

**SUPPLEMENT TO**

**THE JOURNAL OF THE**

**ROYAL ASTRONOMICAL**

**SOCIETY OF CANADA**



**March 1963**



## REPORT OF THE PRESIDENT

Five years have passed since the custom of the President giving a report was inaugurated. That year, 1957, also marked the beginning of "space science". This has advanced rapidly and in 1962 some fifty spacecraft were boosted aloft to perform a wide variety of experiments. The U.S.S.R. holds the record for manned exploration of space; the "twin" flights of August 12 and 13 which continued for 64 and 48 orbits respectively, with the two astronauts in visual and radio contact throughout, showed remarkable precision. The U.S.A. had three manned flights in the year as well; three orbits on February 20 and on May 24, and six orbits on October 3.

The "Alouette" satellite was launched on September 29 and is of particular interest to Canadians. It contains four experiments, three designed by the Defence Research Telecommunications Establishment and one by the National Research Council of Canada. This is the first space experiment in which the changes in electron density *above* the earth's ionized layer are measured, and the first Canadian experiment to be sent into orbit. The results will supplement the work of Canadian scientists who have studied the ionosphere by other means for many years.

Mariner II is another interesting satellite; launched on August 27 and passing within 21,500 miles of Venus on December 14. The analysis of the data received shows that Venus has no magnetic field, supporting the theory of a slow period of rotation. The temperature at the surface is still in doubt. Other results of this experiment are awaited, as well as valuable information expected from the U.S.S.R. probe now on its way to Mars.

On June 21-22, the Dominion Astrophysical Observatory officially opened the 48-inch reflecting telescope which was named for the late Dr. Andrew McKellar, who was responsible for much of its design. The Coudé spectrograph, housed in a room below the floor of the dome, yields dispersions ranging from 3.2 A./mm. in the violet to 5.5 A./mm. in the red with high accuracy and efficiency.

An historic date for the Society was July 11, 1962, when the first income of the Walter Helm Endowment Fund was turned over to the Director of the David Dunlap Observatory. The money has been budgeted for publications, new equipment and professional activities of the staff and students. The first Walter Helm Scholarships at the University of Toronto have been awarded to Patricia Hamilton (fourth year student) and to Lynn Hallgren and Murray Fletcher (graduate students). Mrs. J. S. Greer, daughter of the late Walter J. Helm, is actively interested in our Society; I had the pleasure of meeting her in Richmond Hill in July and briefly in Vancouver in October.

The highlight of the R.A.S.C. activities in 1962 was the General Assembly in Edmonton, Alberta, May 18-21. We were the recipients there of wonderful western hospitality from the City of Edmonton and the Province of Alberta. For the first time, displays were arranged by the National Co-ordinators in two of the observing disciplines (planetary, comets and novae). Some sixty delegates took advantage of the bus trip planned by the Calgary Centre to visit the Cosmic Ray Observatory on Sulphur Mountain, near Banff.

I have had the pleasure of meeting with members from the following Centres: Winnipeg, Edmonton, Calgary, Halifax, Windsor, Niagara Falls, and Kingston. In western Canada, I also met with groups in Regina and Saskatoon who are interested in astronomy. Visits to other Centres will be made in 1963.

I should like to express my sincere appreciation to all who have given their time and effort to the work of our Society, in particular to the National Secretary and to the Executive Secretary. May I have your co-operation in expanding our programmes in 1963?

  
Ruth J. Northcott  
National President.

## REPORT OF THE NATIONAL SECRETARY

Meetings of the National Council were held on March 2, May 19 and September 28. The Executive Committee met on January 19, April 21, August 16 and November 9. The Annual Meeting was held in Toronto on March 2, with Dr. Peter M. Millman as Chairman.

The membership of the Society at September 30, 1962, was 2,075 (including 117 Life Members) made up as follows:

### CENTRES

Toronto	531	Edmonton	50
Montreal	237	Vancouver	46
Ottawa	114	Windsor	43
Quebec	97	London	43
Victoria	84	Winnipeg	36
Hamilton	81	Niagara Falls	29
C.F. de Montreal	81	Halifax	23
Calgary	55	Kingston	23

### UNATTACHED

United States	323	Foreign	37
Canada	128	Honorary	14

The first General Assembly of the Society ever held in western Canada took place in Edmonton from May 18-20, ending in Calgary on May 21. Dr. Peter M. Millman delivered his address as retiring President on the subject "The Frontiers of Space". The efforts of the local Committee under the chairmanship of Mr. Ian McLennan, President of the Edmonton Centre, made this General Assembly the outstanding event of the year. Dinners tendered by the City of Edmonton and the Province of Alberta, visits to the Queen Elizabeth Planetarium, Meanook Meteor Observatory and Sulphur Mountain Cosmic Ray Observatory were features of this "holiday" weekend.

The Gold Medal of the Society was presented to Mr. John R. Percy, who is continuing his studies in astronomy at the University of Toronto. Service Awards were made to Mr. Jean Asselin (Centre Français de Montréal), Dr. R. J. Clark (Vancouver Centre), Mr. Jesse Ketchum (Toronto Centre), and Dr. J. A. Pearce (Victoria Centre). Honorary Life Membership was bestowed on Mrs. J. S. Greer, a member of the Vancouver Centre and daughter of the late Walter J. Helm. Membership Certificates were awarded to 10 members of the Montreal Centre and 9 members of the Toronto Centre.

The Society made a special award to Mr. Gary Rathwell of Kingston for his exhibit "Backyard Astronomy" entered in the first Canada-Wide Science Fair, held in Ottawa in May. Our National President, Miss Ruth J. Northcott, presented this award at a meeting of the Kingston Centre in November.

The Walter Helm Endowment Fund has been established and is operated by the Trustees of the Society; the first income from this Fund was transferred by cheque to the Director of the David Dunlap Observatory in July (R.A.S.C. JOURNAL, vol. 56, p.222).

Friends and associates of the late William Ross Hossack have established a Scholarship in his memory at the University of Toronto. The Society made a donation to this Fund and trusts that there will be additional contributions from members.

On the suggestion of Mr. F. L. Troyer, an Administration Bulletin was established as a means of keeping the Centres informed of some of the operations carried on by the National Office.

The work of our numerous Committees has been most commendable. Many of our projects must, of necessity, be dealt with by these small groups; their reports should command your close attention. Dr. Anne B. Underhill has resigned from the staff of the Dominion Astrophysical Observatory and her position as Technical Correspondent for the Society has been taken over there by Dr. K. O. Wright. To him, and to our other Correspondents, my sincere thanks for their assistance in processing the many technical enquiries received at the National Office during the year.

The death of our Honorary President, Dr. Marc Boyer, is noted with regret, and also the death of other members as shown below:

Mr. F. G. Beauchamp, Victoria Centre	Mr. F. Nedley, Victoria Centre
Mr. W. M. Cameron, Ottawa Centre	Mr. Carl Reinhardt, Toronto Centre
Dr. Lachlan Gilchrist, Toronto Centre	Dr. Hugh S. Rice (U.S.A.)
Mr. J. Hogan, Montreal Centre	Mr. Bertram Topham, Toronto Centre
Mr. F. W. Matley, Ottawa Centre	Mr. J. B. Wallace, Toronto Centre
Mr. J. F. Morrissey (U.S.A.)	

J. E. KENNEDY, *National Secretary.*

#### REPORT OF THE LIBRARIAN

The number of books, films and slides borrowed by mail and in person from the National Library increased in 1962. Several books and slides have been added to the existing collections; donations by Dr. J. F. Heard, Miss Ruth J. Northcott, Mr. Leonard Dodds, Mr. Wilfred Miller and from the estate of the late Mr. Carl Reinhardt are gratefully acknowledged.

When the bulk of the technical material housed at the David Dunlap Observatory was sold last year to the University of Toronto, the Proceedings of The Royal Society of London, Series A, and the Journal of The Franklin Institute were retained by the Society. Sale of these two sets of bound volumes has been completed to the University of Ottawa Library for the sum of \$2,586.00.

In reorganizing the Library at 252 College Street, a considerable bulk of unused material, received in exchange for the JOURNAL, has been given to the Department of Astronomy at the University of Toronto. The space so gained has been used to store older and dated books, making valuable shelf space available for new library books.

A legacy of \$1,000 to be used for the Library was one of the bequests made to the Society under the terms of the will of the late Carl Reinhardt. This donation should materially assist in the reorganization and rebuilding of the Library currently in progress.

L. A. CHESTER, *Librarian.*

## REPORT OF THE STANDING COMMITTEE FOR OBSERVATIONAL ACTIVITIES

The most active sections under the National Observing Programme have been the Lunar, Planetary, and Comet and Novae. The Lunar Section has continued to concentrate its interest on the compilation of a catalogue of previously unrecorded lunar domes, and the conformation or refutation of currently listed domes. The Planetary Section has devoted its attention to studies of Jupiter with some attention given to the problem of the dichotomy of Venus. The current apparition of Mars is of immediate interest. The Comet and Novae Section has continued a double-barrelled course and provided the first results in the form of a display at the General Assembly in Edmonton. The Aurorae Section started with the publication of an information bulletin in April. The Satellite Section is presently inactive following the resignation of the Co-ordinator, Mr. E. Rogers of Calgary, who expressed regret that for personal reasons it was difficult for him to continue. The following have been issued during 1962:

*Lunar* — 4 Bulletins and 2 instructions sheets concerned with observing techniques;

*Planetary* — 4 Bulletins and 2 special instruction sheets for observations of Jupiter;

*Comet and Novae* — 3 Bulletins and 5 announcements.

The committee is planning to activate one or more additional observing disciplines during 1963.

R. V. RAMSAY, *National Chairman.*

Co-ordinators:

*Lunar* — R. R. THOMPSON, Box 79, Maple, Ont.

*Planetary* — G. GATHERY, JR., 2800 Hill Park Road, Montreal 25, P.Q.

*Aurorae* — E. MILTON, 729 Cooper Street, Apt No. 17, Ottawa, Ont.

*Comet and Novae* — J. Low, 411 Brixton Avenue, St. Lambert, P.Q.

## REPORTS OF SECRETARIES OF CENTRES CALGARY CENTRE

The past year has been an interesting one for the Calgary Centre. Regular meetings were held at the University of Alberta, Calgary, with Mr. S. Litchinsky continuing as our genial host for the Executive meetings.

At the close of the General Assembly in Edmonton in May, the Calgary Centre was host to a number of delegates and members for a day at Banff. This included a very inspiring visit to the Cosmic Ray Observatory on Sulphur Mountain (reached by gondola), and an inspection of the Calgary Power Ltd. control plant at Seebe. An enjoyable steak dinner climaxed the day.

The Annual Meeting and Dinner were held at the Highlander Hotel on December 12. The guest speaker was Dr. B. Wilson; his address on "Inter-planetary Travel" was imaginative and fascinating as he took us beyond the solar system.

Following is the programme of meetings, many of which were augmented by interesting films on astronomy:

January 10—"Stellar Distances" — Junior Forum: Ross Staudinger, Ian Robertson, David Litchinsky, Richard Choquette.

February 14—D. Zilm: "Making Mirrors and Mounts".

March 14—R. Graham: "The Roman Sundial".

April 11—L. Trainor, Ph.D.: "Prospects of Space Exploration".

May 9—C. Phillips, Ph.D.: "Variable Star Observing and Nova Search".

September 12—Film presentation: "About Time".

October 10—R. Martin, Ph.D.: "Tektites, Their Nature and Origin and Possible Occurrence in Canada".

November 14—Ewen Whitaker, Ph.D.: "The Moon".

(Mrs.) K. B. MEIKLEJOHN, *Secretary*.

#### EDMONTON CENTRE

Meetings were held in the Queen Elizabeth Planetarium in Coronation Park, through the courtesy of the Parks Department and the Planetarium Director, Ian McLennan. The highlight of our activities was the holding of the General Assembly in Edmonton in May. The co-operation of the University authorities, the staff of the Meteor Observatory at Meanook, the members of the Calgary Centre, the staff of the Cosmic Ray Observatory at Sulphur Mountain at Banff, the City of Edmonton and the Province of Alberta made this a most successful assembly. Meetings during the year were as follows:

November 9—Plans for the General Assembly; Film presentation: "Universe".

December 14—G. L. Cumming, Ph.D.: "The Age of the Solar System".

January 11—Jack Grant: "The Meanook Meteor Observatory".

February 8—Brian Wilson, Ph.D.: "The Cosmic Ray Observatory on Sulphur Mountain".

March 8—Lt. F. W. McCauley: "Celestial Navigation".

April 12—Allan F. McQuarrie: "Meteorological Satellites".

May 10—Plans for the General Assembly.

June 13—Review of the Highlights of the General Assembly; Plans for the forthcoming evening picnic.

July 12—Ian McLennan, film presentation: "The Inquisitive Giant".

August 4—Evening picnic at Lake Wabamun.

September 13—William Burley: "Space Communications".

October 11—Annual Dinner Meeting — Corona Hotel; Stuart Dewar: "Arctic Weather Station".

The programmes included talks on the *Observer's Handbook*, "Featurettes" by various members of the Centre, and refreshments served by the Social Committee.

Star Nights were held at the Planetarium on August 17 and 18 and were well attended. A large tent sheltered the audience watching the presentation of films.

Our monthly publication, "Stardust", has been efficiently handled by Adrienne McLennan.

A. STOCKWELL, *Secretary*.

#### HALIFAX CENTRE

During the year, eight regular meetings were held in the Planetarium Room of the Nova Scotia Museum of Science. Instruction in astronomy was provided for groups of Girl Guides and Boy Scouts by B. W. Allen and J. Connelly. Several planetarium demonstrations were given in conjunction with the regular meetings. The monthly publication "Galaxy" was prepared and issued by B. W. Allen. The regular meetings were as follows:

January 31—J. Connelly: "Star Clusters".

February 28—Rev. Father M. W. Burke-Gaffney, S.J.: "The Milky Way".

March 28—A. Mills: "Radio-isotopes, Geological Time Scale and Age of the Solar System".

- April 25—B. W. Allen: "Further Notes About Echo I".  
 May 30—Business Meeting and Planetarium demonstration.  
 September 26—Annual Meeting and Election of Officers.  
 October 24—Rev. Father M. W. Burke-Gaffney, S.J.: "Artificial Satellites".  
 November 28—B. W. Allen: "Orbits of Artificial Satellites".

R. L. AIKENS, *Secretary*.

#### HAMILTON CENTRE

In 1962, seven meetings were held in the Physical Sciences Building and one in the Engineering Building at McMaster University. Four Council meetings were also held. Mr. Glen Johnson represented our Centre at the General Assembly in Edmonton.

A Junior section with officers was organized for fifteen members between the ages of eleven and sixteen years. A short business meeting of this section was usually followed by a 15-minute talk by a member of the Centre, after which this group joined the meeting of the Centre. This procedure has proven quite successful.

Two highly successful Star Nights, attended by about two thousand adults, children and students, were held on September 7 and 8. The members of the Hamilton Centre presented a continuous view of either the moon or Jupiter moving across the screen on each of two 21-inch television monitors, using an 8-in. Newtonian telescope fitted with a T.V. camera in a closed circuit of television hook-up.

- January 4—L. V. Powis: "Gravitation and Its Effects"; S. J. Buntain: "Setting Circles and the Telescope".  
 February 1—P. W. Bennington: "Relativity Since Michelson-Morley"; J. A. Winger: "The Asteroids".  
 March 1—J. M. Beddoes: "Closed Circuit Television and Astronomy"; H. B. Fox: "Spectroscopic Binaries".  
 April 5—Junior Night: David Whalley: "The Doppler Shift"; Sylvia Nielson: "How to Make Your Own Small Universe"; Douglas Craig: "Star Chart Experiments"; and the Bell Telephone film "Time".  
 May 3—Mrs. R. Nielson: "Some Aspects of the Moon"; A. Robinson: "Celestial Mechanics"; R. Nielson: "The Heavens Beyond the Range of Vision".  
 October 4—Annual Meeting and Election of Officers; Rev. N. W. Green: "Marvels, Mysteries and Myths of the Autumn Sky" (illustrated).  
 November 1—E. Ostrosser: "Some Thoughts on Gravitation"; Film presentation: "Exploring by Satellite".  
 December 6—Helen S. Hogg, Ph.D.: "Globular Clusters" (illustrated); plus a visit by the National President, Miss Ruth J. Northcott, and the National Secretary, Mr. J. E. Kennedy.

L. V. POWIS, *Secretary*.

#### KINGSTON CENTRE

The Kingston Centre is attempting to build up a stable membership. In the autumn of 1961 we had 23 members; in the autumn of 1962 we had, however, only 7 members.

Meetings were held at Queen's University Observatory. Dr. Peter M. Millman and Miss Ruth J. Northcott gave illustrated addresses and Dr. A. V. Douglas demonstrated a series of moving coloured slides of the solar system which were made in England in 1860. Other meetings were conducted by the members who have organized a telescope-making group. The 15-inch reflecting telescope at Queen's



University Observatory has been frequently available along with several smaller instruments. Systematic observation has been hampered by poor weather.

P. A. JOLLIFFE, *Secretary*.

#### LONDON CENTRE

Seven regular meetings were held during the year, all in the Hume Cronyn Memorial Observatory, University of Western Ontario. Observations were made with the ten-inch refractor when weather permitted.

The programmes for the meetings were as follows:

- January 22—A joint meeting of the A.I.E.E., I.R.E., C.A.P., and the London Centre of the Royal Astronomical Society of Canada; N. W. Broten "Radio Astronomy at the National Research Council".
- February 16—W. A. Adamson: "Planetary Conjunctions"; W. Wehlau, Ph.D.: "The Universe", illustrated with films.
- March 16—G. R. Magee, Ph.D.: Handbook Study — "The Vernal Equinox"; J. W. Haynes: "Astrophotography".
- April 27—W. Wehlau, Ph. D.: "The Laws of Planetary Motion"; Mrs. K. Subins, Waterloo University: "The Planet Mars".
- October 9—G. R. Magee, Ph.D.: Handbook Study — "The Harvest Moon"; A. J. Watt, M.D.: "The Planet Venus"; W. H. Adamson: "Mariner's Mission to Venus".
- November 16—W. Wehlau, Ph.D.: Handbook Study — "Double Stars"; R. D. M. Hinton, Bell Telephone Co. of Canada, Montreal: "Space Communication".
- December 14—Annual Meeting; Reports; Election of Officers. W. A. Adamson: Handbook Study — "Current Events re Space and Satellites"; W. Gordon Graham: "Impressions of Mount Wilson Observatory"; Film presentation: "Action on the Sun".

(MRS.) I. E. MCKONE, *Secretary*.

#### MONTREAL CENTRE

The following meetings were held during the year 1961-62 under review:

- October 19—Annual Meeting, with presentation of reports, election of officers, films, and a social hour.
- November 9—G. V. Bull, Ph.D., McGill University: "Meteor Impacts on Space Vehicles".
- December 14—J. D. Fernie, Ph.D., University of Toronto: "Astronomy in South Africa".
- January 11—Film presentation: "Story of Palomar" and "An Interview with Dr. Shapley".
- February 8—Demonstration: "Let There Be Light and Let's Look At It", presented by David Sands and Stephen Harrold.
- March 8—Townsend Memorial Lecture by G. C. McVittie, Ph.D., University of Illinois: "Recent Developments in Cosmology".
- April 12—T. F. Morris, Ph.D., McGill University: "Some Unusual Stars".
- May 10—Closing meeting, with slides and a review of the year's activities, and a social hour.

The Centre acted as host to the Tenth Annual Meeting of the Association of Lunar and Planetary Observers over the Labour Day week-end. Sessions were held at Sir George Williams College, with dinner in La Salle Canadienne, Windsor Station, and visits to the Centre's Observatory.

W. J. CULLINAN, *Secretary*.

## CENTRE FRANCAIS DE MONTREAL

Le conseil du centre français s'est réuni quatre fois en assemblée.

Les réunions mensuelles suivantes ont été tenues:

- 24 octobre 1961 — Assemblée générale — Election du conseil — Films sur l'astronomie.  
 13 novembre—Hubert Reeves, Professeur de Physique à l'Université de Montréal:  
 "L'Evolution des Etoiles".  
 11 décembre—René A. Robert, Ing.P. Professeur à l'Ecole Polytechnique de Montréal:  
 "Le Spectrographe et l'astronomie".  
 8 janvier—Wladimir Paskievici, D.Sc.: "Le problème des abris antiatomiques".  
 12 février—Jacques Lebrun: "Les satellites artificiels".  
 12 mars—Peter M. Millman: "L'Héritage astronomique de l'Angleterre".  
 9 avril—Pierre Lemieux: L'Annuaire de 1962 — Le Graphique du Ciel — Le Cherche  
 étoiles.  
 14 mai—Pierre Lemieux: "Voyage de John Glenn dans l'espace".  
 16 juin—Dîner annuel — Présentation de la Médaille Mérit à M. Jean Asselin, Ing.P.

Au cours de l'année des réunions hebdomadaires ont été tenues au Jardin Botanique, sous la direction de M. Pierre Lemieux, directeur des observations. Lorsque la température le permettait ces réunions étaient suivies d'une séance d'observation.

La fréquence et le caractère de ces réunions ont vite fait de provoquer l'étude et la discussion en profondeur de sujets considérés trop "profonds" pour convenir à une assemblée régulière de la société. Des sujets tels que la mécanique céleste, les lois de Képler et celles de Newton, le Soleil et sa famille, les projections héliocentrique et géocentrique des planètes, les satellites artificiels, l'étude de différentes parties de l'annuaire (hanbook) montrant comment certains de ses chiffres sont calculés et quel usage on en fait, l'heure sidérale, la spectroscopie, etc. ont été l'objet d'étude avancée et de discussions fort enrichissantes.

A ces réunions le système métrique est maintenant d'un emploi généralisé à cause de sa grande simplicité et de ses autres avantages.

De plus, un petit groupe de membres ayant entrepris la construction de télescopes, les conseils appropriés leur ont été fournis, des tests de Foucault ont été effectués sur leurs miroirs, etc.

JEAN ASSELIN, *Rapporteur.*

## NIAGARA FALLS CENTRE

Eight regular meetings were held, in addition to Star Nights. Of particular interest were the field trip to W. J. Semerau's observatory in Kenmore, N.Y., the display in August which attracted 417 people and the observation of the occultation of Saturn by the moon in September. A "Friday Night Observer's Programme" was initiated during the summer. Meetings and addresses were as follows:

- January 16—G. C. Gardner: "Elements of Astronomy".  
 February 20—J. F. Hauzer: "The Measurement of Time".  
 March 20—W. J. Semerau: "Solar Observing" with 16-mm. time-lapse colour movies  
 of the sun taken with his own equipment.  
 April 17—Discussion of General Assembly in Edmonton.  
 July 14—Field trip to W. J. Semerau's Observatory.  
 August 11-12—Public Display "Stars Over Niagara".  
 October 16—Election of Officers.

November 6—Turkey Dinner, guest speaker Mr. G. Dingman: "Niagara"; Miss Ruth J. Northcott, National President: "Some Recent Instrumentation Developments in Astronomy in Canada".

November 27—P. Thomas: "The Sun", illustrated with 35-mm. slides.

December 18—G. C. Gardner: "The Solar System", illustrated.

J. HAUZER, *Secretary*.

#### OTTAWA CENTRE

Seven lecture meetings were held during 1962, with the membership of the Centre at 120. For the first time, formal contact was made with the Ottawa Branch of the Canadian Aeronautical and Space Institute and a joint meeting was held in March on a subject of mutual interest.

January 10—Ian Halliday, Ph.D.: "Tektites — A Solar System Puzzle".

March 14—R. S. Rettie, Ph.D.: "Satellite Tracking". (Joint meeting with the Ottawa Branch of the Canadian Aeronautical and Space Institute.)

April 18—Lloyd Higgs, Ph.D.: "Mysteries of the Milky Way".

May 3—Film presentation: "Again to the Stars".

October 23—J. L. Locke, Ph.D.: "Exploring our Galaxy by Radio".

November 14—W. Threinen: "Alouette, The Canadian Top-Side Sounder Satellite".

December 11—J. H. Hodgson, Ph.D.: "A Seismologist Looks at South America".

The Observers Group had a very successful year. In the spring, the Instrumentation Co-ordinator, Fred Lossing, instructed a total of 14 in telescope making. As Solar Co-ordinator, Dave Fisher presented a short paper at the General Assembly. An inaugural public star night was held in September on the National Museum Grounds and more than 300 people looked through members' telescopes. The first issue of the Ottawa Centre's newsletter "Astronotes" was mailed to members in December.

It is with regret that we record the death of two active members of the Council — Mr. F. W. Matley in July and Mr. W. M. Cameron in December. Mr. Cameron had been one of the organizers and Chairman of the Observers Group and was Second Vice-President of the Centre at the time of his death.

E. H. DUDGEON, *Secretary*.

#### CENTRE DE QUEBEC

Le grand événement de l'année astronomique, au Québec, a été la création de la Société d'Astronomie de la Mauricie, le 19 janvier 1963. Le Centre de Québec l'inscrit parmi ses oeuvres parce qu'elle est le fruit d'un long travail accompli par ses membres et surtout par ceux de la région même de Trois-Rivières. Comme la Mauricie sera le principal rendez-vous des observateurs de l'éclipse du 20 juillet, cette société arrive à son heure.

Le 27 janvier 1962, M. Roland Noel de Tilly, du Centre Français de Montréal était invité à donner une causerie devant nos membres, à la suite d'une visite qu'il venait de faire à divers planétariums des Etats-Unis. Le 8 mai, les dirigeants de notre Centre avaient l'honneur de recevoir la visite du Dr Peter M. Millman, Président ex-officio du Conseil National de la société. Les 13 juin et 6 août, nous avons eu deux grandes soirées populaires avec films et télescopes, sur les terrains avoisinant l'observatoire de la tour Martello. La seconde a été répétée à Trois-

Rivières, le 9 août. Ces réunions populaires, étaient sous la direction de notre dévoué Vice-Président, M. Guy Deslauriers. Enfin, à la réunion générale annuelle du samedi 16 février, la causerie a été faite par le Révérend Père Paul Bernier, O.P., qui avait choisi pour titre: Essai de théorie électro-magnétique de l'Univers.

Les travaux d'observation habituels se sont poursuivis, au cours de l'année. En plus, stimulés par les coordonnateurs locaux des commissions nationales, MM. René Doucet, de Trois-Rivières, et Jos. Matte, de Québec, nous avons suivi régulièrement les comètes et novae, de même que nous avons exécuté de nombreux dessins des principales planètes.

*Le secrétaire, PAUL-H. NADEAU*

### TORONTO CENTRE

The Toronto Centre held fourteen regular meetings of which two were joint meetings with The Royal Canadian Institute. Five "Sky Gazing Parties" were held during the summer featuring the film "Universe" as well as telescope observations; a telescope display was presented on fourteen evenings at the Canadian National Exhibition with an attendance of 8,000.

The Observers Group of 60 members was active in observational work with five meetings and discussion of the more technical astronomical subjects at eight meetings. This Group also supervises the publication of *Scope*. R. Vernon Ramsay, Chairman of the Standing Committee for Observational Activities, D. J. FitzGerald, Director of the Observers Group and Leonard A. Chester, Editor of *Scope*, represented the Toronto Centre at the General Assembly in Edmonton.

The Telescope Makers Group under the direction of Jesse Ketchum held 21 meetings, with an average attendance of 25, many of whom completed telescopes during the year. By making their telescopes available for public viewing, group members contributed to the success of the "Star-Gazing Parties" and the display at the C.N.E. Members set up their telescopes at the David Dunlap Observatory for visitors on Saturday evenings between April and October.

Speakers and subjects at the regular meetings were:

- January 12—Annual Meeting; Helen S. Hogg, Ph.D., University of Toronto: "The International Astronomical Union" and "Globular Clusters".
- February 20—Martin Schwarzschild, Ph.D., Princeton University: "Astronomy From the Stratosphere". (Joint Meeting with The Royal Canadian Institute.)
- February 2—Robert P. Kraft, Ph.D., Mount Wilson and Palomar Observatories: "The Search For Twin Stars Among Exploding Variables".
- February 16—Film programme.
- March 2—Lawrence H. Aller, Ph.D., University of Michigan: "Highlights of the Southern Sky".
- March 16—John F. Heard, Ph.D., David Dunlap Observatory: "Galileo — The Man and the Scientist".
- March 30—G. M. Clemence, Ph.D., U.S. Naval Observatory: "The Motions of Artificial Satellites".
- April 13—Members' Night with demonstrations by the Telescope Makers Group.
- October 5—Members' Night at the David Dunlap Observatory.
- October 19—R. V. Ramsay, D. J. FitzGerald and L. A. Chester: "Report on the General Assembly in Edmonton".
- November 2—J. Allen Hynek, Ph.D., Northwestern University: "The Naked-Eye Stars — Playing Fields of Stellar Evolution".

- November 16—M. P. Savedoff, Ph.D., University of Rochester: "Gamma-Ray Astronomy — If It Exists".
- December 1—C. S. Beals, Ph.D., Dominion Astronomer, Ottawa: "Canadian Meteorite Craters". (Joint Meeting with The Royal Canadian Institute.)
- December 14—W. A. Hiltner, Ph.D., Yerkes Observatory: "Electronography and Image Intensification in Astronomy".

Lectures to the Observers Group included: Walter Johnson: "Optics"; R. Terence Dickinson: "Variable Star Observing"; David Ford: "Comets"; and A. L. Ostrander: "Jupiter".

Members whose death occurred during the year were Professor Lachlan Gilchrist, a Past President and former National Secretary of the Society; Mr. Carl Reinhardt, a long-time member and benefactor of the Society; Mr. Bertram J. Topham, veteran variable star observer and recipient of the first Chant Medal awarded by the Society in 1940 and Mr. J. B. Wallace.

FREDERIC L. TROYER, *Secretary*.

#### VANCOUVER CENTRE

Seven regular meetings were held during 1962 in the Physics Building at the University of British Columbia.

- January 9—Film presentation: "The Inquisitive Eye", "Universe" and "The Fossil Story".
- February 11—A. M. Crooker, Ph.D.: "The Ends of the Rainbow".
- March 27—R. W. Burling, Ph.D.: "The Carbon 14 Cycle".
- April 10—Members' Night: A. W. McKenzie: "Lunar Configurations"; E. M. Price: "Some Remarks on the *Observer's Handbook*"; Film presentation: "Reaching for the Stars"; and "A Light in Nature".
- October 9—K. O. Wright, Ph.D.: "Astronomy in Canada".
- November 13—J. Saari: "The Temperature and Structure of the Lunar Surface".
- December 11—J. A. Jacobs, D.Sc.: "The Magnetic Observatory at Westham"; Film presentation: "The Moon" and "Exploring the Universe".

The Annual Dinner Meeting of the Centre was held on January 8, 1963, with an address by Dr. A. Batten on the subject "Algol — the Double Star".

The telescope section, under the direction of Mr. T. Taylor, has been active throughout the year, holding regular monthly meetings at the University of British Columbia.

NORMAN BARTON, *Secretary*.

#### VICTORIA CENTRE

The meetings of the Centre were held at Victoria College, through the kindness of the College authorities. The Council met on several occasions to plan the programmes and to confer on the business of the Centre. Speakers and topics were:

- January 10—K. O. Wright, Ph.D.: "Evolution of the Stars".
- February 14—A. H. Batten, Ph.D.: "The Story of Stellar Parallax".
- March 14—W. H. Mackie: "A Weather Eye in the Sky".
- April 11—Activity Night.
- July 30—G. J. Odgers, Ph.D.: "Telescopes in Orbit".
- August 6—E. K. Lee: "Why Study Empty Space?".
- August 13—Visit to the Dominion Astrophysical Observatory.

August 20—J. L. Climenhaga, Ph.D.: "Storms on the Sun".

August 27—G. Walker, Ph.D.: "Gas and Dust in Space".

October 10—C. D. Maunsell, Ph.D.: "Tides — The Earth's Response to its Astronomical Neighbour".

November 14—R. M. Petrie, Ph.D.: "Astronomy in Europe".

December 5—Annual Dinner and Annual Meeting.

Membership of the Centre was 83, consisting of 1 Honorary Life Member, 9 Life Members, 15 student members and 60 regular members. The Centre regrets the loss through death of Mr. F. G. Beauchamp.

W. R. DAMER, *Secretary*.

#### WINDSOR CENTRE

During the year 1962, seven regular meetings (with an average attendance of 30), one trip by bus and two Executive Meetings were held. This is a list of the programmes:

January 16—Lambert Huneault: "Review of Astronomical Highlights in 1961"; Larry Pohjola: "Educational Talk on Mars"; Cyril Hallam: Film presentation: "Universe".

February 20—Cyril Hallam: "Current Events"; Michael Hastings-Trew: "Educational Talk on Jupiter"; Cyril Hallam: Film presentation: "A Trip to the Moon".

April 17—Michael Hastings-Trew: "Current Events"; Arthur Rae: "Canada-Wide Programme of Observing Planets"; Cyril Hallam: Film presentation: "Mystery of the Sun".

May 19—Members took a bus trip to Ann Arbor, Michigan, for a planetarium showing.

June 19—The stars were viewed through members' telescopes at Poplar Lodge, site of D. C. Bawtenheimer's observatory; Mr. Bawtenheimer spoke on his trip to Edmonton. Len Staffin announced details of a summer course in basic astronomy which would be offered at the AKO Centre, Windsor. Refreshments were served.

September 18—Lambert Huneault: "Current Events"; Miss Ruth J. Northcott, National President: "Canadian Astronomy".

October 15—Michael Hastings-Trew: "Current Events"; L. Staffin: Educational talk on "The Three Outer Planets"; Cyril Hallam: Film presentation: "The Palomar Story" and "Friendship 7".

November 20—Presentation of Annual Reports and Election of Officers; Arthur Rae: "Current Events".

JAMES M. MEREDITH, *Secretary*.

#### WINNIPEG CENTRE

The following meetings were held during the year:

February 21—Peter M. Millman, Ph.D.: "The Astronomical Heritage of England".

March 19—R. J. Lockhart, B.A., F.R.A.S., F.B.I.S.: "The Spiral Galaxies".

April 30—D. A. Paterson: "Observer's Handbook" and "Science Fair Projects in Astronomy".

May 15—Professor Ruth J. Northcott: "Interesting Excerpts from the JOURNAL of the R.A.S.C."; J. E. Kennedy, M.Sc.: "The Operation of the National Society".

November 7—J. N. R. Scatliff, M.D.: "The Old and New Greenwich Observatories".

December 11—Annual Meeting; Amateur Telescope Making Night.

Three of the above meetings were held at the University of Manitoba and three at the Shinn Conservatory of Music. The Centre is most grateful for the use of these facilities. The Council met on four occasions to review the programme and arrange for observing sessions, held during the autumn.

Dr. Peter M. Millman was tendered a reception at the Winnipeg City Hall to receive the freedom of the City. The scroll was presented by Alderman Hallonquist on behalf of our Honorary President, Mayor Juba; a luncheon arranged by members of Council for Dr. Millman followed.

A dinner reception was held for Miss Ruth J. Northcott and Mr. J. E. Kennedy on their visit to Winnipeg in May, en route to the General Assembly.

J. N. R. SCATLIFF, *Recorder.*

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

BALANCE SHEET

A S S E T S

CURRENT ASSETS

Cash on hand and in bank . . . . .	\$ 8,794.29	
Accounts receivable . . . . .	2,860.10	
Prepaid expenses and deferred charges . .	<u>617.65</u>	\$12,272.04

FIXED ASSETS

Land, 252 College Street — at cost . . . .	\$17,000.00	
Building, 252 College Street at cost . . . .	\$17,500.00	
<i>Less:</i> Accumulated depreciation . . . .	<u>2,500.00</u>	15,000.00
Furniture and equipment . . . . .	\$ 3,033.50	
<i>Less:</i> Accumulated depreciation . . . .	<u>1,723.03</u>	1,310.47
Library — Nominal value . . . . .		<u>100.00</u>
		<u>33,410.47</u>
		<u>\$45,682.51</u>

A U D I T O R S ' R E P O R T

We have examined the balance sheet of The Royal Astronomical Society of Canada as at December 31, 1962 and the statements of revenue and expense and surplus for the year ended on that date. Our examination included a general review of the accounting procedures and, without performing a detailed audit of the transactions, we tested the accounting records and other supporting evidence.

Toronto, Canada,  
February 25, 1963.

APPROVED ON BEHALF OF THE NATIONAL COUNCIL:

J. F. Heard, *National Treasurer*  
J. E. Kennedy, *National Secretary*



SOCIETY OF CANADA

DECEMBER 31, 1962

LIABILITIES AND SURPLUS

CURRENT LIABILITIES			
Outstanding cheques . . . . .		\$3,579.14	
Accounts payable and accrued charges . . . . .		<u>54.15</u>	\$ 3,633.29
DEFERRED INCOME			
Membership fees for year ending September 30, 1963 . .		\$2,113.67	
Prepaid subscriptions to Journal and Observer's Handbook . .		2,336.30	
Prepaid advertising for 1963 publications . . . . .		<u>1,670.00</u>	6,119.97
LIFE MEMBERSHIP RESERVE (per statement) . . . . .			<u>3,001.71</u>
TOTAL LIABILITIES . . . . .			<u>\$12,754.97</u>
SURPLUS . . . . .			<u>32,927.54</u>
			<u><u>\$45,682.51</u></u>

TO MEMBERS

In our opinion, based upon our examination and the information and explanations given to us, the accompanying balance sheet and statements of revenue and expense and surplus present fairly the financial position of the Society at December 31, 1962 and the results of its operations for the year ended on that date.

MORRIS ALTMAN AND COMPANY  
Chartered Accountants

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
STATEMENT OF GENERAL REVENUE AND EXPENSE  
FOR YEAR ENDED DECEMBER 31, 1962

**R E V E N U E**

**Membership Fees**

R.A.S.C. Centres . . . . .	\$ 4,521.76	
Individual members . . . . .	2,050.59	
Life membership reserve — Annual appropriation . . . . .	199.77	\$ 6,772.11

**Grants and Donations**

Government of Canada . . . . .	\$ 3,500.00	
Province of Ontario . . . . .	1,000.00	
Members' contributions . . . . .	40.00	4,540.00

**Publications**

Journal of the R.A.S.C. . . . .	\$ 1,923.31	
Observer's Handbook . . . . .	5,868.22	
Special issues and reprints . . . . .	1,716.19	
Publication fees . . . . .	460.00	

	<u>\$ 9,967.72</u>	
<i>Add:</i> Foreign exchange premiums . . . . .	369.39	
	<u>\$10,337.11</u>	

<i>Deduct:</i> Agents' discounts . . . . .	887.50	9,449.61
Advertising . . . . .		1,335.00
Sale of Insignia . . . . .		199.50
<b>TOTAL REVENUE</b> . . . . .		<u>\$22,296.21</u>

**E X P E N S E**

Printing of publications . . . . .	\$13,853.77	
Staff salaries . . . . .	4,680.00	
Rental allowance for Society's office . . . . .	1,200.00	
Stationery, printing and supplies . . . . .	603.94	
Postage and express (less amounts charged) . . . . .	537.41	
Telephone . . . . .	170.12	
Grants to R.A.S.C. centres for life members . . . . .	115.50	
Annual assembly — travel allowances . . . . .	494.00	
Library expense . . . . .	162.42	
Miscellaneous expenses . . . . .	224.85	
Insignia, medals and awards . . . . .	104.03	
Staff pension fund . . . . .	382.96	
Contribution to William Hossack Memorial Fund . . . . .	100.00	
Depreciation on furniture and equipment . . . . .	303.35	

<b>TOTAL EXPENSE</b> . . . . .		<u>22,932.33</u>
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EXCESS OF EXPENSE OVER REVENUE . . . . .		<u>\$ 636.11</u>
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MEMBERS OF CENTRES

	Montreal	Niagara Falls	Ottawa	Québec	Toronto	Vancouver	Victoria	Windsor	Winnipeg
1.95	\$ 89.98	\$ 424.03	\$ 47.18	\$1,384.66	\$490.79	\$1,437.86	\$116.29	\$103.46	
18.50	147.00	561.00	382.10	2,533.00	207.00	350.00	206.00	50.00	
17.00	6.95	45.32				9.77			
		60.00							
	109.45				55.23	25.00			
8.00	74.00	136.00			113.85	139.50			
13.95	3.50	97.00			4.00	3.55	1.00	7.00	
.58	1.96	6.97	8.85		14.00	47.68	3.55		
			546.02						
					7.50				
						3.49			
19.28	\$432.84	\$1,330.32	\$984.15	\$3,917.66	\$892.37	\$2,016.85	\$326.84	\$160.46	

18.60	\$ 91.33	\$ 374.01	\$272.00	\$1,688.67	\$140.67	\$ 228.00	\$144.00	\$ 33.48	
				25.00					
42.40	142.49	174.80		594.37		40.47	49.40	6.75	
17.10	82.29	142.55			113.85	162.52			
18.64		91.60						1.00	
3.61	14.11	89.14	536.30	97.85		22.05	69.87		
1.90		66.87	112.32	157.79	147.20	84.14	7.10	11.25	
18.39	12.70	23.66		40.45		4.39	15.00		
				119.89					
17.4	89.92	367.69	63.53	1,193.64	490.65	1,475.28	41.47	107.98	
19.28	\$432.84	\$1,330.32	\$984.15	\$3,917.66	\$892.37	\$2,016.85	\$326.84	\$160.46	

MONTREAL CENTRE OBSERVATORY FUND

Statement of receipts and expenditures Year Ended 30th September, 1962

RECEIPTS	EXPENDITURES
Bal. forward from Sept. 30/61	Repairs to Building . . . . \$ 19.14
Bank Interest . . . . . 14.84	Repairs to Equipment — Radio 31.67
Bond Interest . . . . . 2.25	Balance as per Bank Passbook 895.17
Transfer from General Fund 50.00	
Donations . . . . . 40.00	
Proceeds Gov't. Bond Matured 50.00	
Received from Northern Assurance Co., in settlement of claim . . . . . 253.00	
<u>\$945.98</u>	<u>\$945.98</u>

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
OFFICERS AND COUNCIL OF THE CENTRES FOR 1963

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\* Deceased.

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*Relations extérieures*—LIONEL GALLICHAN  
*Commission des instruments*—JOS. BOUCHARD; FELIX EDGE; GERARD LAFONTAINE.  
*Conseil*—L'ABBE GILBERT BOUCHER; JEAN-PAUL BOUDREAU; L'ABBE PAUL-EMILE CARON; RENE DOUCET; YVON DUFOUR; GEORGES-ETIENNE GAGNE; CLAUDE HAMEL; CHARLES-HENRI LESSARD; JEAN-CHS MAGNAN; JOS. MATTE.

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*President*—RAYMOND R. THOMPSON, B.A., B.ED.; P.O. Box 79, Maple, Ont.  
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*Recorder*—MISS KULLI MILLES *Treasurer*—GEORGE W. MYLAND  
*Director of Observers Group*—D. J. FITZGERALD  
*Director of Telescope Makers Group*—JESSE KETCHUM  
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*Director of Telescopes*—T. TAYLOR  
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## WINDSOR CENTRE

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*Second Vice-President*—R. W. STANGER  
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*Secretary-Treasurer*—T. D. CAIRNS, 924 Waterford Ave., Winnipeg 19  
*Recorder*—J. MOHLER  
*Council*—P. ABEL; MISS J. ANDERSON; J. NEWTON; B. ROTOFF; F. STIMSON; G. WELBANKS; and *Past President*—W. W. WRIGHT.

## GOLD MEDAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

The Gold Medal of the Society was established in 1905 as an encouragement to the study of astronomy. It is awarded to the student standing first in first class honours in the graduating year of the Astronomy Division of the Mathematics and Physics course at the University of Toronto. Awards have been made to the following:

1906 — W. E. Harper	1933 — K. O. Wright
1907 — R. M. Motherwell	1935 — Miss F. S. Patterson
1909 — R. K. Young	1937 — D. A. MacRae
1910 — R. J. McDiarmid	1940 — W. F. M. Buscombe
1911 — R. S. Sheppard	1948 — R. W. Tanner
1913 — E. A. Hodgson	1949 — I. Halliday
1914 — G. S. Campbell	1956 — D. C. Morton
1926 — F. S. Hogg	1960 — C. R. Purton
1929 — P. M. Millman	1961 — R. C. Henry
1931 — W. S. Armstrong	1962 — J. R. Percy

## CHANT MEDAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

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 an amateur astronomer resident in Canada on the basis of the value of the work which he has carried out in astronomy and closely allied fields of original investigation. Awards have been made to the following.

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1941 — H. Boyd Brydon (Victoria)	1951 — DeLisle Gameau (Centre Français de Montréal)
1942 — W. G. Colgrove (London)	
1943 — Cyril G. Wates (Edmonton)	1953 — Jean Naubert (Centre Français de Montréal)
1945 — Paul-H Nadeau (Quebec)	
1948 — Isabel K. Williamson (Montreal)	1955 — Frank J. DeKinder (Montreal)
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