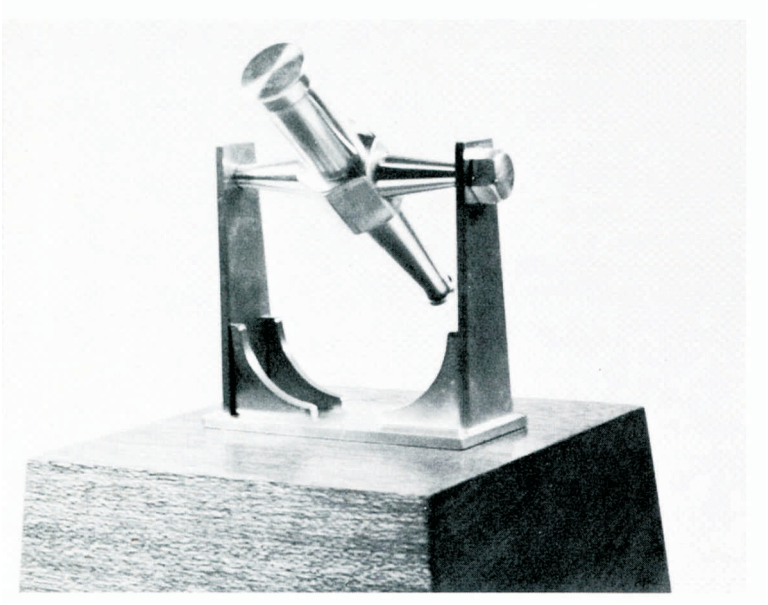
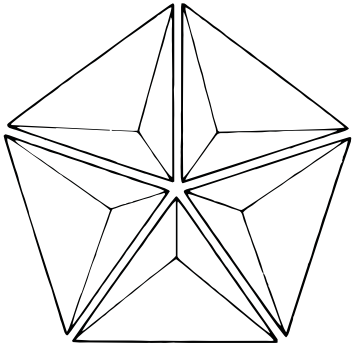
NATIONAL NEWSLETTER

December, 1978

Supplement to the JOURNAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Vol. 72, No. 6





The Simon Newcomb Award

The basic design is by Michael Edwards, and has been crafted by Mike, John MacNeill and Randall Brooks of the Halifax Centre. The award stands 9 inches high and is a replica of a transit telescope — an instrument closely associated with the work of Simon Newcomb. The transit is of polished brass and sits on a mahogany base. The name plate will be of ivory with the names of the recipients engraved on brass plates attached to the sides of the base. There will also be a prize (cash or merchandise) for the recipient although details have not been worked out. Rules for the award were printed in the *NEWSLETTER* of August 1978, page L53.

NATIONAL NEWSLETTER

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Centre and local news items, including Centre newsletters, should be sent to the Regional News Editor. With the above exception, please submit all material and communications to:
Mr. B. Franklyn Shinn,
Box 32 Site 55, RR #1,
Lantzville, B.C.
V0R 2H0

Deadline is six weeks prior to month of issue.

1979 General Assembly

London, Ontario

The London Centre cordially extends as invitation to all membes of the RASC and North American astronomical community to attend the 1979 General Assembly at the University of Western Ontario, London, Ontario, May 18th to May 21st, 1979.

The Mailing Address for all correspondence regarding the GA is:

General Assembly '79
P.O. Box 842, Station B.
London, Ontario.
Canada.
N6A 4Z3

The General Assembly can accommodate over twenty-five 10-minute papers, to be held on two successive mornings, and abstracts of length no more than 150 words should be submitted to the above address before APRIL 1st.

The August 1978 *NEWSLETTER* outlined the rules governing the Observing Competition and all prospective entrants can obtain an entry form and further information by writing to the above address.

Registration form for the Assembly, stating all relevant costs, will be published in the February *NEWSLETTER*, and travel information and receipt will be mailed to you upon receiving that form with the appropriate moneys. If for some unforeseen reason delay in delivery of the NNL should occur, you can receive a copy of the registration form by writing to the above address after January 31, 1979, or by telephone from Mr. Peter Jedicke, (519) 433-2992.

Reasonably priced accommodation will be available from the University of Western Ontario residence, and all arrangements will be made upon receipt of your registration form. Registration commences Friday, May 18th, at noon, in the residence of the University of Western Ontario main campus. All meetings and paper sessions will be held on campus, and National Council committee chairmen who wish to hold meetings at the Assembly should contact the London Centre. A detailed program of events will be published in the February *NEWSLETTER* with times and locations of all events.

For early arrivals, astronomical films, and a tour of local historical points of interest will take place concurrently with the National Council meeting Friday afternoon.

Our welcoming Social Evening includes a tour of the Hume Cronyn Memorial Observatory, and the M147 Session, an informal gathering where you will have an opportunity to show slides or movies of astronomical activities or Centre functions of the previous year. (These presentations are expected to last no more than twenty minutes and audio-visual equipment will be available.)

On Saturday the first Paper Session will be highlighted with a special invited talk by a noted Canadian astronomer. Following the papers, the Group Photo, and an opportunity for delegates to visit the Canada-Wide Science Fair; we will visit the U.W.O. Elginfield Observatory 122 cm reflector. An outdoor dinner wil be provided at a park north of London, with the Fourth Annual Pyramid, and observing.

On Sunday, the second paper session will be followed by the Annual Meeting of the Society, and then the National Council Meeting. The Society Dinner, tendered by the Province of Ontario, will feature the Ruth Northcott Lecture by Princeton University physicist, Dr. Gerard K. O'Neill. Dr. O'Neill, author of "*The High Frontier*", will enlighten us about the concepts, philosophies and realities of space colonization.

Monday will be devoted primarily to a six-hour trip to the Bruce Nuclear Power Development, for a special technical lecture and guided tour of the complex.

Remember:

"London is Fine in Seventy-Nine."

Nominations for RASC Officers 1979–1980

The By-Laws of the Society provide for a Nominating Committee composed of the three surviving immediate Past Presidents, whose duty it is to prepare a slate of candidates for the offices of the Society.

Next May, we must elect the following officers specifically: Recorder, Librarian. If any member wishes to make suggestions in this regard, he should contact the Committee Chairman, Dr. A. H. Batten, c/o the National Office of the RASC, 124 Merton Street, Toronto, Ontario M4S 2Z2.

The By-Laws provide that "any five members of the Society, in good standing, may nominate candidates for any office, provided that such nomination, accompanied by a letter of acceptance from the nominee, shall be received by the Secretary of the Society, not less than sixty days before the date for the annual meeting".

It would be appreciated if any such nominations, (together with a short résumé) were submitted no later than *March 1, 1979*, in order for the printing and mailing of ballots to be completed as required.

Full details pertaining to nominations are outlined in By-Law 1, Article 11(a), as published in the June, 1969 *JOURNAL*, pages 155–168.

Report on the Temiskaming Astronomical Society

by Peter R. Ryback
Temiskaming

In our last report (see October 1976 *National Newsletter*) Dalton Farrow and I announced the formation of the Temiskaming Astronomical Society in northeastern Ontario. Since that report the Society has increased in membership to 39, and has become legally incorporated.

Overall, the main activities of the Society remain unchanged. Members are still actively observing meteors, comets and asteroids, and variable stars. Thanks to a Wintario grant, a 25 cm f/6 Cave telescope was purchased, which now serves as the main instrument of the club. The telescope, of course, is equipped with drive correctors and guide scopes for astrophotography. Since the Cave was obtained, last May, the Society's Casey Mountain Observatory has been actively used, both for casual observations, and for some serious projects.

Many of our members are new to astronomy. As a result many of the Society's activities are directed towards familiarizing the members with the sky, and with the telescope.

This summer featured several "star nights" at the observatory. Canada Day was celebrated by an all-weekend gathering featuring camping and observing all night, and informal talks and video tape presentations during the day. The Society had planned to observe the Delta Aquarid and Perseid meteor showers. The July and August regular monthly meetings were also held at the observatory.

For about one year our Society has been communicating with the Bassetlaw Astronomical Society, our sister organization with a similar age and membership to ours, in England. Our newsletters are regularly exchanged, along with some reports of our observations.

As the membership becomes increasingly knowledgeable in astronomy, the Casey Mountain Observatory is being used more and more for longer term projects. One project recently started involves photographing bright variable stars in globular clusters.

The Society is assuming the responsibility for informing the local public on astronomical events through the local press and radio. It is perhaps through these efforts that our membership has become relatively high.

Further information regarding progress or particular approaches to problems and our solutions to them could be obtained by writing to me c/o Temiskaming Astronomical Society, Box 323, Cobalt, Ontario, P0J lC0.

Members of the Temiskaming Astronomical Society waiting for skies to darken for a "star night". In the background: the new Cave 25 cm Newtonian, and the Celestron 8 belonging to Peter Ryback.

Variable Star Observing
Part II

by C. E. Spratt
Victoria Centre

Once an observation of a variable has been made, a careful record of this observation should be kept. This can be done most efficiently with a loose-leafnote-book or a card file system. No matter which storage method is used a separate card or page should be used for each variable under study. For each observation of a variable, one should record the Julian Day number, the time, day of the week, month, year as well as recording those details of the instrument used and the comparison stars as well as any other facts which might be of value such as cloudiness, quality of seeing, moonlight wind, dew etc. If your estimate is doubtful, then record it as such with the appropriate reason.

The Julian Day Calendar forms a convenient scale for plotting observations of and determining periods of variable stars. This dating system was first proposed in 1582 by the Renaissance scholar Joseph Justus Scaliger, following his work on early chronology. The Julian period of 7980 years is the least common multiple of the three cycles frequently used by the Romans – namely the sun cycle, the lunar cycle and the Roman Indiction. The reference date January 1 4713 B.C., corresponds to the last conjunction of these three cycles. Noon, Universal Time using this system, is considered to be the start of the first hour of day. Thus, 7:30 p.m. E.S.T. on January 1, 1978 was Julian Day JD2443510.5.

In the above example you will note the decimal fraction. This is a conversion of time in any standard time zone around the world into tenths of a day. The Astronomical Day for variable star observers begins at noon Greenwich Mean Time, and continues through midnight to noon the next day. If an observation was made between 5:49 p.m. and 8:11 p.m. E.S.T., it would be 0.5 days when referred to Universal Astronomical Time. If Daylight Saving Time is in effect, convert to Standard Time before recording.

Now, following our previous example of observing the variable, Chi Cygni, an observation might be recorded as follows:

194632 Chi Cyg. – JD 2443511.5 – Jan.2, 1978, 7:30 p.m. E.S.T.
Mg. 7.8 (7.5, 8.1), Hazy 6-inch RFT.

Arrange the variables in order of their Harvard designation number (upper left of the chart). If more than one observation of the star is made in the same monthly period, arrange these in chronological order. If two variables have the same right ascension designation, the northernmost one is always listed first.

The Harvard designation is the number relating the position of the star for the epoch 1900 and is usually located in the upper left of the recording chart. For Chi Cygni the designation 194632 indicates that its 1900 coordinates were 19 hours, 46 minutes in R.A. and +32 degrees in Declination. Negative declinations are either underlines or in italicized print.

Now that the various methods used in obtaining visual estimates of variable stars have been covered the next part will cover some of the mistakes that can be made by any variable star observer whether experienced or not.

The most common mistake is misidentification of the variable. This can be done quite easily, especially if there are a large number of stars in the field of view and the magnitude of the variable lies at the limit of the telescope, or if the variable has a very close companion which is brighter than the variable when the variable is approaching or at minimum.

Another mistake and one mentioned previously, is prolonged viewing of red stars. This can result in such stars appearing to be brighter than they actually are. In viewing such a star, this problem can often be pinpointed if the star appears to brighten in a series of jumps over a short period of seconds or minutes. The solution as outlined previously is to use the “quick glance method”. As the name implys, one observes these stars by a series of quick glances instead of through prolonged staring.

Problems can arise if two equally bright stars are observed in the same field of view. The star lying below the centre of the field, will appear to be brighter of the two. This effect can be eliminated, however, by bringing both stars into the centre of the field as soon as possible.

Errors in estimating the magnitude of a variable star can result from the use of improper comparison techniques. Such is the case if one observes the variable using averted vision and the comparison star using direct viewing. This is also the case if the comparison star lies at the edge of the field of view, since this part of the field will likely be slightly out of focus (especially if a R.F.T. is being used).

Bias is another source of error. Do not assume from previous observations that the star will be brightening, fading, or remaining a constant brightness. Large, unexpected irregularities can and do occur in the light curves of long period and irregular variables not to mention the dwarf nova that can brighten or fade within hours.

Atmospheric absorption must also be considered when making estimates. In order to minimize this effect, it is best to choose comparison stars lying at the same altitude as the variable.

And, finally, I might mention a small hint for viewing your charts. Use a flashlight covered with a red shield, so that your eyes will retain their dark-adaptation. However, try to avoid frequest reference to the star charts of the field under study, for, even with a red shield, such a light can destroy the sensitivity of the dark-adapted eye if it is used often enough. Instead, try retaining a mental picture of the star pattern of the field under study. Since the eye has a tendency to form geometric patterns, you will find that, with sufficient practice, this is easily accomplished.

Remember – it is quality of observation not quantity that counts. The quantity will come later with experience.

Perseid Meteor Shower

by Patricia Berezowski
Winnipeg Centre

The Perseid Shower provided excitement and yes, entertainment for those who participated in meteor counts for this event. On Friday, August 11th, Brenda Krosney, Michael Rogers and I, counted 55 meteors over a two-hour period at Glenlea. The “music of the spheres” enhanced the atmosphere all evening, to the extent that Art Butterworth and Dan Wright had to tear themselves away from inside the dome to investigate. The weatherman cooperated by providing the three of us with an electrifying lightning display, which occupied our time while waiting for the meteor shower and later, after two hours of meteor counting, closing the curtains on us with a fantastic display of aurorae.

Pinawa Bay was the site of another meteor count on Saturday, August 12. One “professional amateur”, Roy Belfield, and thirteen “new amateurs” counted 40 meteors per hour. Phyllis Belfield was being straightened out (?) inside the cottage, recuperating from a back injury. I heard she had ear plugs on and two pillows around her head, to avoid hearing the cries and squeals of “Ooh, there’s another one! Wow, was that one ever bright!!”

Glenlea was the scene of a return visit by Michael and Brenda on Saturday, August 12. Also Brian Chappel and his friend arrived to join the count. Together they estimated 32 meteors per hour.

Kenmare, North Dakota was invaded by myself for a meteor count also on that Saturday. While trying to avoid “barbed” comments from interested porcupines, and other passersby, I estimated 32 meteors per hour.

From the reports received, the Perseid Meteor Shower was not disappointing and performed as expected, being fast and approximately 40 per hour.

Nouvelles des Centres Québécois

de Damien Lemay

CENTRE D'ASTRONOMIEDE MONTREAL

La Société d'Astronomie de Montréal est fière de compter encore un de ses membres parmi les gagnants du concours annuel de télescopes à Stellalane, Vernmont, le 6 août dernier. Il s'agit de Claude Picard, assisté de monsieur Henry Coïa. Ces deux experts ont remporté le troisième prix de mécanique avec un télescope 6″ appartenant à Claude. Il est à noter que messieurs Coïa et Picard ont déjà remporté des prix à Stellafane, individuellement, par les années passées.

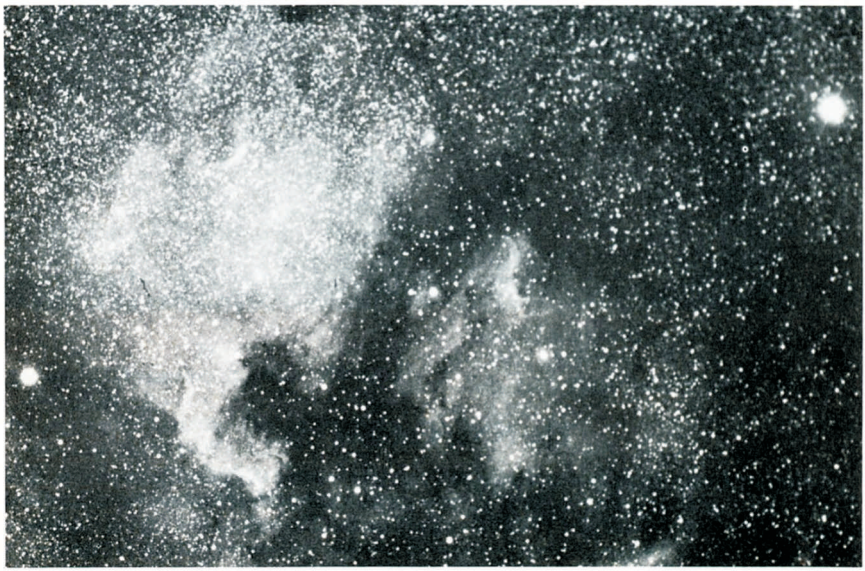
Il a fait beau lors de la soirée populaire du samedi 26 août, au Jardin Botanique. Une assistance estimée entre 800 et 1000 personnes démontre l'importance grandissante de l'astronomie dans le public.

Ceux qui s'intéressent aux "Quasars" devraient lire l'excellent article dans le Quebec Astronomique de septembre, pages 12 et 13.

CENTRE DE QUEBEC

Un de nos membres a découvert, le 13 septembre à 22 heures, la dernière NOVA du Cygne, près de SS du Cygne une étoile variable bien connue. Il s'agit de monsieur Gérard Lafontaine, du 57 rue St-Jean à Neufchâtel. C'est d'ailleurs en observant cette variable qu'il fit sa découverte.

Plus tard, une communication avec madame Janet Mattei, directeur de l'AAVSO, confirmait la découverte qui avait déjà été rapporté quelques jours plus tôt. Nous félicitons tous de même monsieur Lafontaine et lui souhaitons la première place pour la prochaine fois.

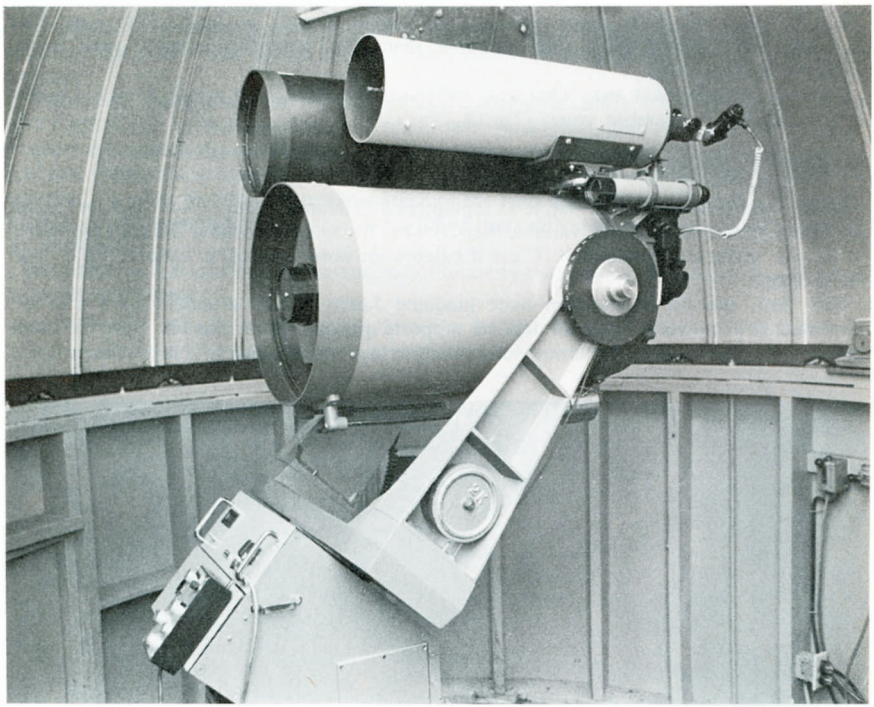


NEBULEUSE AMERIQUE DU NORD

25 juillet 1978, par Louis Carriere avec Caméra Schmidt 8″ Celestron. 30 min + filter Wratten No. 26. Tirage: Ilford multigrade en grade 7.

Nouveaux instruments a l'Observatoire du college de Levis

Dans le NNl d'août 1977, un article décrivant l'Observatoire du Collège de Lévis fut publié. Le remplacement du Célestron 8″ par un Célestron 14″ était alors prévu. C'est maintenant chose faite et même plus, on y a également ajouré une camera SCHMIDT de 8″ (aussi de Célestron'). Sur la photo, on aperçoit au premier plan le Célestron 14″ surmonté de l'ancien télescope guide Cassegrain de 6″ (f/15), et à l'arrière plan, on reconnait la SCHMIDT de 8″ (f/2.25). Ces deux nouvelles acquisitions furent rendues possibles plus particulièrement grâce à la générosité de la station radio CFLS de Lévis et les restaurants A & W de la région.



The NNL Catches Up

As the years went by memories tended to forget where some things had been read or seen. So that the valuable reference material in these pages may be located even after this lapse of time, the *NATIONAL NEWSLETTER* this month includes an index covering the contents of the past nine years. This requirement somewhat restricts the space available for the current news from some of our Centres, and their indulgence is invoked for the achievement of the immediate wider application.

NATIONAL NEWSLETTER

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In the Pages of the JOURNAL

Readers of the *NATIONAL NEWSLETTER* largely belong to those described by our President, Dr. John R. Percy, in the June issue of the *JOURNAL* (Vol. 72, No. 3, P. 166) as "observers with access to small telescopes". They will not want to miss his article on Rotating Variable Stars, especially as a natural sequence to Chris Spratt's discussion of Variable Star Observing.

All members of the Society will find great inspiration in *Whither Leads Urania*, the Presidential address by Dr. A. H. Batten as we heard it at Edmonton. To be part of an organization such as Dr. Batten describes, with his concept of its aims, objectives, and possibilities is a great privilege. It appears in the October *JOURNAL*, but as of date of going to press we can't tell you the page.

A Word of Warning!

With observers across North America preparing for next February's total eclipse of the Sun it is extremely important for all observers to take precautions to protect their eyes from damage. In the October 1978 *NATIONAL NEWSLETTER* our Associate Editor Ralph Chou discussed eye injuries which can result from observing the Sun (see "Eye Injuries and the Solar Eclipse"). It is important to emphasize that the eye exposed to the Sun for AS SHORT AS a second can experience thermal burn and that even during the partial eclipse phases the Sun SHOULD ONLY BE OBSERVED by indirect or projection methods.

Correction to the 1979 *OBSERVER'S HANDBOOK*

The diagram of the path of the total solar eclipse of the Sun on February 26th (page 66) contains an error: the drawings of the appearance and orientation of the partial eclipse at maximum phase are incorrect. Copies of the revised diagram may be obtained from the RASC National Office, 124 Merton Street, Toronto, Ontario M4S 2Z2.

Stellafane 1978

by Cathy Hall
Ottawa/Toronto Centre

The 43rd annual Stellafane convention of amateur telescope makers on Breezy Hill near Springfield, Vermont was a memorable event this year for Canadians. Among the more than 1,200 people in attendance, there were about 70 Canadians from such places as Halifax, Montreal, Ottawa, Oshawa, Toronto, and Kitchener.

Most of our contingent arrived on the afternoon of Friday, August 4th to set up tents and trailers, draw up our "R.A.S.C. – Canada", "OG's Bog", and other signs of identification, and mingle with the other amateurs coming in. I mean where else would you see such license plates as "PLANET", "SIRIUS", "TWINKY", "ORION", and "H-ALPHA"?

Informal tent talks were held on Friday evening on the hill and with the approach of darkness, telescopes were trained to the skies in front of the clubhouse with its roofline inscription "The Heavens Declare the Glory of God". Afterwards, back down in the campground a surprise birthday party was held for the President of the Ottawa Centre—Fred Lossing—complete with cake, suitable refreshments courtesy of Jean Garneau, yells of "blow out those lights!", and about thirty partygoers—including past Toronto Centre President Jack Newton, National Executive Secretary Rosemary Freeman, and *SKY AND TELESCOPE* editor Norman Sperling.

Saturday morning and afternoon featured the main display of telescopes on the hill, a delicious feast of chicken and corn-on-the-cob, and the tent talks chaired by Jack Newton. Talks included "Light Pollution" by Richard Berry, editor of ASTRONOMY magazine and well-known to Toronto members, "Relocating the North Mountain Observatory" by Fred Lossing, Ottawa Centre President and "Zeus" of the Indian River Observatory, "Comet Meier" by Rolf Meier, Ottawa Centre member and discoverer of Comet 1978f, and "Radio Astronomy" by Ottawa member Ken Tapping.

On Saturday evening the famous twilight talks were held with words of welcome from a former governor of Vermont, the "Stellafane Shadowgram" by Walter Scott Houston, and the main talk – "Problicom: At the Threshold of Astronomical Discovery" by Ben Mayer of Los Angeles, California. Mr. Mayer's talk on the many possible astronomical uses of his blink comparator setup could only be described as inspiring. I have not seen such enthusiasm or love of exploration of the unknown in a long time.

The prizes for telescope excellence this year were dominated by Canadians!

– First prize for Newtonian reflecting telescopes went to Pierre Lemay of Hull, Quebec for his 12½-inch pipe mounted telescope.
– First prize for refracting telescopes went to Robert Haughton, Ottawa Centre for his 5-inch rich-field telescope.
– Second prize in the special equipment category went to Ken Tapping for his portable radio dish which will also be going to Brandon, Manitoba for the 1979 eclipse.
– Third prize for Newtonian reflecting telescopes was shared by Claude Picard and Henry Coia of the Montreal Centre d'Astronomie for their 6-inch reflector.

Saturday night, although initially clear, soon clouded over and people and activities shifted back down to the campground where astronomical discussions continued until the early hours of the morning. The masses were serenaded with sparkling renditions of "from the Milky Way in Cygnus to the distant M 13 ..." to the tune of Wabash Cannonball as well as other appropriate songs. (Did you notice that the London General Assembly in May has a special category for best song ... ?). The party finally packed in when Walt Wheeler, President of the Springfield Telescope Makers came around to wish us a hearty goodnight. See all of you in Vermont next year – Clear Skies!