was south anyway, I personally was able to add the lower latitude Messiers to my list and we all got to enjoy some observing under quite good seeing.

Rather than choosing a winner and runner-up, Riverside gives out Merit Awards of equal value in about a half dozen categories. Almost 60 telescopes were entered this year. The judges included Richard Berry, editor of both *Astronomy* and *Telescope Making* magazines, along with 5–6 “locals”, all qualified and experienced in the field.

They awarded the RASC Edmonton Centre a Merit Award for “Outstanding Design and

Craftsmanship in a Group Project". The whole venture was a lot of fun and a real success as it generated good publicity for our Centre and the Society. It was also amusing how a number of Americans seemed quite intrigued by a club that can officially prefix its title with the word "Royal".

I strongly recommend taking in the Riverside Telescope Makers Conference sometime. Although it is clearly a celebration of astronomical equipment, it is more. It is an excellent opportunity to meet many nice people, all interested in some facet of our hobby.

Nouvelles du Québec

par Marc A Gélinas

CENTRE DE QUEBEC: Les activités ont repris de plus belles avec le retour de l'automne. *L'almanach graphique 1990* qui est préparé par le Centre de Québec et sera encore disponible cette année à ceux qui en feront la demande. De plus les abonnés à la revue *Le Québec Astronomique* recevront *l'almanach graphique* dans le numdro de novembre-décembre 1989.

Cette année le président du Centre est Yvon Labadie, quant à Jean-Marie Fréchette ii est maintenant secrétaire. Au niveau de l'A.G.A.A. Pierre Bouliane de notre centre agira à nouveau comme president et Jean-Marie Fréchette comme secrétaire.

CENTRE DE LA SOCIETE D'ASTRONOMIE DE MONTREAL: Les activités ont repris au debut septembre. Le 23 de ce mois une journée portes ouvertes a été tenue et malgré la présence à Montréal d'un invité inattendu, le reste de l'ouragan Hugo, les visiteurs n'ont pas manqués. La journée a culminée avec la conférence du Dr. Gilles Beaudet, astronome et vice-recteur de la faculté des Sciences de l'Université de Montréal, sur la supernova 1987A. En octobre la conférence du mois a été donnée par le Dr. Daniel Nadeau de l'Universite de Montréal. Elle portait sur le phénomène des lentilles gravitarionnelles et sur l'étude en infra-rouge d'une certaine galaxie que le Dr. Nadeau mène avec les collègues. Le centre de la galaxie en question montre quatre noyau qui sont l'image du quasar lointain à qui la galaxie sert de lentille. Par l'étude de ces noyaux, les astronomes de l'équipe mesurent la taille de grains de poussières dans la galaxie et soupçonnent qu'une variation de luminosité d'un des noyaux aurait été cause par la présence d'une planète du genre de Jupiter sur le chemin de la lumière.

L'Annuaire Astronomique 1990 est sorti des presses en septembre. Cette année il a été grandement remanié, en particulier la place faite aux diagrammes et aux illustrations a été élargie. L'Annuaire passes de 144 à 172 pages. La qualité de la mise en page, de la reliure et de l'impression a été grandement amélioré.

NOUVELLES DES CLUBS DE L'A.G.A.A.: Le congrès annuelle de l'A.G.A.A. a été tenu à Laval à la fin septembre. Trois clubs, ceux de Laval, espace de montréal et Mira de Mirabel étaient les hôtes conjoints de ce congrès. Ce flit une belle réussite avec plus de 140 participants. Les communications ont été de grandes qualités et ont portées sur un large éventail de sujets. Les exposants étaient nombreux et le matériel original, très varié.

Les prix ont été décernés par votre populaire. Ainsi la causerie la plus appréciée fût celle d'Allan Rahill du Club de Laval. Il parlait de l'influence des conditions météorologiques sur les images au telescope. Le kiosque le plus populaire a été celui du Club Espace de Montréal.

Quand au prix Méritas remis annuellement à un astronome amateur du Québec qui fait

preuve à la fois de talent et d'implication dans la promotion de l'astronomie amateur, c'est M. Patrice Gérin-Roze du Club Espace de Montréal qui l'a reçu. Parmi ses actions les plus méritoires soulignons que Patrice Gérin-Roze a été un fondateur du Club Espace de Montréal, il a été moniteur au camps de Port-Aux-Saumons (où de nombreux jeunes québécois font leurs premières armes en astronomie), il a été rédacteur en chef du *Québec Astronomique* durant plus de 2 ans et rédacteur de l'*Annuaire Astronomique* de la S.A.M. pendant 3 ans.

L'an prochain le congrès de l'A.G.A.A. doit se tenir à nouveau en septembre mais cette fois à Rimouski.

PLANETARIUM DOW DE MONTREAL

Une communication présentée au congrès de l'A.G.A.A. en septembre dernier portait sur l'histoire et les perspectives d'avenir du planetarium Dow de Montréal. L'actuel directeur M. Pierre Lacombe a retracé l'historique de la fondation du planétarium qui date de 1966. Rappelons que c'est la brasserie Dow qui à l'époque a construit à ses frais le planetarium, pour ensuite de donner à la ville de Montréal. L'été dernier des rénovations majeures ont été apportés aux installations. Le planétaire Zeiss entre autre a été complètement démonté, nettoyé pièce par pièce et remonté.

En 1991 le planétarium Dow fêtera son 25^e anniversaire mais selon Pierre Lacombe il n'est pas sur que la bâtisse actuelle l'abrite encore bien longtemps. Puisque la yule de Montréal est en train de centraliser autour du vélodrome, ses installations à saveur scientifique, il est normal de songer à y déménager le planétarium. La bâtisse actuelle ne permet pas d'expansion et pour en faire un planétarium des années 2000 il faut agrandir, alors pourquoi ne pas rebâtir. Rien n'est encore décidé mais l'étude va bon train. Chose certaine on ne pourra pas transférer le planetarium au vélodrome, et il faudra trouver un autre endroit.

Nova East 1989

**by Doug Pitcairn
Halifax Centre**

This year's Nova East 1989, held August 25–28 in Fundy National Park, New Brunswick, was an unqualified success.

The first night was mostly clouded out although those who stayed up late were rewarded with the sight of Comet Brorsen-Metcalf rising in a clear sky at about 3am. Many members settled around a bonfire for an excellent "chinwag" and "bull" session while the background was filled by the noises of the Park including the yelping of coyotes, the hoot of an owl and the banging of garbage box lids as yet another raccoon discovers that the heavy covers are not raccoon proof after all. Several times during the evening, groups of deer would wander out of the woods a few metres from our fire and feed on some wild apple trees.

Saturday dawned clear and while the late sleepers enjoyed a few extra hours of sleep, others toured the beautiful Park. Around noon, we all gathered for a corn boil and after a most satisfying feed, we began setting up telescopes for the afternoon display. Soon the hill was adorned with a whole variety of instruments. The telescopes ranged from the trusty 60mm refractors up to Bill Thurlow's 17.5-inch monster "Big Red". The usual half dozen Schmidt Cassegrains, four 6-inch refractors, two 10-inch Odysseys, two 10-inch equatorially-mounted instruments, a recently-completed 10-inch f/6 Dobsonian, a beautifully finished 13-inch Dobsonian and various other instruments completed the line up. Clouds slowly accumulated during the day and when we arrived at the meeting hall for the public talks, the sky did not look good.

The talks included: Dr. Francois Giuroud of the University of Moncton speaking in French on Saturn; Pat Kelly discussing the planets visible that evening; Mary Lou Whitehorne describing the sun and solar observing; and Doug Pitcairn speaking on “The Things Astronomers Look At”.

After the talks a group travelled up to the high Chignecto Campsite where, despite clouds, several hundred people looked at various deep sky objects as well as the planet Saturn during the public observing session. This dedication of one evening to public sessions is quite unusual among star parties. Most star parties are closed to the public, and many people pointed out that it was a rarity to see such an effort being made. I get rewarded every time I hear exclamations of delight from some youngster seeing Saturn’s rings for the first time.

Later that evening we all retired to the privacy of the Group campsite and once again the campfire listened to the astronomer’s equivalents to the tall fish story such as “The meteor that no one else saw”. Later that evening the sky cleared up completely and those people who were still awake feasted until dawn.

On Sunday, everybody was on their own. Some participants had to leave but most stayed and explored the park. Sunday night was an excellent observing night and one of the best dark skies I have ever seen. The minimum visual magnitude hovered around 6.5 and nine or ten of the Pleiades stars sparkled high in the eastern sky. Greg Pelman from Maine treated viewers to a view of Epsilon Lyrae’s two pairs of stars through his 6-inch refractor. The view of the Veil Nebula through a beautifully-built 13-inch Dobsonian with a 24mm Widefield eyepiece and a Lumicon UHC filter drew such a chorus of “oohs and ahhs” that a long line rapidly formed. Those UHC filters make a spectacular improvement on diffuse objects such as the Veil Nebula. We had to pry people away from that eyepiece with shovels! Then there was the view of the globular star cluster M13 at 300 times magnification in Bill Thurlow’s 17.5-inch telescope. I think everybody who was there will never forget that view. I certainly will not.

I invite all members from across the country to next year’s Nova East. The event is usually held on the weekend closest to the last new moon before the September Labour Day holiday. The skies are dark and the sites are beautiful. This is a chance to combine a down east vacation and a star party. What a combination!

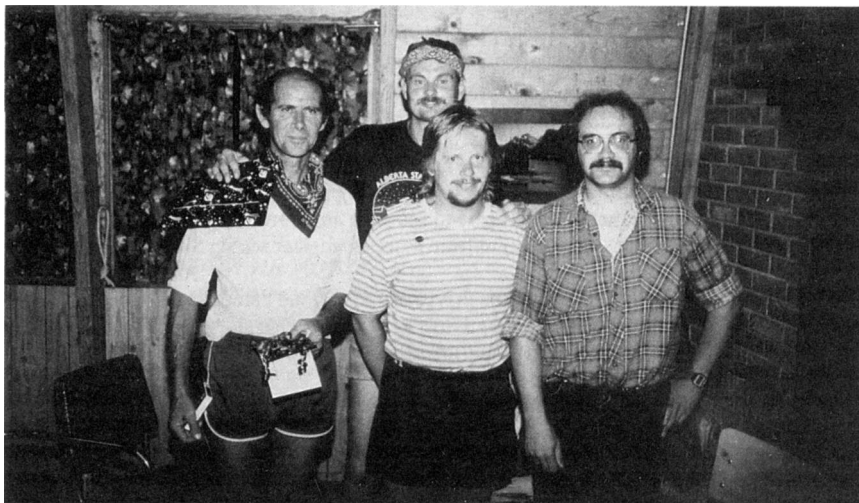
“Rocky Mountain High” Alberta Star Party 1989

**by Rick Ponomar and Barry M. Olson
Lethbridge Astronomical Society**

The 1989 Alberta Star Party was indeed a “Rocky Mountain High” for those amateur astronomers that were able to attend. With three days of superb companionship, good laughs, food for thought, and most importantly, exceptionally clear nights, those who took in the event would agree that they had been part of an unique astronomical experience.

The Star Party was hosted by the Lethbridge Astronomical Society and was held August 10–13. The events were held at the privately owned Waterton Homestead Campground located 110 km south-west of Lethbridge. The splendour of the Rocky Mountains and the close proximity of Waterton Lakes National Park to the Star Party site made this location an ideal place to hold such an event. It was difficult to believe, however, that we were only a stones throw away from the prairie landscape of southern Alberta.

About 135 people attended the Star Party. This number included 57 registrants along with their families and friends. The furthest travelled visitors were a family from Florida, David



Astrophoto contest winners from the 1989 Alberta Star Party. From left to right, Paul Jones, Rick Ponomar, Dwight Jones and John Merttle. Photo by Barry Olson.

and Brenda Blanchett and their son Lyle. Other long-distance visitors were Dr. William Glenn and his wife Florence from the Bronx, New York and Mr. Roland Grey and his wife Elizabeth from Great Falls, Montana. Attendance was much lower than the previous two Alberta Star Parties, which resulted in a financial loss to the LAS. However, our group greatly appreciated the enthusiastic and positive response of all those who attended.

The Star Party began Thursday, August 10 with an evening reception which included a welcoming address from Ted Marietta, Chairperson of the star party organizing committee, followed by snacks and refreshments. With the conclusion of the reception, people eagerly made their way to the dark site observing area located on top of a small, nearby hill. The sky yielded stars of 7th magnitude to the naked eye and throughout the night we were treated to a great many meteors. The latter whetted our appetite for the Perseid meteor shower due the next evening. Many people were thrilled to have an opportunity to observe through several telescopes, ranging in size from a 20-inch Cassegrain to 8-inch Schmidt-Cassegrains. Those that took advantage of the superb conditions were treated to outstanding views of the Helix Nebula (NGC 7293), Comet Brorsen-Metcalf, and of course, Saturn and Jupiter. The transparency of the sky was impressive and it was possible to easily see the North America Nebula (NGC 7000) naked eye! Before we knew it 5 am had rolled around and we all hoped the conditions would be the same for the next night's observing session.

The daylight hours of the following day, August 11, were left for people to take advantage of the Waterton Park area and its many hiking trails and scenic sights. However, a few people needed the day to recover from the previous night of observing.

Our first guest speaker, Alan Dyer of the Edmonton Space Sciences Centre, gave his presentation in the early evening of August 11. Alan gave a very interesting, informative and lively presentation about mass produced Schmidt-Cassegrain telescopes. A written version of Alan's presentation appeared in the October issue of *Astronomy*.

Prior to Alan's presentation, Dr. William Glenn gave a brief and interesting slide show about his visit to Stellafane in Vermont and his trip to the Lowell Observatory in Arizona, both of which he had visited this year.

Following the presentations, we gathered under another perfectly clear night sky. The maximum of the Perseids was predicted for early Saturday morning August 12 and was certainly worth waiting for! Brenda Branchett counted 224 Perseids and 21 sporadics between midnight and 3 am and 101 Perseids and 4 sporadics between 2 and 3 am. Brenda said later that this was the best shower she had ever observed and everyone who attended certainly agreed! Brenda also reported seeing eight fireballs. As with the previous night, people had a chance to observe through the larger telescopes at a variety of objects. Morning seemed to come all too quickly again, but it was a happy and satisfied group of astronomers that finally conceded to the onset of dawn.

Saturday proved to be our busiest day. During the morning and early afternoon a swap table was set up and by mid-afternoon, preparations for an outdoor Bar-B-Que of steak, baked potatoes, coleslaw and corn-on-the-cob were underway. Everyone seemed to have enjoyed themselves and appreciated the break from their own camp food.

After dinner we gathered to hear a presentation given by well-known Canadian amateur astronomer and author Terence Dickinson. In Terry's opening remarks he said that amateur astronomers are a select few who appreciate the universe as an extra thing we carry around. He then told the tale of woe about this year's Texas Star Party which was clouded out. A section followed on simple astrophotography and was highlighted by many beautiful slides. The plans for the upcoming Voyager 2 flyby of Neptune were discussed in conclusion.

Alan Dyer then announced the winners of the astrophoto contest which he and Simon Hum of Quasar Optics (Calgary) had judged. In the piggyback-tripod category, Dwight Jones of Lethbridge won first prize with a 135mm shot of Auriga and the open clusters M36, M37 and M38. Second prize went to Rick Ponomar, also of Lethbridge, for a 28mm shot of noctilucent clouds. In the prime focus planetary category, Paul Jones of Lethbridge won first prize with a stunning photograph of Mars. Second prize went to John Merttle of Calgary for a beautiful photograph of an open cluster (NGC6939) and a spiral galaxy (NGC 6946) both in the same frame. First and second prizes were \$100 and \$50 gift certificates respectively. The main door prize, a Meade model 6600 six-inch reflector, was won by Bryce Heartwell of Calgary.

Heavy cloud cover prevented Saturday night observing. However, we had the feeling everyone welcomed the change. After two and a half days of fine weather, enjoyable companionship, long and clear nights and excellent guest speakers, everyone looked forward to a good night's sleep.

Sunday morning brought to a close the Third Annual Alberta Star Party. The 1989 event was a success and an experience that will not be forgotten by all who gathered near Waterton to enjoy astronomy.

Observer's Cage

by David H. Levy

Music of the Spheres

What do you listen to when you observe?

An activity that takes place mostly on cold nights often needs something other than the cold beauty of starlight to keep us awake. At first I thought that the answer was simple. Astronomers are so sophisticated that they would invariably listen to the classical tones of Bach and Beethoven and in fact, an early proposal for the Voyager spacecraft record was, according to Carl Sagan's *Murmurs of Earth: The Voyager Interstellar Record*, simply to reproduce the complete works of J.S. Bach. Actually, Bach often gets to sleep at night for

during my observing sessions at the Kitt Peak Observatory in Arizona, the sounds that waft over the mountaintop are more often, believe it or not, country and western!

It may be assumed that a comet discovered from the United States on a Saturday evening came to Earth listening to "A Prairie Home Companion," Garrison Keelor's extremely popular Lake Wobegon show on the National Public Radio. On other nights, astronomers might listen to a wide variety of musical concepts. Jazz is enjoyable, but like classical, it may be too complex for simple background music unless the observing does not require very much concentration.

One observing team enjoys circus music which they claim is excellent for helping to stay awake! I tried that one night, but stopped when the telescope started swinging to and fro in ever widening circles. Another group consisting mostly of graduate students, listens to loud contemporary music. (The far ultraviolet lines on their spectra still have not been explained.)

For long periods of comet hunting I enjoy most of the songs I liked when I was just starting that activity in the 1960's. Little can match the sensitive lyrics of Joan Baez whose voice has an ethereal quality appropriate to a dark and lonely night of comet hunting. Whatever the choice, music adds a special dimension to observing. Already an intensely personal experience observing gives an observer a good feeling when they "send a favourite album to the stars."

Across the R.A.S.C.

NIAGARA: It was a very active summer for the members of the Centre reports *Whirlpool* Editor, Greg Saxon. The astronomical events of the past season, such as the Saturn occultation, the Syracuse Summer Seminar, the lunar eclipse, and Starfest '89 were well attended by members. Centre Public Relations person Randy Taylor has accumulated a lengthy list of accomplishments to his credit, namely getting local radio stations to publicize Summer Public Star Nights and August's Lunar Eclipse Watch, distributing the Centre's information pamphlets, and also assisting in writing a recent article on meteor showers for *What's Up Niagara* magazine. Good work, Randy! For the second year in a row, 25 hardy members and friends of the Centre occupied and set up their telescopes on the summit of McVean Hill at Starfest '89. A fund-raising Garbage Sale was held in early September. Niagara members again assisted Brock University's Dr. John Black by supplying their telescopes and displaying the marvels of the sky to his astronomy students in late September. On November 4, the Centre hosted the NFCAA Fall Banquet at the Queenston Heights Restaurant. The guest speaker was RASC National President Dr. Lloyd Higgs. The Niagara *Whirlpool* also has a new format.

KITCHENER-WATERLOO: On June 24, the Centre held its annual picnic at Ayr. Work was also done on the Centre's observatory at this time although poor skies discouraged evening observing reports Centre Secretary Jonathan Doupe. Ray Koenig has appeared twice this summer on local television station CKCO, first on a news segment about the lunar eclipse and then in an interview about the Voyager 2 Neptune encounter.

WINDSOR: Dan Taylor, vice-president and librarian for the Centre has announced his plans for constructing a 50cm (20-inch) f/5 Newtonian reflector. The tube assembly will be placed in a Dobsonian mount. Dan says the primary reason he is building the telescope is to observe fainter variable stars at their minimum magnitudes. The project is planned to be done before year's end reports Centre Secretary Joady Ulrich.

TORONTO: The sixth annual Toronto Centre Awards Banquet was held this year on Sunday, November 19, 1989 at the famous Old Mill Restaurant in Etobicoke. Guest speaker was Professor Derek York of the Department of Physics, University of Toronto and Science Columnist for the *Globe and Mail* newspaper. The Centre also two joint meetings with the Royal Canadian Institute this fall. Featured speakers were Professor Hubert Reeves on October 22 and Professor Marshall McCall on November 5. The 60th and final show of *Astronomy Toronto* was broadcast live for one hour across Ontario on the evening of the August lunar eclipse. Host Randy Attwood and guests Ralph Chou, Michael Watson and Ian McGregor were supported by a full production crew from Rogers Cable TV. *Astronomy Toronto* has been one of the most slick and professionally done programs seen on cable TV in southern Ontario for many years and special congratulations must go to Randy for his work. The Centre was also turned down by Canada Post on its appeal of a decision to not grant Second Class Mailing status for its newsletter *Scope*. Mary Anne Harrington and Paul Fjeld have very actively pursued this issue with Canada Post as it would save an enormous amount of money in postage. A second appeal is underway.

VICTORIA: *Skynews* reports that about 15,000 people witnessed the Voyager flyby of Neptune from the Royal British Columbia Museum. Centre President Gene Steeves and member Rick McRae watched the satellite transmission each morning during the week of August 21 in the Museum's Auditorium and moved outside in the afternoon equipped with two solar filtered C-8 telescopes to show sunspots and solar prominences. Nightly star parties held at the Beacon Hill Park lookout which were attended by about 300 people.

MONTREAL: The annual Townsend Lecture featured a special format this year. Jean-Pierre Leduc of the National Research Council presented a talk on "Canada and the Space Station". It was a joint meeting held at the Dow Planetarium with the RASC Montreal Centre and Les Astronomes Amateurs de Quebec. The talk was given in French and English and showed two sets of slides at once, one captioned in English and the other in French. The weather cleared in Montreal at the last minute for the August lunar eclipse. Jimmy Letourneau was mentioned in a large article appearing in the *Montreal Gazette* on the eclipse. Mario Caluori has proposed the Montreal Centre set up its own "picture of the universe" based on members's observations and has called for input from members. Louie Bernstein and Khurram Syed are now editing regular columns for *Skyward*.

KINGSTON: Denise Sabatini has set up an "Aurora Hot Line" for the Centre to take advantage of the anticipated increase in aurora activity over coming months.

HALIFAX: Congratulatio to Randall Brooks who has graduated from the University of Leicester with a Ph.D. in the History of Astronomy. Patrick Kelly continues to put out a very informative newsletter with material on many different topics. Keep up the good work, Patrick!

VICTORIA: The *Gazette* newspaper featured a picture of Jack Newton and his new 25-inch telescope described as the "largest hobby astrophotographic telescope in Canada". Chris Spratt featured a "Fireball Report Form" in the October *Skynews* which is useful for recording observations of fireballs.

OTTAWA: Doug George worked with Leo Enright of the Kingston Centre to get the discoverer of Pluto, Clyde Tombaugh, to speak in Ottawa on October 19. Ottawa member Richard Butt won the national RASC Poster Design competirion with his design of the

Whirlpool Galaxy. Copies of the poster will be printed and distributed to all RASC Centres. The Centre's instrument loan library has been named in memory of Ted Bean, an avid telescope maker.

EDMONTON: The centre's new 17.5-inch telescope won a Merit Award at the annual Riverside Conference last May (see article in this *Newsletter*). On a sadder note members of the Society across Canada will mourn the passing of Audrey Loehde (1940–1989), a very special person who has served the Edmonton Centre, the National Society and the astronomical community in many ways over the years.

Across the R.A.S.C. is a regular feature of the *Newsletter*. Specific contributions are requested from Centres to ensure your news is printed. Deadline for the April issue is February 1.

Life Membership Certificate Available

Life Members of the Society may now receive a certificate suitable for framing courtesy of the Halifax Centre. National Council gave approval at its September Council meeting for the issuance of these certificates to any Life Member who applies to the Halifax Centre. In the future all new Life Members will be automatically issued a copy along with their life membership card. Current Life Members wishing to receive a copy of this certificate are required to send a copy of their life membership card and to indicate whether they would like their certificate in French or English. Requests for a certificate must be received by March 31, 1990 and should be sent to: RASC Halifax Centre, c/o 1747 Summer Street, Halifax, Nova Scotia B3H 3A6.

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

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

In 1990, we must elect a President, two Vice-Presidents, and a National Secretary. If any member wishes to make suggestions for nominations, they should contact the Chairman of the Nominating Committee, Mrs. Mary Grey, as soon as possible. Write to Mrs. Mary Grey c/o National Museum of Science and Technology, P.O. Box 9724, Ottawa, Ontario K1G 5A3.

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

As the Society's Annual Meeting will be held in Ottawa, Ontario in July 1990, nominations, together with a short resume should be submitted no later than April 15, 1990 to allow for printing and mailing of ballots to be completed as required. Full details pertaining to nominations are outlined in By-Law Number One Article 6 Section 6.05 as published in the Journal, April 1989.

Note: The Call for Nominations which appeared in the October 1989 *Newsletter/Bulletin* was incomplete and did not include the positions of President, First Vice President, and Second Vice-President, the terms for which expire at the Annual Meeting.

Toronto Centre Eclipse Expeditions

by Ralph Chou and Jennifer Owen
Toronto Centre

July 22, 1990 – Finland

Expedition members will be experiencing the eclipse from Joensuu, Finland at dawn just before 5am local time. Totality will last 1.5 minutes and the sun will be 4.5 degrees above the horizon at mid-eclipse. The trip will leave Toronto on Sunday, July 15 and arrive in Helsinki Monday morning. On Tuesday, July 17 the group will visit the URSA Astronomical Society's facilities and tour the Helsinki Observatory. A city tour will be conducted on Wednesday morning, and in the afternoon the group will depart on a two-night cruise to Stockholm. Thursday will be a day of sightseeing in Stockholm with arrival back in Helsinki Friday morning. On Friday, the group will fly to Joensuu. On Monday, July 23 the tour returns to Helsinki.

July 11, 1991 – Baja, Mexico

Planning is underway for this expedition. No details were available at press time.

For more information and details, please write to the following address: Solar Eclipse Expeditions, RASC Toronto Centre, c/o McLaughlin Planetarium, 100 Queens Park, Toronto, Ontario M5S 2C6. You can also call Ralph Chou at (416) 567-8694 (evenings), Jennifer Owen (416) 922-9275 (evenings) or Europa Travel (416) 465-7489 (days).

Due\$ Due

This is a last reminder that if you have not yet renewed your membership for the 1990 membership year which started last October 1, you may miss receiving some of the 1990 publications and your name will soon no longer be on the Society's mailing list. The national fees are as follows:

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

Renewing members should note that there have been some changes in the classes of membership with the approval of the new By-Law Number One at the Annual Meeting on July 21, 1989. Members should refer to the April 1989 issue of the RASC Journal where the new By-Law has been printed. Article 3 Section 3.02 describes the classes of members.

For all foreign members outside Canada, these fees are quoted in U.S. funds. Several Centres also have surcharges in addition to the national fees. Check with your Centre to get the correct fee. Centre members should send their renewals to their Centre Treasurer. Unattached members send their renewals to the National Office. Late renewals cause extra work for the members responsible for handling the processing of memberships. Please help them by renewing promptly.

Members who have not renewed by December 31, 1989 cease to be a member of the Society on January 1, 1990.

If you haven't renewed yet, what's holding you back?

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Compiled by Harlan Creighton

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The 1990 General Assembly

by Rob McCallum
Ottawa Centre

Those members who wish to get an early start on planning their 1990 summer vacations should keep in mind the 1990 RASC General Assembly which will be held at Carleton University, Ottawa, over the July 1 long weekend. We hope to host an assembly worthy of the Society's centenary, and encourage all members to attend.

Activities will commence on Friday, June 29 with the National Council meeting in the afternoon and a variety of social activities in the evening. The final official event will be the banquet held on the evening of Monday, July 2. Those who are able to stay an extra day may wish to take a tour of the Ottawa River Solar Observatory on Tuesday, July 3.

Now is the time to start thinking about preparing a display or presenting a paper. There will also be an opportunity to present slides in an informal setting on the Friday night – let's see not only your worst but also your best!

More information including registration information, will appear in the February *Newsletter/Bulletin*.