



R E G U L U S

THE NEWSLETTER OF THE

ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE

JULY, AUGUST, 1986

THE 1986 GENERAL ASSEMBLY IN WINNIPEG

On the Canada Day weekend this year, an astronomical "gathering of the clans" took place in Winnipeg. It was a very memorable General Assembly of the R.A.S.C. with astronomers from all parts of the country participating in an enjoyable four days of activities in the Manitoba capital. As in the past, both amateurs and professionals renewed acquaintances and shared in the meetings, lectures, tours, and other activities.

All of the events, most of which were held at the University of Manitoba, were well-organized and smoothly run - evidence of careful planning by the organizing committee under Stan Runge and a large team of dedicated volunteers. On Thursday evening events began for those who arrived early with a talk by Dr. Barry Madore of the University of Toronto who presented a paper on the Space Telescope. It was interesting to hear from someone who will be involved in a project that will have priority on this fabulous instrument of the future, namely a project to better determine the distance scale of the universe. On Friday an important meeting of the National Council took place and that evening after the wine-and-cheese reception, there were two hilarious events, the traditional song contest and the Murphy's Law Slide Contest. The song entered by the host centre was a definite winner, thanks to the talents of Chris Rutkowski and his fellow musicians. Among the slides there were a good many entries that showed all of the horrible things that can go wrong whenever a camera is turned to the night sky; roars of laughter greeted some of the absolutely bizarre results that have been obtained. (In fact, there is a rumour that the M.L.S.C. is going to become an annual tradition at our G.A.'s) A planned observing session at the Glenlea Observatory, south of Winnipeg, turned out better than could ever have been anticipated; there were views of several celestial objects in the 14-inch telescope, but the Auroral display was the **highlight** of the occasion with everyone leaving the dome to marvel at the arcs and ribbons of light in the sky. It could not have been more timely and everyone thanked our Winnipeg hosts for ordering it to arrive at such an opportune moment!

Saturday morning was given over to the first paper session. Stephen Edberg's retrospective look at Halley's Comet was both serious and whimsical, a delightful reminder of the many kinds of things that have been happening over the past year and have made it a time that will long be remembered. Hein VanAsperen, from our Centre, presented a fascinating talk on determining the "Astronomical Position Line" and one of the highlights was a talk on "Herschel Activity in Japan" given by Osao Shigehisa who had travelled across the Pacific to be there for the occasion. A tour of Winnipeg Museum's Science Centre followed, a 'hands-on' experience with science, and there was a special presentation in the planetarium. After the indoor activity of the day, the evening cruise of Red River, under the golden rays of the sinking sun and amid the cooling prairie zephyrs, was delightfully refreshing.

The paper session on Sunday included the invited talk by our vice-president, David Levy, who spoke on "Observing In The Shadow Of Kitt Peak", a remarkably fine presentation of what observing the skies has meant to him over the many years he has been a dedicated amateur astronomer. The finale to the papers session was a superb slide show by Michael Watson about his journey to Central Australia to photograph Halley's Comet - a presentation that he was asked to repeat that evening after the Banquet.

Following the Annual Meeting of the Society and the second National Council Meeting, the Banquet was held, a combined Society function and the Seventy-fifth Anniversary Dinner for the Winnipeg Centre. After the meal, the awards were given for the excellent entries in the Display Competition. A Service Award was presented to Randall Brooks of the Halifax Centre. Your editor confesses to being as genuinely surprised as he has

ever been in his life when he was called up to receive the Service Award also. (His sincere thanks go out to those who made the nomination and managed to keep it such a guarded secret for at least six months.) The talk by the outgoing President of the Society, Dr. Bishop, was entitled "What We Bring We Find" and it dealt with four important facets of human visual perception which influence the ways we make astronomical observations, a very informative presentation on what is a little known and rarely discussed topic.

On Monday, many of the astronomers joined an organized tour of two facilities east of Winnipeg, namely the Pinawa Nuclear Station, an Atomic Energy of Canada Research Laboratory, and later the gigantic Seven Sisters Hydro-electric Generating Station on the Winnipeg River. The facilities provided a contrast in the technologies of two distinct eras, one that is currently and successfully supplying vast amounts of energy and another that may be a source for even much greater amounts of energy in the future.

From the five members of the Kingston Centre who attended the 1986 General Assembly, and indeed from all who attended, all the way from Halifax to Japan and from Eureka to Pasadena, there should go a hearty vote of thanks to Guy Westcott, Stan Runge, Lorence Mlodzinski, Chris Rutkowski and all the members of the G.A. Organizing Committee. "It was indeed successful and we will long remember it as a pleasant, interesting, and lively event."

A GREAT SUMMER SEMINAR IN SYRACUSE

On the weekend of July 12-13, I attended a most pleasant gathering of astronomers near Syracuse, New York. It was the sixteenth edition of the Syracuse Summer Seminar, a gathering of U.S. and Canadian astronomers, largely members of the Niagara Frontier Council of Amateur Astronomical Associations, held south of Syracuse on a high hill with two observatories and 'great skies' (if it doesn't rain). The sponsoring group, the Syracuse Astronomical Society, provided superb hospitality. There was free camping on the hill; water and bathroom facilities were provided; a large tent had been erected for the paper session and the banquet; the food was abundant and delicious, always a prime consideration for hungry astronomers.

It was a wonderfully relaxed occasion to meet other astronomers and renew acquaintances. There were some very good presentations made during the papers sessions, one notable talk by a gentleman who discussed how he had built his Dobsonian telescope, explaining the project with obvious delight and humour, a reflection of the joy he takes in his involvement in amateur astronomy. The photography contest was another feature of this seminar and presented the opportunity for participants to take along some of their photographs or projects and have them judged and compared with those of their colleagues.

The featured guest speaker for the occasion was Dr. Rex Rivolo of the Space Telescope Institute, a man who for about five years has been involved with the Space Telescope project, and who gave us a magnificent talk on this giant project. His presentation was very thorough, unbiased, and obviously from a dedicated authority on the subject.

Another feature of this gathering was the observing contest. Even though the weather was less than cooperative, the contest was still set up so that it could be conducted under cloudy skies, another one of the many indications of thorough planning by the Organizing Committee of the Syracuse Astronomical Society. I can only offer my heartiest thanks, especially to Denise Sabatini, chairman of the committee, and to Sue Rugelis, Walker Baker, Karl Shultz, and the many others who helped to make it an enjoyable and memorable weekend.

KINGSTON CENTRE'S TELESCOPE GOES DOBSONIAN

by Larry Manuel

[**EDITOR'S NOTE:** I am pleased to have received the following article from Larry Manuel, who in recent months has contributed so much to our group by seeing that our Centre's telescope finally has received a Dobsonian mount and can be used so much more than formerly was possible. **Thank you,** Larry, and thanks, too, for this article!]

The Centre's 10" f/5.5 Newtonian telescope was languishing in disuse, because of a

wobbly equatorial mount! Mark Sorensen who had been storing the 'scope for a couple of years had resorted to using the 10" hand-held (!) in order to view the odd Messier object. There appeared to me to be a clear need for the Dobsonian technology to be applied there.

The idea came to me to build a mount of donated and scrounged materials. I had some Teflon left over from my 6" Dobsonian. My employer, Thomas Wroe, donated a large number of 3/4" mahogany plywood scraps and a piece of thick wall 6" aluminum pipe that was used in the altitude bearing. The pipe was originally part of the mast of the sailing vessel, "Isa Rana", owned by Peter Draayr and was left over after a repair. I machined the pipe on the lathe of Stefan Nybom at his welding shop in Odessa, Ontario. The formica, in the form of a counter-top off-cut, for the azimuth bearing was donated by John Agazzi Woodworking of Kingston. John Agazzi died suddenly of a heart attack in mid-April. I hadn't told him how successful the mount was before he died. Mark Sorensen donated approximately 2 kg. of home-cast lead used to balance the 'scope. Incidentals needed to finish the project were paid for from the Centre's funds.

"First light" for the new mounting was just before the Centre's meeting on April 11, 1986, and it worked beautifully. Later that evening Vega was observed. Leo Enright, Mark Sorensen, and I pronounced this "official first light" in memory of Leslie Peltier, for whom Vega always supplied his telescopes' "first light". Leo pointed out that David Levy, who did much of the original work on the Centre's scope would be proud to know we continued Leslie Peltier's tradition.

The first real workout for the A. Vibert Douglas Telescope was during the Public Observing Session at Old Fort Henry the night of Astronomy Day. Leo Enright showed dozens of visitors Comet Halley through, at times, almost impossible cloud cover. The 10" performed wonderfully.

As a post-script, I would like to inform our readers of a handy source of Teflon sheet for Dobsonian telescope construction. At your local sporting goods store, ask for a curling shoe "slider kit" which costs under \$10. This contains enough Teflon to build at least five 10" telescopes and a tube of contact cement. The Teflon has some other sort of plastic bonded to the back so that the contact cement will adhere. Otherwise, no known adhesive will stick to Teflon.

CORRESPONDENCE FROM OUR OBSERVER IN MARYLAND

[EDITOR'S NOTE: All of our regular readers know that the words "our observer in Maryland" refer to Mr. Gas Johnson, one of the best amateur observers anywhere, and probably recall that his correspondence has repeatedly amazed us because it is so thorough in reporting his observations and discoveries. Once again I am pleased to print part of Mr. Johnson's recent letter, which I received along with four more of his observing cards, a newsletter of the Pittsburg club to which he belongs, and a copy of his recent essay on objects to be observed in the constellation, Scorpius. We send our congratulations to him also for his June third sighting of Halley - the latest reported sighting from anyone in our Centre.]

XXXXXXXXXXXX,
Swanton, MD.
July 7, 1986.

Dear Mr. Enright,

Hopefully summer can be as productive for observation as this spring. A prolonged dry spell brought several dry nights when my 8-inch could easily get below magnitude 14, making me wonder if chart magnitudes are really accurate. 14.7 was glimpsed. Yet one chart from the University of Texas confirms AAVSO magnitudes or puts them slightly fainter! At times a much-too-faint star would suddenly be visible. I have seen a good many such over the years and have been reminded of the Gamma Ray Bursters and wondered if there could be any similarity. I came up with a different hypothesis and sent it to AAVSO headquarters suggesting that, in certain types of seeing, air cells might act like a lens and cause a very dim star to suddenly flash. In one case it was a brightening in the arm of a spiral galaxy that on a 200-inch photo looked of about magnitude 16 to 16 1/2; yet, I glimpsed something there more than once. Should a supernova alert be made? If "seeing cell lenses" sound a bit fantastic, so too are gravitational lenses, which are being taken seriously nowadays.

How I'd love to observe with such an instrument as the Questar 12, referred to in the National Newsletter of February, or a Questar 7 after having read Questar ads of such glowing results with just a 3 1/2-inch. While my 6-inch and 8-inch Newtonians can give fine resolution, the usual local poor seeing is so frustrating. To read that someone is getting excellent resolution helps "get me through." The article "Telescopes and Observing" also had interesting points. All too often catadioptrics do not come close to the Questar standard, with some exceptions. A member of the Pittsburg club built his own 8-inch Schmidt-Cassegrain and resolved Gamma AND B-C; at least, I have elongated it, and with less magnification on a rare night. Another observer friend with a C-8 failed to resolve a double that my 4 1/4-inch Newtonian got (with much difficulty). But another friend, Paul Brown, of Goderich, Ontario, has gotten fine resolution from his C-8. The April, 1986 issue of Journal of the ALPO page 159 shows an excellent drawing of Saturn made with an 11-inch Schmidt-Cassegrain at 310X. But even a Schmidt-Cass. that doesn't resolve so well has an advantage I never read about: it offers a lot of portable aperture with no comatic distortions towards the edge of the field that the short-focus Dobsonians have. Coma can be annoying, but many simply get used to it. Some eyepieces add to the coma with their own edge distortions, as I have found. Schmidt-Newtonians are rare and tend to be small, but they could catch on as more learn that low power with considerable aperture is possible without edge distortions. Photos I have seen made with Schmidt-Newtonians seem promising as a good compromise between hard-to-use Schmidt cameras and Dobsonians.

I saw Comet Halley dimly on June 3rd. I have tried to find it since, but find it too low in the all-too-hazy sky, so have failed.

A supernova was discovered in NGC 4302 this spring at Asiago. It was reported at magnitude 14.5. I felt that by the time I had learned of it it would have faded and even at 14.5, I had little chance of seeing it; nevertheless, I sketched the galaxy and its neighbouring galaxy. I sighted what looked like a dim double star at one end and didn't find it all that difficult to see and sketch, too easy to be a 14.5 supernova, but later I learned that one component of the double was the supernova. I could have made other observations! Again I fail to take my own advice, "Never take anything for granted in astronomy." Too late I reobserved and saw a single star at the end of NGC 4302. If you would like to try to observe a very tricky double star "in" a galaxy, try the one "in" M88 southwest of the nucleus. Beware another pair, similarly oriented, wider and of about magnitude 12 - 12 1/2 some ways off to the south of the smaller pair. I am fast losing this part of the sky to the forest west of my site.

Clear skies,
(signed) Gus

TELESCOPE FOR SALE

6-INCH f/9 Dobsonian. Home-made mirror. 28mm Kellner eyepiece. 40mm finder. Asking \$200., but lower offers considered. An excellent first telescope. Will trade for quality long-focus eyepiece, mirror or lens blank(s) or almost any telescope making supplies. Especially wanted: 8-inch Zerodur or fused quartz mirror blank.

Larry Manuel,
9 - 999 XXXXXXXXX,
Kingston, Ontario
XXX XXX
Phone 999-999-9999 anytime

A REMINDER FROM THE TREASURER

Annual fees for R.A.S.C. membership are increasing for 1987. The most dramatic rise will be in the Life Membership fees. Commencing October 1, 1986 Life Memberships will be \$500.00. However, if you choose to become a Life Member, you can still apply NOW at the current rate of \$300.00, BUT you must decide soon. National Office MUST receive your fees ON or BEFORE October 1, 1986. Given the present performance of Canada Post, it is safe to assume that the fees should be mailed to the National Office by the middle of September. That leaves only TWO months! If you should decide to take advantage of this opportunity, send your cheque to me at the centre's address and I will forward it immediately to National Office.

Marty McConnell (treasurer)

REVIEW OF A NEW BOOK ON METEORS

Observe Meteors: The Association of Lunar and Planetary Observers' Meteor Observer's Guide by David H. Levy and Stephen J. Edberg. Pages: 55. 21.5cm. X 28cm. Astronomical League Publication. 1986. Price: \$10.00.

If you are an amateur astronomer and enjoy meteor observing, this is the book for you. In fact, if you are interested in studying or generally reviewing what is known about meteors, then you would surely be interested in the latest of the Astronomical League's observing guides. It is called simply Observe Meteors and was written by two individuals eminently qualified to tutor those who might be interested in observing the streaks of light that flash through the sky any night of the year, but periodically become much more abundant.

David Levy, our Centre's Vice-President, has observed meteors over several decades and from many locations on this continent, dating back to the 1950s when he was a member of the very active and dedicated group of meteor observers in the Montreal Centre of our Society. More recently, he has been made the Recorder of the Meteor Section of the Association of Lunar and Planetary Observers, and is the editor of their newsletter called Tails and Trails.

Stephen Edberg is also known for his observing projects over many years, for his astrophotography, and professionally for his work in solar research. In recent years, much of his attention has been given to Halley's Comet, since he was the Coordinator for Amateur Observations for the International Halley Watch and editor of the Observer's Manual that all serious amateurs used to study the comet. In fact, in the July issue of Astronomy magazine, he was called "Mr. Comet".

The booklet begins with a brief historical note on meteor shower observing, a thorough glossary of the terms associated with meteor studies, and tips on what to record and how properly to prepare and make these observations, which are among the easiest for beginners to do since there is no equipment to purchase or learn to use, and no sophisticated techniques to master. There follows a chapter listing and describing the major meteor showers seen throughout the year. The subsequent chapters explain how to get the most from a meteor observing session by using proper planning and procedures, how to observe in groups of five, ten, and fifteen, how to report the data collected, and also how to photograph meteors. Two of the useful appendices are the ones giving an extensive bibliography and the proper forms to be used in reporting visual, radio, photographed, or telescopic meteors, as well as the fireball report form. A very delightful section is the Appendix called "Shooting Stars and Falling Pebbles: Meteors In The Classroom"; it deals with teaching children about these fascinating objects in the sky and getting them involved in a meteor watch.

There are many sections that will be found useful even by the seasoned observer. The sections on telescopic meteor observations, on re-entering satellites and on the reduction of data gathered by a group of observers, as well as the ones dealing with triangulation and meteor spectroscopy, are among the best examples. Throughout, the wording is clear and the style is straightforward. Occasionally, a bit of dry humour is detectable; in one sentence, about the importance of staying awake during an observing session, it is more than noticeable: "Getting too comfortable, of course, increases the risk of actually falling asleep, and it is the considered opinion of both authors that this will decrease somewhat the total number of meteors you see."

Just as a year ago, I recommended the publication Observe Comets by the same authors (Regulus, May-June, 1985, page 5), so again I suggest that Observe Meteors will be a most useful compendium for all who presently do, or plan to, observe those flashing streaks of light that shoot across the night skies.

FOR YOUR COMPENDIUM OF ESOTERIC FACTS

Did you know that there are "Siamese Twins" among the deep sky objects in the heavens? Indeed this pair of twin galaxies, which has been known by this name for many years, is to be found in the heart of the Virgo Cluster of galaxies. NGC 4567 and NGC 4568, usually are called a double system, appear at twelfth magnitude and are extremely close in a small or medium telescope. However, photographs taken by the largest telescopes in the world show no tidal distortions and so this pair, which to us appears so close, may actually be far apart.

If you wish to observe this fascinating pair the next time you are observing the Virgo Cluster, check their positions on Chart 14 of Tirion's SkyAtlas 2000 (R.A.: 12h 35m; Dec.: 11° 24').

REPORTS AND OTHER ITEMS

1. The month of July has had its share of cloudy and hazy weather to hamper serious observing. However, early June had a number of excellent nights for deep-sky and planetary observing. Your editor was pleased that he was able to enjoy views of all the planets on the nights of June 3-4, 8-9, and 9-10, and amid these planetary marathons, a good number of deep-sky objects could also be glimpsed. In early June, Pluto was followed as it moved among the stars of Virgo in the region of 109 Virginis - a fascinating look at its day-to-day motion. Mercury was seen on eight occasions - a far cry from my best June observations of this innermost planet, which were twice up to thirteen sightings. Everyone who has been observing Mars has remarked on how large and distinct the planet and its features are appearing currently.

Sunspot numbers have remained remarkably low. **Not one single spot** was seen in the twelve observations I made in the month of June. Several small spots did appear, however, in July.

2. The second half of the Kingston-London Centres' Exchange took place on July 18. I thank the London Centre members for their hospitality on an extremely hot and humid day. The title of the talk was "Astrophotographic Results With the New Superfast Fujichrome P1600D Film".

3. I would be pleased to hear if anyone in the Centre managed to see any of the Lyrid Meteors. It is a long time ago, but I have still not received any reports. Let's also record our last sighting date for Halley's Comet and see if anyone comes close to the date (June 3) recorded by Gus Johnson. Of course, this does not mean the complete end of it; there may be morning sightings in larger telescopes in November when it appears on the other side of the sun.

4. Several objects are well worth observing over the next two months: (1) the planets Venus, Mars, Saturn, Uranus, and Neptune are all well placed for easy observing in the summer evenings. Jupiter, too, rises to join the group - a veritable feast of planets in the southern sky. Be sure to study the details on Mars; they are more noticeable than they have been for many years. Uranus and Neptune are not nearly as difficult as many people seem to think, and can be seen and followed in binoculars. Observers of Saturn, even those with small telescopes, may be interested in viewing several of the bright double stars in the region of the ringed planet. (2) Experienced observers who joined our Sky Sector Project of a couple of years ago should perhaps be reminded to continue their plans and try to make a progress report at a meeting before too long. (3) Two important meteor showers should not be neglected. They are the Delta Aquarids which peak on the night of July 28-29 and, of course, the Perseids which reach their maximum on the nights of August 11-12 and 12-13. Perhaps these events will encourage some of our members to buy David's latest book and become serious 'meteor observers'.

5. Here is our calendar of upcoming meeting dates:

July 25	Summer Observing Reports
August 8	Summer Gatherings Reports: Stellafane, etc..
August 22	Doug George: Deep Sky Observing Techniques
September 12	Reports and Fall Plans
September 26	OPEN

6. Your editor would like to hear more from readers of these pages. Please write about your observing or other projects. Our address is:

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Clear skies!
Good summer observing!

