

the **ROYAL ASTRONOMICAL**  
**SOCIETY** of **CANADA**



**ANNUAL REPORT**  
**1970**

**SUPPLEMENT TO THE JOURNAL**

**May 1971**



## REPORT OF THE NATIONAL SECRETARY

The space age continues to centre interest on lunar exploration and on earth-orbiting craft of various kinds and of various capabilities. All this has meant an increased popular interest in the science of astronomy.

During 1970, well-attended meetings of the Council were held on January 24th, May 16th, May 17th and September 26th. The Annual Meeting of the Society was held for the first time outside the Province of Ontario and took place in conjunction with the General Assembly on May 16th in the City of Edmonton.

The total number of members of the Society for 1970 was 2,502, including 138 Life Members. The membership as of September 30th was listed as follows:

Calgary	56	Quebec	85
Edmonton	58	Saskatoon	43
Hamilton	88	St. John's	17
Kingston	7	Toronto	778
London	49	Vancouver	132
Montreal	205	Victoria	66
Centre d'Astronomie	66	Windsor	42
Niagara Falls	24	Winnipeg	92
Ottawa	168		
Unattached			
Canada	151	Foreign	21
United States	339	Honorary	15

Every year the General Assembly is an important event in the life of the Society, and 1970 saw a return of this popular gathering to the City of Edmonton. The Assembly was held from May 15th to the 18th and by reason of the capable planning of members of the Edmonton Centre, it proved to be the usual success. Details of the meetings and events are to be found in the June and August issues of the JOURNAL.

Several members of the Society have been honoured as recipients of awards during the past year. Service Awards were presented to Professor J.E. Kennedy of the Saskatoon Centre and to Rev. Norman Green of the Hamilton Centre. Membership Certificates were approved for presentation to five members of the Hamilton Centre and one each to members of the Ottawa and Edmonton Centres and one member unattached to a Centre.

The ninth Canada-Wide Science Fair was held this year in Hamilton. The Society's award was won by Mark Haugan of the Calgary Centre for placing first in the Astronomy Section of this popular Fair.

The Society was most fortunate in securing the services of Dr. Ian Halliday as Editor for the Society, Chairman of the Editing Committee and Editor of the JOURNAL, and of Dr. John Percy as Editor of the OBSERVER'S HANDBOOK. Mrs. Marie Fidler was officially appointed assistant to the Editor, a position which she has actually fulfilled for some time. During 1970 the first editions of a "National Newsletter" were incorporated into the JOURNAL, and already these have proved to be well-received additions to the more professional content of this publication.

Several Centres are now functioning under new or revised Constitutions. In May the Council approved constitutions of the Winnipeg and the Hamilton Centres. The Seal of the Society also was revised and, in September, a bilingual version was adopted.

It is with regret that we record the deaths during 1970 of several long-time members:

Mr. Henry De Graw (U.S.A.)	Dr. Robert W. Ramsey (U.S.A.)
Mr. Frank J. DeKinder (Montreal)	Mr. Oscar Tielmann (U.S.A.)
Miss Dorothy Fairweather (Toronto)	Mr. N.A. Wait (Canada)
Mr. Stanley Horton (Toronto)	Mr. Wm. R. Walton, Jr. (Toronto)
Mr. Patrick O'Cain (Montreal)	Mr. A.L. Whiteford (Foreign)

After seven years in office, the undersigned now relinquishes this position. This period has been one of happy relationships and of deep personal satisfaction. Appreciation is extended to all who have in so many ways contributed to the advancement of the aims and ideals of the R.A.S.C. Special thanks are due to the unflagging and ever cheerful way that the Executive Secretary, Mrs. Marie Fidler, carries out her daily tasks on behalf of the Society.

Norman Green, *Secretary*

## REPORT OF THE LIBRARIAN

The completion of the catalogue listing all books in the National Library has provided a service to members which was previously impossible. A member anywhere in Canada may now request books by title or author knowing that they are in fact in our Library. Apparently, this service has been of some benefit since some scores of members have requested the catalogue. All members in Canada not attached to Centres received a copy with their membership card. Mrs. Fidler, who handles all routine requests, reports that circulation has increased tremendously.

The catalogue has also been of value to your Librarian in emphasizing the strengths and weaknesses of the collection. As a result, several new books have been added and, it is anticipated, supplements to the catalogue will be made available from time to time.

Our slide collection continues to grow and to be in demand. In the order of fifty slides per week are borrowed on the average.

Although no new films have been obtained this year, the NFB film "To the Edge of the Universe" can be borrowed from the National Research Council through the cooperation of our Vice-President, Dr. J.L. Locke.

As always, your Librarian feels his work is not in vain when the Library is used. We welcome suggestions to improve its effectiveness.

R. Peter Broughton

### EDMONTON CENTRE

The session began with the Annual Meeting on October 20, 1969, at the University, math Physics Building. At this meeting the new executive and council were elected.

On November 10 the annual dinner meeting was held at the University of Alberta Faculty Club. We were honoured by the presence of the National President, Professor J.E. Kennedy and Mrs. Kennedy. Professor Kennedy was the guest speaker for the evening.

Awards were presented as follows: Brian Martin received the McBains Trophy for Astro-Photography and Brian Dowling and George Haeckel shared the President's Award for observational activities.

Programs of the nine regular meetings were:

- October – D.P. Hube, Ph.D., University of Alberta: "Radar Observations of the Planets".
- November – J.E. Kennedy, M.Sc., University of Saskatchewan, Saskatoon: "Contributions of Canadian Astronomers to Solar Eclipse Expeditions".
- December – F. Loehde, B.Sc.: "Handbook Quiz".
- January – R. Broughton: "The Launch of Apollo XII" (Illustrated).
- February – J.A. Jacobs, Ph.D., University of Alberta, Edmonton: "The Origin of the Terrestrial Planets".
- March – W. Israel, Ph.D., University of Alberta, Edmonton: "Death of a Star".
- April – B. Harris, Calgary: "Galaxies and Cosmology".
- May – Film: "The Edge of the Universe".
- September – G. Finley: "Energetic Realities of Interstellar Flight".

The annual picnic was again held at the Devon Observatory (June 5) with a very large attendance.

Members of the Edmonton Centre participated actively in a national program of planetary observations as outlined by the National Co-ordination Committee. Several members were making regular reports on the Aurora and at least two local observatories are engaged with timing lunar occultations for the U.S. Naval Observatory.

The highlight for this Centre was the General Assembly of the Society which was held here on May 16, 17 and 18. For us it was a pleasure to plan and organize the event, and we hope that our friends from across the nation had an enjoyable stay with us.

In conclusion, it can be said that the year of 1969-1970 was a very successful one.

Ralph Haeckel, *Secretary*.

## Annual Meeting

### HALIFAX CENTRE

The first meeting of the newly formed Halifax Centre was held at the Nova Scotia Museum at 8 o'clock on September 18, 1970. Thirty-seven people were present including Father Burke-Gaffney, Honorary Chairman and co-founder of the original Halifax Centre. Special thanks are expressed to Mr. Barry Matthews for his efforts in re-forming the Centre.

Membership at present is 32, consisting of 6 Life Members, 11 students and 15 regular members. Our newsletter "Nova Notes" includes Notices of Meetings and various articles, with a mailing list each month of approximately 80.

Our programs and speakers have been as follows:

September – Film: "Universe".

October – Roy Bishop, Ph.D., Acadia University: "Telescope Optics".

November – Robert McCorkell, Ph.D., Dalhousie University: "Meteorites and Origin of Planets".

December – David Levy: "Comets and Comet Hunting".

January – George Mitchell, Ph.D., Saint Mary's University: "The Structure of the Universe"; Films: "Fields in Space" and "The Building of Mount Palomar".

Eileen Humphrey, *Secretary*.

### HAMILTON CENTRE

The Hamilton Centre had a very active year in 1970 and held a variety of meetings. There were 8 monthly meetings held in the Amphitheatre of McMaster University. A list follows of the topics discussed:

January – President's Night.

February – J.R. Percy, Ph.D., University of Toronto: "Among the Brightest Stars".

March – Movie Night: "How We Study the Sun", "Flight of the Apollo 11", "Apollo 12 – Pinpoint for Science"; Report on the Eclipse Expedition with slides and a report on Shadow Bands.

April – W. Keating: "Optics".

May – Junior Night.

June – Ralph Dakin: "Tools of the Astronomer".

October – "Eclipse '70 Review".

November – Teach In.

December – Report on Radio Astronomy Group and their observations.

There were also two meetings each month of the Amateur Telescope Makers at the workshop of Mr. W. Fautley; many telescopes were started and completed. The Discussion Group met once a month and has recently commenced a continuing series on the solar system and beyond. The Annual Field Night was again held but was not as successful as in other years because of the poor weather conditions.

The two big events of the year were the successful trip by three members to see the eclipse of the sun last March; and the decision to carry on with the planning of the 30" Telescope Observatory.

The General Assembly of the Society will be held in Hamilton in May of this year and plans are well under way.

Peter H. Ashenhurst, *Secretary*.

### LONDON CENTRE

Increased interest and activity were evident in the London Centre in 1970. During the year seven regular meetings were held, all at the University of Western Ontario. Details are as follows:

January 22 – J.R. Percy, Ph.D., University of Toronto: "Among the Brightest Stars".

February 19 – J.D. Fernie, Ph.D., University of Toronto: "Measuring the Distance of the Sun, Past and Present".

March 26 – Astronomical movies.

May 9 – Lunch meeting with the Windsor Centre. W.H. Wehlau, Ph.D., Head of the Department of Astronomy at UWO: "The UWO 48" Telescope". A tour of the Observatory and of the campus were given in the afternoon.

June 25 – Members' Night; Ron Sawyer: "The New Telescope of the East Elgin Secondary

## Annual Meeting

School Astronomy Club"; Martin G. Connors: "Observing"; Chris Essex: "The May 9 Mercury Transit".

September 25 – Wm. Keating, Hamilton Centre: "Optics; Precision and Ophthalmic".

October 27 – Philipp Kronberg, Ph.D., University of Toronto: "Current Advances in Radio Astronomy".

November 27 – Peter M. Millman, Ph.D., Head of Upper Atmosphere Research, N.R.C., Ottawa: "Science Looks at the UFO".

The observers and telescope makers formed one group, the Activities Group, which held several meetings. The UWO's six-inch Unitron was used fairly extensively, several Star Nights were held during the summer and we held our first Perseid Night. We look forward to the construction of a ten-inch reflector and observatory in the near future.

Martin G. Connors, *Secretary*

## MONTREAL CENTRE

In its fifty-second year of existence the Montreal Centre continued its regular program of public monthly meetings. During the past season eight such meetings were held, one at the Dow Planetarium and the others in the Macdonald Physics Building of McGill University.

The Annual General Meeting of the Montreal Centre took place on Thursday, October 16, 1969. At this meeting the annual reports of the officers were presented and accepted. A motion to increase the annual membership dues was discussed, amended, and eventually accepted, the sense of the motion as amended being to increase the annual dues to \$15.00 for regular members and \$7.50 for student members, this fee increase to take effect on October 1, 1970, rather than on the date originally specified.

At this meeting the slate of officers presented by the nominating committee was duly elected. Upon termination of the regular business of the Centre, the film "Apollo 11 – The Eagle Has Landed" was shown. A social hour followed the meeting.

On November 13 two films, "Makers of Science" and "The Guaymas Story" were shown. Another two films, "The Clouds of Venus" "Solar Eclipse Expedition" provided the evening's entertainment at the meeting of December 16.

The first meeting of 1970 was held on Monday, January 19, so that our members could have the facilities of the Dow Planetarium for a private showing of the program "Eclipse 70! "clipse 70!"

The meeting of February 12 was a festive one for two reasons: first, because a number of Membership Award Certificates were presented to various members who have served the Montreal Centre with distinction and devotion. Secondly, at this meeting the H.G. Townsend Memorial Lecture was presented. The distinguished speaker this year was Dr. Michael Ovenden of the University of British Columbia. Dr. Ovenden, a Past President of the British Astronomical Association, spoke on the topic "The Universe and You – A New Look at Cosmology." A very large and appreciative audience was present for this event.

On March 12 our guest speaker was Dr. John F. Percy of the University of Toronto, who gave an extremely interesting and most unusual talk on the brightest stars.

At the meeting of April 9 Dr. Ian Halliday of the National Research Council of Canada spoke on "The Problem of Pluto," a subject on which he is probably Canada's leading authority.

The final meeting of the season was held on May 14, when Mr. John Finkel, a member of the Montreal Centre, described "Astronomy in Sweden," from his personal experiences of the preceding summer. The customary social hour followed the meeting.

Donald D. Davis, *Secretary*.

## *Annual Meeting*

### *Report from the Director of Observational Activities*

The past year has been another year of ups and downs for the Observation Committee with increased activity in some fields and a noticeable slackening of interest in others. Three outstanding astronomical phenomena aroused much enthusiasm – the total eclipse of the sun on March 7, the brilliant Comet Bennett which was first visible here on March 28, and the transit of Mercury on May 9.

Plans for the Centre's solar eclipse expedition by chartered bus to Elizabeth City, North Carolina, were formulated back in the summer of 1969. The bus left Montreal on March 5 with 21 Montrealers and 12 Ottawans aboard. At Elizabeth City we were given a warm welcome, and the weather was perfect. Our program included timing of contacts, occultation of sunspots, shadow band observations, landscape illumination and photography of all phases of the eclipse as well as a complete weather report.

Comet Bennett (1969i) was the most spectacular comet most of us had ever seen, with a magnificent tail and easily visible to the unaided eye. During the year observations were also made of two other comets, Comet Tago-Sato-Kosaka (1969g) and Comet Abe (1970g). The three comets were recorded by 19 observers, who supplied a total of 99 reports.

Although the transit of Mercury was already in progress at sunrise here, the phenomenon proved to be more exciting than anticipated, the element of excitement being provided by two large sunspots which were in the path of the transit. Five members made telescopic observations, reporting timings of the sunspot contacts and of the egress.

The above three phenomena gave decided impetus to the Astrophotography Section which, under the chairmanship of John Allcock, had produced some beautiful work. Numerous lunar and planetary photographic experiments have been made and suitable techniques are being evolved; with the completion of the f5 12½-inch reflector, we may expect further improvements.

Two partial lunar eclipses (February 21 and August 16/17) aroused little interest. Response was small to an excellent Double Star program devised by Alfred Capper, Chairman of the Section; and Vic Williams, Chairman of Comet and Nova Search, reports a decrease in interest in this field.

On the other hand, although aurora displays seemed few and far between, Ron Harvey, Chairman of this Section, was surprised at the accumulated totals – eight observers reporting a total of 1599 observations.

Si Brown, Chairman of the Meteor Section, reports this group was highly active in terms of participating members though low in the actual count of meteors recorded.

Keith Hebil, Chairman of the Telescopic Solar Section, reports that the sun was observed on 163 days, with 11 observers submitting a total of 251 reports – the bulk of the reports was received from two observers, Tom Byrne and Walter Jutting.

Final figures have not yet been received on planetary observations made during the past year. However, the display boards on exhibit give an indication of the quality of the work being done. The series of 10 drawings by Keith Hebil of the planet Mars was sent to the R.A.S.C. National Co-ordinator, Joel Amsel, Chairman of the Planetary Section, is preparing a comprehensive analysis of Jupiter observations made during the 1969 apparition.

Howard Simkover, Co-Chairman of the Lunar Section, had planned monthly observing sessions for his Lunar Height Measurement program but on only two of the selected dates was the sky clear.

Charles Good, Chairman of the Lunar Occultation Section, reports a good (but not outstanding) year with nine observers reporting a total of 121 successful timings.

The Radio & Electronics Section, under Co-Chairman Leo Nikkinen and Bert Widdop, continues its program of observing meteors by radio, introducing new techniques, such as the use of a TV set. The Section's greatest undertaking was the construction of a 21 cm radio telescope.

Robert Venor, Chairman of the Telescope Making Section, again had problems obtaining suitable accommodation for his classes. Through the kindness of a member, space is again available and classes are being resumed.

## Annual Meeting

It has not been possible in this condensed report to mention by name all the individuals who have contributed to the various observational programs. To all participants, I would like to express my sincere appreciation of the contributions they have made.

Isabel K. Williamson, *Director*.

### *Report of the Director of the Observatory*

The Observatory has seen much activity during the past year: 2462 visitors were recorded for 366 occasions. There were six meetings of the Board of Directors, and one Observation Committee meeting; five visiting groups were entertained and one High School Astronomy club visited on a regular Saturday evening meeting.

Observations on the site generally suffer from the increasingly poor sky conditions in the city, but the central location of the Observatory is still a powerful asset and Miss Williamson's report shows that useful work can still be done.

Repairs to the electrical system have been completed during the past year as well as a paint job on the main floor and ceiling renewal in the basement. A small group has revived the 12½" reflector, built a new equatorial mounting for it with a clock drive and has started on a program of visual observations, with photographic work planned for the near future. The Zeiss (4") refractor, our third major instrument, has also been cleaned and adjusted and was used for the first time on the recent Star Night in Westmount Park, as was the 12½".

W. Jutting,

## OTTAWA CENTRE

An active and interesting year, 1970 began with the Annual Dinner Meeting held at the Faculty Club, Carleton University, where Dr. Donald MacRae, Chairman of the Department of Astronomy, University of Toronto, and Director of the David Dunlap Observatory, spoke on "Canadian Astronomy in the Seventies".

Other regular lecture meetings continued in the Geophysical Laboratory Building, Dominion Observatory, now officially the Earth Physics Branch, as follows:

February 25th – Michael R. Dence, Gravity Division, Observatories Branch: "Apollo 11 Samples: Their Nature & Significance".

March 19 – Dr. D.W. Sida, Professor of Mathematics, Carleton University: "A Problem of Understanding Relativity and Gravitational Theories".

April 3 – The Observers' Group presented "Eclipse Night".

October 14 – Dr. D.R. McDiarmid, Upper Atmosphere, Research Section, NRC: "Spatial and Temporal Development of Auroral Activities".

November 19 – Barry F. Madore, Graduate Student, University of Toronto: "The Study of a Nearby Galaxy – M33".

December 10 – Dr. Curtis L. Hemenway, Director, The Dudley Observatory, Albany, N.Y.: "From Dust to Dust".

The Observers' Group now meet on the 1st Friday of each month and the attendance at these meetings is increasing steadily. The year has been an exciting one for observations, highlighted by the total solar eclipse of March 7 and the appearance of Comet Bennett.

Regular observing programs of the Observers' Group continued to thrive. The meteor program produced a record number of observations. The Chairman of the Observers' Group, Rick Lavery, has initiated an improved procedure for variable star observing and presented an excellent paper on his method to the General Assembly in May. The Centre was outstandingly represented at the thirty-sixth meeting at Stellafane in August. The first award for Newtonian telescopes was won by Tom Tothill's 8-inch, and third prize went to Fred Lossing's 6-inch reflectors. A talk on the Centre's 16-inch telescope was presented at that gathering and a model of the telescope was on display. Several Observers' Group members accepted an invitation from the Montreal Centre to attend their annual Star Night in Vermont, in Vermont.

All phases of the 16-inch telescope project are progressing. The figure of the mirror is considered excellent, the mount is nearing completion and the initial steps to develop North Mountain site were completed before the first snowfall. The Ottawa Centre looks forward to an official opening of the project at the end of the coming summer.

Mary W. Grey, *Secretary*.



## Annual Meeting

### ST. JOHN'S CENTRE

In addition to the regular monthly meetings there were seven special meetings and excursions during the year. The programs and activities were as follows:

- November 23 – Observation session at Beachy Cove.  
December 1 – Showing of slides for identification of constellations and principal stars.  
December 15 – Talk by Capt. Provan and discussion on Positional Astronomy as applied to Navigation.  
January 5 – Talk on the association of Mythology with the constellations by Mrs. Russell.  
February 2 – Discussion of definitions of various Astronomical terms led by Mr. Woods.  
March 2 – Open House at College of Fisheries, Navigation, Marine Engineering and Electronics at which our Centre participated with an exhibit of Astronomical maps, books, pamphlets and some information relative to the Solar Eclipse of March 7th.  
March 7 – Because of the statistical probability of unfavourable weather at this time of year, no corporate expedition to the region of total eclipse was made. However, two of our members did travel to the said region (about 100 miles NW of St. John's) only to be disappointed by heavy cloud cover.  
March 14 – At a special meeting on Saturday afternoon Mrs. J.H. Beardsley showed and explained her equipment for solar observations, and made some interesting suggestions for observational projects that might be undertaken by the Centre.  
May 5 – By special request Capt. Provan again gave a talk on Positional Astronomy.  
June 8 – Showing of slides with comments and explanations by Mrs. Russell.  
June 26 – Special meeting convened to meet with Mr. Harold Povenmire who had travelled from Florida, U.S.A., for the purpose of observing and timing the grazing of the Moon's limb, on June 30th, by the stars Alcyone and Tagheta in the Pleiades. Mr. Povenmire was seeking and obtained the interest and co-operation of our Centre in this project. Six of our members with seven non-members who became interested in the venture actively assisted Mr. Povenmire. An account of the event by Mrs. Russell is attached to this Report.  
September 14 – Discussion and assessment of results of the double-graze expedition of June 26th, and a talk by Mr. Randy Joyce on the Dominion Astrophysical Observatory at Ottawa.

S.J.S. Woods, *Secretary*.

### TORONTO CENTRE

Nineteen seventy has been a very busy year for the Toronto Centre. A total of eighteen General Meetings were held during 1970, with a total attendance in excess of 3200. The date and subject of each of these meetings follows:

- January 16: Members' Night – Film – "The Radio Sky".  
January 30: Dr. J. Tuzo Wilson: "The Planet Earth".  
January 31: Dr. David Hogg: "Radio Astronomy: A Changing View of the Universe". (Joint meeting with the Royal Canadian Institute.)  
February 13: Dr. J.W. Abrams: "The Two Faces of Ptolemy".  
February 27: Members' Night – Dr. Tom Clarke: Planetarium Show: "The Story of Eclipses".  
March 13: Members' Night.  
April 10: Special Public Lecture: Dr. Peter Van de Kamp: "The Story of Barnard's Star".  
September 25: Mr. Ken Chilton: "Planetary Observing: How and Why?".  
October 9: Members' Night.  
October 23: Dr. David Strangway: "Investigation of Lunar Samples".  
November 6: Dr. C.R. Purton, York University: "Long Wavelength Radio Astronomy at Penticton".  
November 20: Members' Night – Dr. René Racine: "Homemade Photoelectric Photometers".  
December 4: Public Lecture: Dr. Carl Sagan: "The Quest for Life Beyond the Earth".  
December 18: Members' Night – Mr. James Kemp presented a 54-minute slide show with accompanying music and commentary on the flora, fauna, and wildlife of parks in Metro Toronto and Vancouver.

During the summer, the Centre sponsored four Public Star Nights in various parks in the Metro area. These events, organized by a hard-working committee under Mr. Andrew Blinoff, attracted several thousand people.

## Annual Meeting

The Council held six meetings during the year and the Executive, two. Each of these meetings lasted several hours and reflected the growing diversity and complexity of the activities of the Centre. Council's major project during 1970 was the revision of our Constitution and By-Laws. This project has recently been completed and will shortly be presented to the membership.

Harlan Creighton, *Recorder*.

### SASKATOON CENTRE

The Saskatoon Centre was formed late in 1969 and only began to function effectively during 1970. Most meetings were held in the Observatory of the University of Saskatchewan, which has become the "home" of the Centre. This is where we keep our library, equipment and darkroom facilities, as well as our coffee equipment and television set. The growing group of members who are interested in observing meet at the Observatory every Monday. A great deal of effort has been put into renovations of the Observatory's main instrument, a 7-inch refractor. It is now in excellent condition, and has many new features which increase its capabilities and convenience.

The general meetings during the year usually ended in an observing session. The other topics at these meetings were as follows:

January: Observations.

February: Telescope equipment and use; two films: "Window Into Space" and "The Nantes Radio Telescope".

April: F. Holden, M.D.: "Comets".

June: G.N. Patterson: "Astrophotography".

July: Observations.

September: Tour of the Asquith observatory of N.R.C.'s Meteorite Observation and Recovery Project, followed by observational activities at the same site.

October: Election of officers.

November: F. Holden, M.D.: "Sidereal and Synodic Periods"; Films: "Auroral Rocket" and "The Search for the Tunguska Meteorite".

December: F. Holden, M.D.: "Using Data About Planets in the *Observer's Handbook*"; two films.

A.T. Blackwell, *Secretary*.

### WINNIPEG CENTRE

During 1970 four Executive meetings and twelve regular meetings were held, with the following programs:

January – B.F. Shinn: "Occultation Observing Techniques"; Films: "The Force of Gravity"; "The Realm of the Galaxies"; "1969 Highlights from NASA Space Administration".

February 13 – J.N.R. Scatliff, M.D. and J. Newton: "On Solar Observations and Eclipse Phenomena".

March 20 – Members' night: Reports on Total Eclipse as viewed in Mexico and in Winnipeg with slides and movies.

April 10 – D.H. Gallagher: "Comets and Meteors".

May 10 – Films: NASA film on Moon Rocks and Findings "All About the Moon"; "Realm of the Galaxies".

June 12 – F. Anema: "Radio Telescopes".

July 10 – P. Moffat and Alfred Falk: "National Meeting Report"; J.N.R. Scatliff, M.D.: "Matchbox Camera"; B.F. Shinn: "Filar Micrometer".

September 17 – P. Moffat: "Telescope Alignment Techniques"; Film: "Universe".

October 9 – Harry Sevier and W. Jurens: "Auroral Research with the Black Brant Rocket".

November – B.F. Shinn: "Mirror Grinding".

December 11 – Annual Meeting of Winnipeg Center; B. Rotoff: "Biography of Sir William Herschel".

A. Luchik, *Secretary*.

## *Annual Meeting*

### VICTORIA CENTRE

The regular meetings of the Victoria Centre were held at the University of Victoria through the kindness of the University authorities. Seven meetings were held in 1970, and the Council met on several occasions to plan the lectures and to discuss the business of the Centre. The speakers and topics at the regular meetings were:

January 14 – J. Penfold: “Short Period Pulsating Variable Stars”.

February 11 – Dr. P.W. Hodge: “Evolution of Galaxies”.

March 11 – Dr. J. Grygar: “Meteor Observations in Czechoslovakia”.

April 8 – Activities Night.

October 14 – Dr. J. Smolinski: “Turbulence in Stars”.

November 18 – Dr. Jeremy B. Tatum: “Asteroids”.

December 9 – Annual Dinner and Meeting – Speaker – Dr. A.H. Batten.

In addition, a series of five lectures in July and August made up this year’s “Summer Evenings with the Stars”, as follows:–

July 27 – Mrs. Phoebe O. Noble: “Introduction to the Heavens”.

August 3 – Dr. John Hutchings: “Orbiting Astronomical Observatories”.

August 10 – Christopher Aikman: “The Planets in the Space Age”.

August 17 – Dr. Colin Scarfe: “Our Galaxy and Beyond”.

August 24 – F. Younger: “Planetary Probes”.

August 31 – Visit to the Astrophysical Observatory, Observatory Hill, West Saanich Road.

Membership of this Centre for 1970 consisted of 17 student members and 42 regular members, making a total of 59 members, plus 7 life members.

N.B. Manson, *Secretary*.

### WINDSOR CENTRE

During 1970 seven regular meetings, four Council meetings were held, and a field trip to London.

January 20: Fr. Wyler, University of Windsor, spoke on “Interesting Aspects of Basic Mechanics dealing with the Earth and the Universe”;

Current Events: David Toth and Don Marchand.

February 17: Robert Kominar spoke on “History and Present Day Astrology”;

Current Events: Brian Dorrepaal and Gary Drouin.

April 21: Prof. John Huschilt, University of Windsor, spoke on “Basic Spectrum Analysis.”

Brian Dorrepaal and David Toth: Current Events – Eclipse of the Sun.

Gary Drouin showed the movie film he took of the Solar Eclipse.

May 9: Joint meeting with the London Centre: Dr. W. Wehlauf, Director of the new Observatory of the University of Western Ontario, conducted a tour of the facilities including the 48” reflector.

June 9: Observance of the 25th Anniversary of the founding of the Windsor Centre held at Willistead Library. Dr. Orren Mohler, University of Michigan, reviewed “1945 to 1970 in Solar Astronomy”, Reminiscences by Dan Bawtenheimer, Social hour and renewal of old acquaintances.

September 15: Cameron Montrose gave a talk on “Time”.

Brian Dorrepaal and David Toth: Demonstration of using setting circles.

October 20: Prof. Roger Thibert, University of Windsor, “Inner Space, its regulation and coordination”.

Current Events: Gary Drouin.

November 17: Annual meeting, election of officers and council. Film on Apollo 12, and social hour.

J.M. Meredith, *Recorder*.

# ROYAL ASTRONOMICAL SOCIETY OF CANADA 1968

## NATIONAL OFFICERS AND COUNCILS FOR 1970

*Honorary President* – John F. Heard, Ph.D., F.R.S.C.

*President* – Henri Simard, Montreal

*First Vice-President* – J.L. Locke, Ph.D., Ottawa

*Second Vice-President* – Henry C. King, Ph.D., M.Sc., F.R.A.S.

*Secretary* – Norman Creen, B.A., L.Th., 252 College Street, Toronto 130.

*Treasurer* – Cyril G. Clark, 252 College Street, Toronto 130

*Recorder* – Leslie V. Powis, Hamilton

*Librarian* – R. Peter Broughton, B.Sc., Toronto

*Editor of JOURNAL* – Ian Halliday, Ph.D., Ottawa

*Editor of OBSERVER'S HANDBOOK* – John R. Percy, Ph.D., Toronto

*Executive Secretary* – Mrs. Marie Fidler

*Council* –

Past Presidents – M.M. Thomson, M.Sc., Ottawa; J.E. Kennedy, M.Sc.,  
Saskatoon

Representatives from Centres –

Calgary Centre: J.M. Colquhoun

Edmonton Centre: E.S. Keeping, B.Sc.

Halifax Centre: John Shaw

Hamilton Centre: K. Chilton

Kingston Centre: R.J. Good

London Centre: W. Wehlau, Ph.D.

Montreal Centre: S. Sundell; L. Duchow

Centre d'Astronomie de Montréal: Mme R. Matteau

Niagara Falls Centre: H.N.A. Maclean

Ottawa Centre: Ian Halliday, Ph.D.

Centre de Québec: P. Marmet, Ph.D.

St. John's Centre: Mrs. Dora Russell

Saskatoon Centre: Alan T. Blackwell

Toronto Centre: C.G. Clark; J. Low; J.R. Percy, Ph.D.;

E.R. Seaquist, Ph.D.

Vancouver Centre: Robert Allin

Victoria Centre: J.L. Climenhaga, Ph.D.

Windsor Centre: Henry Lee

Winnipeg Centre: B.F. Shinn

(The officers of the Centres are printed in the *Supplement*, p. 20)

## HONORARY MEMBERS OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Dr. V.A. Ambartsumian (U.S.S.R.)

Dr. Bart J. Bok (Australia)

Dr. I.S. Bowen (U.S.A.)

Dr. Gerald M. Clemence (U.S.A.)

Prof. H.C. van de Hulst (Netherlands)

Dr. A.H. Joy (U.S.A.)

Dr. J.H. Oort (Netherlands)

Professor H.H. Plaskett (England)

Dr. Martin Schwarzschild (U.S.A.)

Dr. Harlow Shapley (U.S.A.)

Dr. Iosif S. Shklovsky (U.S.S.R.)

Prof. Bengt G. Strömgren (Denmark)

Dr. A. Unsold (Germany)

Dr. R.v.d.R. Woolley (England)

**MORRIS ALTMAN**

CHARTERED ACCOUNTANT

95 KING STREET EAST

TORONTO 1

CANADA

To the Members of  
The Royal Astronomical Society of Canada 1968.

I have examined the statement of financial position of The Royal Astronomical Society of Canada 1968 as at December 31, 1970 and the statements of revenue and expense and surplus for the year ended on that date. My examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as I considered necessary in the circumstances, except as hereinafter noted.

The receipts of the Society, by their nature, are not susceptible to customary audit procedures. I have therefore accepted the receipts as recorded in the books of the Society, without further verification.

In my opinion, subject to the limitation in the scope of my examination as noted in the preceding paragraph, the accompanying financial statements present fairly the financial position of the Society as at December 31, 1970 and the results of its operations for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

*Morris Altman*

Chartered Accountant.

Toronto, Canada,  
April 12, 1971.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA 1968  
 LA SOCIETE ROYALE D'ASTRONOMIE DU CANADA 1968

STATEMENT OF FINANCIAL POSITION

AS AT DECEMBER 31, 1970

(With comparative figures as at December 31, 1969)

	<u>1970</u>	<u>1969</u>
<u>A S S E T S</u>		
<u>Current Assets</u>		
Cash	\$ 9,938.28	\$ 8,221.04
Accounts receivable	5,252.09	4,949.60
Grants receivable	-	1,000.00
Marketable securities (at cost)	3,018.75	3,000.00
Accrued debenture interest	112.50	81.25
Prepaid expenses	<u>278.83</u>	<u>346.97</u>
	<u>\$18,600.45</u>	<u>\$17,598.86</u>
 <u>Special Funds</u>		
Ruth Northcott Memorial Fund	<u>\$ 4,543.85</u>	<u>-</u>
 <u>Fixed Assets (at cost)</u>		
Land	\$17,000.00	\$17,000.00
Building	17,500.00	17,500.00
Office furniture and equipment	3,737.83	3,630.78
Apartment equipment	<u>1,127.80</u>	<u>1,127.80</u>
	<u>\$39,365.63</u>	<u>\$39,258.58</u>
<u>Less:</u> Accumulated depreciation	<u>9,840.20</u>	<u>9,212.02</u>
	<u>\$29,525.43</u>	<u>\$30,046.56</u>
 <u>Library (nominal value)</u>		
	<u>\$ 100.00</u>	<u>\$ 100.00</u>
	<u>\$52,769.73</u>	<u>\$47,745.42</u>

APPROVED ON BEHALF OF THE COUNCIL:

Henri Simard President

Cyril G. Clark Treasurer

	<u>1970</u>	<u>1969</u>
<u>LIABILITIES AND SURPLUS</u>		
<u>Current Liabilities</u>		
Accounts payable and accrued charges	\$ 17.81	\$ 48.19
<u>Deferred Revenue</u>		
Membership fees for ensuing year	\$ 6,320.59	\$ 5,317.75
Advance subscriptions to Journal and Handbook	9,063.20	7,346.11
Advertising for future publications	-	85.00
Unappropriated life membership fees (per statement)	<u>3,676.05</u>	<u>3,867.07</u>
	<u>\$19,059.84</u>	<u>\$16,615.93</u>
<u>TOTAL LIABILITIES</u>	<u>\$19,077.65</u>	<u>\$16,664.12</u>
<u>Ruth Northcott Memorial Fund Reserve</u>	\$ 4,543.85	-
<u>Library Fund Reserve</u>	-	1,187.66
<u>Surplus</u> (per statement)	29,148.23	29,893.64
	<u>\$52,769.73</u>	<u>\$47,745.42</u>

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA 1968  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA 1968

STATEMENT OF GENERAL REVENUE AND EXPENSE

FOR YEAR ENDED DECEMBER 31, 1970

(With comparative figures for year ended December 31, 1969)

<u>R E V E N U E</u>	<u>1970</u>	<u>1969</u>
Membership fees		
R.A.S.C. Centres	\$ 8,798.40	\$ 6,686.60
Individual members	3,680.05	3,077.60
Life membership reserve - annual appropriation	<u>341.02</u>	<u>333.52</u>
	<u>\$12,819.47</u>	<u>\$10,097.72</u>
Grants and Donations		
Government of Canada - annual grant	\$ 5,000.00	\$ 5,000.00
Province of Ontario - annual grant	1,000.00	1,000.00
Miscellaneous contributions	<u>20.00</u>	<u>10.00</u>
	<u>\$ 6,020.00</u>	<u>\$ 6,010.00</u>
Publications		
Journal of the R.A.S.C.	\$ 5,035.90	\$ 5,099.05
Observer's Handbook	15,656.58	10,284.42
Reprints and publication fees	4,919.70	4,924.48
Advertising	1,765.00	1,740.00
Foreign exchange premiums	<u>664.93</u>	<u>729.77</u>
	<u>\$28,041.61</u>	<u>\$22,777.72</u>
Less: Agents' discounts	<u>2,102.30</u>	<u>1,302.97</u>
	<u>\$25,939.31</u>	<u>\$21,474.75</u>
Miscellaneous Revenue		
Building revenue, less expense (per statement)	\$ 552.69	\$ 647.20
Interest earned	469.41	433.16
Insignia sales	<u>72.00</u>	<u>117.00</u>
	<u>\$ 1,094.10</u>	<u>\$ 1,197.36</u>
<u>TOTAL REVENUE</u>	<u>\$45,872.88</u>	<u>\$38,779.83</u>
<u>E X P E N S E</u>		
Publications	\$34,266.26	\$28,388.37
Staff salaries	7,500.00	6,708.00
Contributions to staff pension fund	467.56	463.96
Stationery, printing and supplies	769.52	930.78
Postage and shipping (net cost)	1,740.85	1,432.65
General and office expenses	738.77	486.45
Telephone	158.85	176.58
Library expense	773.68	51.31
Annual life membership grants to R.A.S.C. Centres	408.00	300.00
Subsidies to centres of the R.A.S.C.	100.00	50.00
General assembly and travelling expenses	608.55	711.23
Medals and awards	196.01	315.46
Legal fees for incorporation of Society	-	300.00
Depreciation of office furniture and equipment	<u>77.90</u>	<u>67.20</u>
<u>TOTAL EXPENSE</u>	<u>\$47,805.95</u>	<u>\$40,381.99</u>
<u>EXCESS OF EXPENSE OVER REVENUE</u>	<u>\$ 1,933.07</u>	<u>\$ 1,602.16</u>



THE ROYAL ASTRONOMICAL SOCIETY OF CANADA 1968  
 LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA 1968

STATEMENT OF BUILDING REVENUE AND EXPENSE

FOR YEAR ENDED DECEMBER 31, 1970

(With comparative figures for year ended December 31, 1969)

	<u>1970</u>	<u>1969</u>
<u>R E V E N U E</u>		
Rentals for space not occupied by the Society	\$ 3,180.00	\$ 3,110.00
<u>E X P E N S E</u>		
Property taxes	\$ 963.92	\$ 866.37
Heating	577.39	419.00
Light, gas and water	249.88	296.05
Maintenance and repairs	217.70	262.96
Insurance	68.14	68.14
Depreciation of building	437.50	437.50
Depreciation of equipment	<u>112.78</u>	<u>112.78</u>
<u>TOTAL EXPENSE</u>	<u>\$ 2,627.31</u>	<u>\$ 2,462.80</u>
<u>EXCESS OF REVENUE OVER EXPENSE</u>	<u>\$ 552.69</u>	<u>\$ 647.20</u>

STATEMENT OF UNAPPROPRIATED LIFE MEMBERSHIP FEES

Balance at beginning of the year	\$ 3,867.07	\$ 3,550.59
<u>Add:</u> Life membership fees received during the year	<u>150.00</u>	<u>650.00</u>
	\$ 4,017.07	\$ 4,200.59
<u>Deduct:</u> Appropriation to general revenue for the year	<u>341.02</u>	<u>333.52</u>
Balance at end of the year	<u>\$ 3,676.05</u>	<u>\$ 3,867.07</u>

SCHEDULE OF FIXED ASSETS AND ACCUMULATED DEPRECIATION

AS AT DECEMBER 31, 1970

	<u>C O S T</u>	<u>ACCUMULATED DEPRECIATION</u>		
		<u>Balance Jan. 1/70</u>	<u>Depreciati<sup>n</sup> For Year</u>	<u>Balance Dec. 31/70</u>
Land	\$17,000.00	\$ -	\$ -	\$ -
Building	17,500.00	5,562.50	437.50	6,000.00
Furniture & office equipment	3,737.83	2,993.18	77.90	3,071.08
Apartment equipment	<u>1,127.80</u>	<u>656.34</u>	<u>112.78</u>	<u>769.12</u>
	<u>\$39,365.63</u>	<u>\$ 9,212.02</u>	<u>\$ 628.18</u>	<u>\$ 9,840.20</u>

## REPORTS OF TREASURER

	Hamilton	Niagara Falls	Ottawa	St. John's
Balance from 1969	1,188.72	97.88	625.74	100.11
Membership Fees	574.00	280.00	544.00	97.50
Donations			49.49	
Educational Activities	119.05	33.50		
Annual Dinner		148.00	247.00	
Sales of Handbooks, etc.	17.00	6.00	29.80	
Bank Interest and Exchange	12.07	2.79	13.86	1.60
Life Member Grants	12.00			
RASC Subsidies		100.00		
Miscellaneous			5.67	
<b>TOTAL</b>	<b>\$1,922.84</b>	<b>\$668.17</b>	<b>\$1,515.56</b>	<b>\$199.28</b>
Fees remitted to N.O.	681.00	111.00		81.00
Library			99.49	
Meetings and Newsletters	211.98	42.00	251.91	
Annual Dinner		166.16	243.90	
General Assembly			127.00	
Equipment and Supplies	241.19			
Office and Administration	248.38	26.66	73.25	10.00
General Expense	71.14	20.35	.03	.20
Handbooks, etc.			6.00	
Educational Activities	56.70		64.06	
Ruth Northcott Mem. Fund	50.00			
Balance carried to 1971	362.45	302.00	649.92	108.00
<b>TOTAL</b>	<b>\$1,922.84</b>	<b>\$668.17</b>	<b>\$1,515.56</b>	<b>\$199.28</b>

TORONTO CENTRE: Securities held

Hydro Quebec Bonds	\$3,000.00
Trust Certificates	1,500.00

# CENTRES

Location	Toronto	Vancouver	Victoria	Windsor	Winnipeg
02.50	4,139.75	748.66	2,440.67	101.60	16.85
	5,241.50	1113.00	480.00	265.00	647.50
	2,939.51	120.00		7.50	
		129.00	189.25		254.00
			139.50		
			13.50	24.00	1.00
	774.25	37.56	130.84	5.46	3.40
	120.00	32.00	44.00		6.00
00.00					
01.00	500.00			3.00	295.00
03.50	\$13,715.01	\$2,180.22	\$3,437.76	\$406.56	\$1,223.75
09.50	3,027.00	777.00	297.00	157.20	389.70
05.09	1,404.16	326.58	22.64	4.50	523.67
			162.48		
	462.00				
00.08			109.19		
00.00	366.65	111.40	68.42	36.81	20.17
07.50	42.16	13.50		12.50	21.00
	70.12				150.00
	250.00				
01.33	8,092.92	951.74	2,778.03	195.55	119.21
03.50	\$13,715.01	\$2,180.22	\$3,437.76	\$406.56	\$1,223.75

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA 1968  
 LA SOCIETE ROYALE D'ASTRONOMIE DU CANADA 1968

STATEMENT OF SURPLUS

FOR YEAR ENDED DECEMBER 31, 1970

(With comparative figures for year ended December 31, 1969)

	<u>1970</u>	<u>1969</u>
Surplus at beginning of the year	\$29,893.64	\$31,495.80
<u>Add:</u> Library fund reserve transferred to surplus	<u>1,187.66</u>	<u>-</u>
	\$31,081.30	\$31,495.80
<u>Deduct:</u> Excess of expense over revenue for the year	<u>1,933.07</u>	<u>1,602.16</u>
Net surplus at end of the year:	<u>\$29,148.23</u>	<u>\$29,893.64</u>

NOTES TO FINANCIAL STATEMENTS

Ruth Northcott Memorial Fund

This fund was established by Council on May 16, 1970 with the proceeds of the legacy received by the Society from the Estate of the late Miss Ruth Northcott. The fund, together with any income earned by it, is to be used for the improvement and extension of the publications of the Society and generally for the promotion of the aims and aspirations of Miss Northcott in the field of astronomy.

Library Fund Reserve

This reserve was set up in 1962 to segregate funds contributed by the late Carl Reinhardt and others toward the acquisition of books for the library of the Society. Over the years, however, it has become increasingly difficult to distinguish between the cost of books chargeable against the reserve and other acquisitions normally included in current library expenses, with the resultant distortion of the comparative figures in the statements of income and expense. In the interest of clarity, it was therefore deemed advisable to eliminate the library fund reserve and the balance thereof, amounting to \$1,187.66, was transferred to the general surplus of the Society.

The adjusted library expenses for the year ended December 31, 1969, including the cost of books charged to the reserve in that year, amounted to \$253.77. The corresponding figure for 1970 was \$773.68.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA 1968  
OFFICERS AND COUNCIL OF THE CENTRES FOR 1971

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*Honorary President* – T.A. Link, Ph.D. *Vice-President* – Noel Lingford  
*President* – S. Wieser, Calgary Centennial Planetarium, Mewata Park, Calgary 1  
*Secretary* – Robert Nelson, 2223 – 7th Ave. N.W. (41) *Recorder* – Brian Clarke  
*Treasurer* – Ulrich Haasdyk *Librarian* – Mike Bandmann  
*Editor* – Brad Harris  
*Council* – F.J. Howell; D.J.I. Fry, Ph.D.; D. Cluett; C. Haber; J.M. Colquhoun; H. Langstaff;  
S. Litchinsky; T. Liska; E. Jobs; J. Findlay; L. Gilchrist.

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*Educational Activities* – R. Haeckel *Observers' Representative* – R. Blaxley  
*Social Convener* – Mrs. Y. Ebbers *Past President* – A. Smith

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*President* – John Shaw, 1094 Wellington St., Apt. No. 402 *Vice-President* – Walter Zukauskas  
*Secretary* – Mrs. Eileen Humphrey, c/o 1747 Summer St.  
*Treasurer* – Peter McQuigan

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*President* – L.V. Powis, 22 Orchard Dr., Box 84, Waterdown, Ont. *2nd Vice-President* – R. Speck  
*Secretary* – P.H. Ashenhurst, C.S.T., F.R.A.S., 1351 Quincy Cres., Burlington  
*Treasurer* – E.A. Colquhoun *Curator* – J.G. Craig, B.Sc.  
*Librarian* – Mrs. C. Clark  
*Council* – G.A. Thede, B.Sc.; K.E. Chilton, F.R.A.S.; R. Clark; H.H. Cornfield; V. Evanochko;  
N. Green, B.A., L.Th.; W. Keating; J.W. Macdonald; Miss L. Young.

KINGSTON CENTRE

*President* – Glenn Chapman, Donald Gordon House, Queen's University  
*Vice-President* – David Kinnaird *Secretary* – R.J. Good, Bonvue, R.R. No. 1, Kingston

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*President* – R. Lyons, 26 Wychwood Park *Editor* – D.G. Turner  
*Secretary* – M. Connors, 362 Baseline Rd. W. (63) *Activities Group* – M. Connors  
*Treasurer* – G. Douglas *Council Representative* – W. Wehlau, Ph.D.  
*Program Chairman* – A. Wehlau, Ph.D.

MONTREAL CENTRE

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*President* – L.R. Duchow, 5047 Cavendish Blvd. (265) *Vice-President* – S.M. Sundell  
*Secretary* – H. Simkover, 4190 Kensington Ave. (261) *Recorder* – W.J. Cullinan  
*Treasurer* – G. Robertson *Librarian* – C. Good  
*Director of Observatory* – B. Ramsay *Director of Observational Activities* – W. Jutting  
*Board of Directors* – T.F. Morris, Ph.D.; J. Allcock; T. Byrne; O. Cardella; C.M. Good; K.  
McNamara; L. Nikkinen; H.J. Widdop; V. Williams; Miss I.K. Williamson.

CENTRE D'ASTRONOMIE DE MONTREAL

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*Secrétaire* – Rolland Noel de Tilley, 5069 Belanger (410)  
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*Editor* – Rolland Noel de Tilly *Bibliothécaire* – Gaetan Cholette

*Directeur des Conférences* – Philippe Mailloux *Directeur des observations* – Lucien Coallier  
*Directeur d'Observatoire* – Henri Simard *Directeur section d'optique* – Pierre Beauchamp  
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*Directeurs* – Vianney Houle; Jean Vallières; Mlle Irene Gauthier; Huberte Palardy; Lise  
Beauchamp.

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*Treasurer* – A.G. Kindy  
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### OTTAWA CENTRE

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*President* – L.A. Higgs, D.Phil., National Research Council (7)  
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*Secretary* – Mrs. Mary Grey, B.Sc. (C.E.), Earth Physics Branch, 3 Observatory Cres. (3)  
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*Librarian* – S.A. Mott *Recorder* – F.N. Lavery  
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*Councillor for Programming* – H. Frydenlund *Councillor for Observation* – W. Frenzel  
*Councillor for P.R. and Editor* – W.H. Ford

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*Optical Workshop* – R. Bredberg *Public Star Nights* – P. Tattersall  
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*Secretary-Treasurer* – J.F. Wright, 1009 Belvedere Dr. (N.Van.) *Editor* – Sam Riddell  
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*1st Vice-President* – J.W. Elliott

*2nd Vice-President* – Paul Moffat

*Editor* – B.F. Shinn

## 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	1929 – P.M. Millman	1960 – C.R. Purton
1907 – R.M. Motherwell	1931 – W.S. Armstrong	1961 – R.C. Henry
1909 – R.K. Young	1933 – K.O. Wright	1962 – J.R. Percy
1910 – R.J. McDiarmid	1935 – Miss F.S. Patterson	1963 – P.H. Reynolds
1911 – R.S. Sheppard	1937 – D.A. MacRae	1965 – A.F.J. Moffat
1913 – E.A. Hodgson	1940 – W.F.M. Buscombe	1966 – W.A. Sherwood
1914 – G.S. Campbell	1948 – R.W. Tanner	1967 – R.H. Chambers
1926 – F.S. Hogg	1949 – I. Halliday	1968 – P. Martin
	1956 – D.C. Morton	1970 – J. Kormendy

## 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:

1940 – Bertram J. Topham (Toronto)	1951 – DeLisle Garneau (Centre d’Astronomie de Montréal)
1941 – H. Boyd Brydon (Victoria)	
1942 – W.G. Colgrove (London)	1953 – Jean Naubert (Centre d’Astronomie de Montréal)
1943 – Cyril G. Wates (Edmonton)	
1945 – Paul-H. Nadeau (Quebec)	1955 – Frank J. DeKinder (Montreal)
1948 – Isabel K. Williamson (Montreal)	1956 – Maurice Drolet (Quebec)
1949 – Frank Sisman (Hamilton)	1959 – Earl Milton (Edmonton)
1950 – F. Keith Dalton (Toronto)	1967 – R.R. Thompson (Toronto)

**SERVICE AWARD MEDAL  
OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA**

The Service Award was established in 1959 and, on recommendation of a special committee of the National Council, this small bronze plaque is presented to members who have performed outstanding service to a Centre or to the National Society.

- |        |                                       |   |
|--------|---------------------------------------|---|
| 1959 – | E.J.A. Kennedy (Nat. Secretary)       | Ernest S. Keeping (Edmonton)                  |
|        | J.H. Horning (National Treasurer)     | *W.S. Mallory (Hamilton)                      |
| 1960 – | Charles M. Good (Montréal)            | 1966 – P. Lemieux (Montréal)                  |
|        | Miss F. Laforest (Montréal)           | S. Litchinsky (Calgary)                       |
|        | Frederic L. Troyer (Toronto)          | W.J. McCallion (Hamilton)                     |
| 1961 – | *Robert Peters (Victoria)             | W.A. Warren (Montreal)                        |
| 1962 – | Jean Asselin (Montréal)               | 1967 – H.S. Hogg (Toronto)                    |
|        | Robert J. Clark (Vancouver)           | P.M. Millman (Ottawa)                         |
|        | Jesse Ketchum (Toronto)               | *R.J. Northcott (Toronto)                     |
|        | Joseph A. Pearce (Victoria)           | H. Simard (Montréal)                          |
| 1963 – | Edwin E. Bridgen (Montreal)           | J.F. Wright (Calgary)                         |
|        | Miss M.S. Burland (Ottawa)            | 1968 – D.R.P. Coats (Calgary and<br>Winnipeg) |
|        | A. Vibert Douglas (Kingston)          | George Ball (Victoria)                        |
| 1964 – | C.S. Beals (Ottawa)                   | Herbert Fox (Hamilton)                        |
|        | M.W. Burke-Gaffney, S.J.<br>(Halifax) | 1970 – Norman Green (Hamilton)                |
|        | W.T. Goddard (Hamilton)               | J.E. Kennedy (Saskatoon)                      |
| 1965 – | D.C. Bawtenheimer (Windsor)           |   |
|        | John F. Heard (Toronto)               |   |
|        | A.M. Crooker (Vancouver)              |   |

\*Deceased