



Supplement to the **JOURNAL**  
of the **ROYAL ASTRONOMICAL**  
**SOCIETY** of **CANADA**

**ANNUAL REPORT 1980**

**APRIL 1981**

## PRESIDENTS OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

1890-1894	C. Carpmael	1938-1939	W. Findlay
1895	L.W. Smith	1940	J.A. Pearce
1896-1897	J.A. Paterson	1941-1942	F.S. Hogg
1898-1899	A. Harvey	1943-1944	A.V. Douglas
1900-1902	G.E. Lumsden	1945-1946	A.E. Johns
1902-1903	R.F. Stupart	1947-1948	J.W. Campbell
1904-1907	C.A. Chant	1949-1950	A. Thomson
1908-1909	W.B. Musson	1951-1952	C.S. Beals
1910-1911	A.T. DeLury	1953-1954	J.F. Heard
1912-1913	L.B. Stewart	1955-1957	R.M. Petrie
1914-1915	J.S. Plaskett	1957-1959	H.S. Hogg
1916-1917	A.D. Watson	1959-1960	A. McKellar
1918-1919	A.F. Miller	1960-1962	P.M. Millman
1920-1921	J.R. Collins	1962-1964	R.J. Northcott
1922-1923	W.E.W. Jackson	1964-1966	K.O. Wright
1924-1925	R.M. Stewart	1966-1968	M.M. Thomson
1926-1927	A.F. Hunter	1968-1970	J.E. Kennedy
1928-1929	W.E. Harper	1970-1972	H. Simard
1930-1931	H.R. Kingston	1972-1974	J.L. Locke
1932-1933	R.K. Young	1974-1976	J.D. Fernie
1934-1935	L. Gilchrist	1976-1978	A.H. Batten
1936-1937	R.E. DeLury	1978-1980	J.R. Percy
		1980-	I. Halliday

## SECRETARIES OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Corresponding Secretary 1890-1901; Secretary 1902-1919, General Secretary 1920-1949;  
National Secretary 1950 onwards.

1890-1899	G.E. Lumsden	1932-1935	R.A. Gray
1900-1902	W.B. Musson	1935-1958	E.J.A. Kennedy
1902-1917	J.R. Collins	1958-1964	J.E. Kennedy
1918-1919	W.E.W. Jackson	1964-1971	N. Green
1920-1923	A.F. Hunter	1971-1974	C.E. Hodgson
1924-1927	F.T. Stanford	1974-1977	D.J. FitzGerald
1928-1931	L. Gilchrist	1978-1980	N. Green

## REPORT OF THE PRESIDENT

In looking back on the first year of the eighties it is apparent that significant milestones were recorded during the year by the Society, by Canadian astronomy and by astronomy in general. The Bluenose General Assembly in Halifax was the first joint meeting of the Royal Astronomical Society of Canada with the Canadian Astronomical Society and it was an unqualified success. The scientific sessions of the two societies were blended in a most effective manner and the social program was enjoyed by all who attended, especially the evening cruise on the magnificent Bluenose II. We can anticipate that joint meetings with the CAS and other societies will be attractive aspects of future General Assemblies. Our sincere thanks go to all who had a part in making the 1980 meeting such a success.

During 1980 we welcomed the addition of a new Centre of the Society, our nineteenth, in Kitchener-Waterloo. Those who have an opportunity to visit with this Centre will be impressed with the vitality of the group and the excellent observatory facilities associated with the Centre. At the end of 1980 the prospect of adding another new Centre to the Society is a very real one indeed. This is an excellent sign, since an increase in the number of locations within Canada where an interest in astronomy flourishes is surely our best guarantee for the future.

Individual Centres and members may well be proud of achievements during 1980. For some, an expedition to see the total solar eclipse in Kenya will remain a high point of their astronomical lives. Others have enjoyed the satisfaction of helping their Centre complete a major project or have fulfilled a personal goal such as earning the newly created Messier Certificate of the Society. In Halifax the Society awarded the Chant Medal to David Levy for his extensive observations of variable stars and his outstanding contributions in conveying a love of astronomy to others. Rolph Meier discovered his third comet in as many years, using the type of telescope whose virtues were so well documented by Dr. John Percy in his Presidential Address.

Canadian astronomers will look back on 1980 as the year in which a first-class large telescope at a superb site became available to them. The Canada-France-Hawaii telescope differs in location and the partnership arrangement from the one foreseen when Canadian astronomers began their campaign for a large telescope in 1962 (see our *Journal*, vol. 57) but it represents the outcome of these efforts and similar aspirations in other countries. The proposed very long-baseline array of radio telescopes, which would stretch from coast to coast across Canada, would offer equally exciting opportunities in radio astronomy. A decision on this project is expected within a year or two.

Perhaps the most exciting surprises of 1980 came from the close-up pictures of Saturn, its rings and family of moons, relayed to Earth by Voyager I. They contain challenges to stimulate research for years to come. Anniversaries are worthy of note and the fiftieth anniversary of the discovery of Pluto in 1930 was celebrated with a more adequate understanding of its nature, thanks to the discovery in 1978 of its satellite Charon.

Our publications play a crucial role in the Society. At the close of 1980 new editors assume the responsibility for each of our publications and we owe a particular debt of gratitude to Dr. Lloyd Higgs, Dr. John Percy and Franklyn Shinn for their years of devoted attention to the *Journal*, the *Observer's Handbook* and the *National Newsletter*. We are confident their successors will maintain the high standards we have come to expect. I would close by expressing my personal appreciation to all members of National Council for their active support, to Miss Donna Haley, our solicitor, and to Mr. Morris Altman, our auditor, for their valued services and to our Executive-Secretary, Rosemary Freeman for her constant attention to all the details which permit the Society to function smoothly.

Ian Halliday

## REPORT OF THE NATIONAL SECRETARY

The past year has revealed an upsurge of interest in the science of astronomy in general, and in particular there is vigorous activity among several of the Centres of our Society. Larger and better optical telescopes have been made or purchased, radio dishes are proliferating, small observatories have been built, astro-photography has advanced remarkably, public education endeavours have grown apace; in fact, it is now difficult to keep up with all of the on-going commendable work of the Society's individual members and of the Centres from coast to coast. The Centre reports, included in this Supplement, reveal something of the various and innovative ideas that are being pursued.

It was with much pleasure that the Society welcomed an additional Centre during 1980, bringing the total number to a new high of nineteen. The Kitchener-Waterloo Centre held the official opening meeting on September 12th with Dr. Ian Halliday, National President, and Dr. Helen Hogg, National Honorary President, in attendance. Representatives from six Centres were also present for this important occasion.

During 1980 meetings of the National Council were held on March 29th, on June 27th in conjunction with the General Assembly in Halifax, and on September 27th. A well-attended Annual Meeting was held on June 29th in Halifax.

As of September 30th, 1980, membership in the Society was as follows, compared with the same date in 1979:

	1979	1980
Calgary	74	96
Edmonton	97	96
Halifax	94	96
Hamilton	71	53
Kitchener-Waterloo	—	32
Kingston	19	18
London	45	68
Montreal	85	62
La Société d'Ast. de Montréal	97	128
Niagara	42	51
Ottawa	232	232
Québec	135	103
St. John's	16	18
Saskatoon	42	53
Toronto	667	630
Vancouver	139	123
Victoria	95	101
Windsor	39	41
Winnipeg	68	59
<u>Unattached to Centres:</u>		
Canada	212	215
United States	380	361
Overseas	49	50
Honorary	15	14
	<u>2713</u>	<u>2690</u>

The Society is pleased to acknowledge the receipt of annual grants from the National Research Council of Canada, and from the Ministry of Colleges and Universities of the Province of Ontario.

This will be my last opportunity to write the Secretary's Annual Report. I feel that after seven previous years, and four more recent years, in office it is good for the Society to have a change. In relinquishing office, however, I do want to express warm and sincere thanks to all who have, in so many ways, made the Secretary's work a pleasant and rewarding experience. Personal contacts and friendships made will continue to mean so much.

Norman Green, *National Secretary*

## CALGARY CENTRE

All of the Calgary Centre's general meetings in the 1980 year were held at the University of Calgary.

- January 17 Brian Clarke "The Beanstalk – an overlooked launch vehicle for satellites."  
Don Hladiuk "Aurora"
- February 21 Steven Morris "δ Scuti Variable Stars"
- March 20 Don Hladiuk "African Solar Eclipse Preview"  
James Himer "Astrophotography"  
Dr. David Fry "Harmony of the Worlds – tape recording"
- April 17 Dr. David Fry "The Evolution of Stars"
- May 15 Don Hladiuk "The February 16 African Solar Eclipse Expedition"
- June 5 Dr. Doug Hube "Rotating Stars"
- September 18 Dr. Alan Clark "Results from the August 10 Solar Eclipse"
- October 16 Annual visit to the University of Calgary's Rothney Astrophysical  
Observatory hosted by James Himer.  
James Himer "Cosmic Zoom"
- November 20 Alan Dyer "Astrophotography how to's and highlights of the recent  
Riverside convention"
- December 11 Annual Banquet  
Don Hladiuk "The Christmas Star"

1980 was a year of reorganization and growth. In this year the Calgary Centre drafted a new Centre Constitution and By-laws which was given unanimous consent by the National Council. The Calgary Centre was also successful in becoming an incorporated society in the province of Alberta.

The Calgary Centre also applied for and received a \$47,000.00 gift from the City of Calgary in commemoration of the Province's 75th birthday.

The funds are being used in the construction of an elaborate optical and possibly even a radio observatory about 20 km. south of the City limits at the Strathcona Tweedsmuir School. The Centre observatory will house a 32 cm. optical telescope and possibly a 7.5 metre diameter, steerable, parabolic radio telescope (still in pieces) both of which have been built entirely by the local membership and nearing completion. The observatory is planned for completion in late 1982 with preliminary construction taking place in May 1981. Research topics are already being considered for the observatory and construction of even a second telescope for an interferometer is being contemplated. It is hoped that cooperate research in some of these topics between the Centre's facility and that of the University of Calgary's Rothney Astrophysical Observatory will take place upon completion of our observatory.

Negotiations with the Provincial Parks Department may net the Calgary Centre a remote dark site. Plateau mountain which is located some 80 km. southwest of Calgary deep in the foothills is being considered. Several overnight star parties already held there, some together with members from the Edmonton centre, have been productive in determining the excellent (albeit sometimes windy) sky conditions of this location.

Two star nights were held within the City. One at the Centennial Planetarium in the Spring and another in a City park located in south Calgary in November. The latter was well advertised and drew about 200 people.

1980 was indeed a very successful year.

James Thomas Himer, *President*

## EDMONTON CENTRE

The past year has been an active and successful one for the Edmonton Centre. We continued development of both our "dark site" at Buck Mountain, S.W. of Edmonton, and our "near site" at Ellerslie. We began work on a 17½-inch Dobsonian telescope. Our newly-completed Shopping Centre Display drew large crowds wherever it was set up. Our annual Star Night, hosted jointly with the Queen Elizabeth Planetarium in April, was very well attended. The

biggest disappointment of the year was the loss of our *Stardust* editor, Paul Deans, who moved to Toronto.

One of the year's highlights was the Annual Banquet held on March 21st; the guest speaker, Dr. Werner Israel, presented an excellent lecture on black holes and cosmology. The Edmonton Centre held six council meetings and ten regular meetings during 1980; the programmes of the latter were as follows:

- January 14 Rod McConnell, Dave Beale and Dave Belcher, Edmonton Centre: "If This is Tuesday, This Must Be Kitt Peak."
- February 11 Paul Deans, Queen Elizabeth Planetarium: "The Golden Age of Planetary Exploration."
- March 10 Dr. Alan Clark, University of Calgary: "Taking the Sun's Temperature."
- April 14 Jack Newton, Victoria Centre: "Deep-Sky Astrophotography."
- May 12 Don Hladiuk, Calgary Centre: "The February 16, 1980 Solar Eclipse in Africa."
- June 9 Alan Dyer, Stew Krysko, Rod McConnell and Diana Wood, Edmonton Centre: "The 1980 Riverside Telescope Makers Conference."
- September 15 Dr. David Routledge, University of Alberta: "Canada's Very Long Baseline Array – A Radio Telescope From Sea to Sea."
- October 20 Dr. Gordon Rostoker, University of Alberta: "Aurora: Violence in our Skies."
- November 3 Several members of the Edmonton Centre: "Highlights From the Observer's Corner Meetings."
- December 8 Alan Dyer, Edmonton Centre: "Voyager 1 Encounters Saturn."

Anthony Whyte, *Secretary*

#### HALIFAX CENTRE

The following is a list of all regular meetings held by the Halifax Centre during 1980.

- January 18 Dale Ellis, "Neutron Stars"
- February 15 Pat Kelly, "From Vulcan you say?" Extra terrestrial communication
- March 21 Member's Night – Constitution & By-Laws, Quiz, Movies
- April 18 Mac Fyfe, Optical Design
- May 16 Annual Dinner Meeting, Awards, John Percy – "History of the David Dunlap Observatory"
- June 20 Murray Cunningham, "Solstices and Nodes – Stonehenge I"
- September 19 Father Lonc, "Radio Astronomy – The Very Large Array"
- October 17 Larry Bogan, "Passive Solar Heating"
- November 21 Robert Roeder, "Double Quasars; Gravitational Lenses"
- December 12 David Dupuis, "Arizona Experiences."

We did of course, hold The Bluenose General Assembly and our whole Centre contributed to this.

Our meetings are held at The Nova Scotia Museum. The attendance ranges from a low of about 30 to a high of 250 (Robert Roeder). The average is about 40.

R.M. Cunningham, *Secretary*

#### HAMILTON CENTRE

The year 1980 proved to be an active year for the members of the Hamilton Centre. General Meetings were held on the 1st Thursday of every month at McMaster University. They were well attended and Brian Mackid conducted the meetings with much enthusiasm. Some of the meetings' highlights included the following speakers:

- March 6 Mr. Peter Jedicke – "The Pioneer Venus Probes."
- May 1 Mr. Lockyer, from Spar Aerospace-Satellites: "Canadian Uses of Space Technology."

- June 5 Mr Edward Benner – “The Violent Tides Between Galaxies.”  
 October 2 Mr. Terry Dwyer, from the Mt. Hope Weather Office – “The Weather.”  
 November 6 Mr John Kidner – “The Questar Telescope.”

In addition to the General meetings held from January to June and from October to December, Brian Mackid again organized three summer meetings which were held at our observatory. Brian lectured on photographic techniques. These talks were well received.

Much activity was centred around our year-old observatory. A small but dedicated group of observers engaged themselves in astrophotography, monitoring variable stars, planetary studies and the usual casual observing. Elsewhere, John Hudak continued to observe the sun at radio wave-lengths. Records indicate that over 1,000 man-hours were logged in the observers' log book at the Observatory. Presently a 12½" telescope occupies the dome, but it will be replaced by a 17½" equatorially mounted reflector in the springtime. The optics are on order and the fork mount, which is being constructed by Ben Hoeflaok, is expected to be completed early this year.

Our commitment to Public Education came in the form of 'Public Nights'. They were held at the Observatory on the 2nd and 4th Friday of each month. Each program included a lecture by one of our members, a movie, a tour of the building, and of course, a look through a telescope. Les Powis, Barry Sherman, and Bob Speck offered much of their time towards the Public Nights and must be congratulated for a job well done! We have entertained over 500 guests since the program began in March.

Our Centre's publication, *Orbit*, enjoyed another successful year, this time under the capable leadership of Clive Gibbons. Clive's job was made much easier thanks to the efforts of several faithful contributors.

The Centre's activities were not confined to the Hamilton area. Several members attended gatherings such as the Syracuse Summer Seminar, Stellafane, National Frontier Council of Amateur Astronomical Associations meetings, and the General Assembly.

Though 1980 was not without its frustrations and failures, the year will be remembered as one of accomplishment. The Hamilton Centre looks forward to similar success in 1981!

Derek S. Baker, *Secretary*

## KINGSTON CENTRE

1980 was a fairly active year for the Kingston Centre. On February 14th the Centre participated in the Queen's University Open House. On the 21st, Peter Jedicke and Tom Glinos of the London Centre gave a talk about their cable television programme and their trip to Tucson. In March, the Centre's president, Angelika Hackett, visited Tucson and the Kitt Peak Observatory. On May 29th, Dr. A.V. Douglas, our Honorary President, talked about her expedition to India to observe the February 16th total solar eclipse. At the General Assembly in Halifax, David Levy received the Chant Medal. During the summer, visits were made to David's cottage in Québec for observing sessions. Leo Enright and Angelika represented the Centre at the Queen's University Clubs' Night in September and since then several students have attended our meetings. On October 5th several members made an excursion to the Holleford Meteor Crater, a few miles north of Kingston. Mr. Covington talked about Radio Astronomy on November 13th, and on November 27th, Leo was awarded the Membership Certificate. Leo also gave an informative talk about the vast array of atlases on the market. On December 11th, Andrew Ager talked about NASA.

At a recent meeting the Centre's membership decided to change its meetings to Friday nights so that those members who wished to make use of the Centre's 10-inch Newtonian reflector in Gananoque could do so, weather permitting.

Our thanks goes to Leo for his enthusiastic and invaluable work as editor of the Centre's newsletter, *Regulus*.

James Knox, *Secretary*

## KITCHENER-WATERLOO CENTRE

The year 1980 brought many changes to our Centre. Prior to September 12th of that year we were known as the Grand Valley Astronomers, a club with a 28-year history. Since the September 12 grand opening we have become the 19th centre of the Royal Astronomical Society of Canada. Work is proceeding on our 12½" F/5 Newtonian to ready it for prime-focus photography which is housed in a 2-storey domed observatory. Adjacent to the structure is the Dance Hill Observatory of roll-off roof design. This observatory is owned and operated by three of the Centre's members. They are involved in doing astro-photography with a 8" Schmit and are in the preparatory and planning stage of a project which involves doing photoelectric photometry of celestial sources of varying light emissions, using a 14¼" Newtonian. We have seen a 40% increase in membership since our enrolment into the Royal Astronomical Society of Canada and have just begun to realize some of the benefits of being part of this Canadian-wide network for amateur astronomers. The regular meetings of the Kitchener-Waterloo centre were held on the 2nd Tuesday of each month at Sir Wilfrid Laurier University in room 2C8.

The speakers and topics for our monthly meetings were:

- January film-nite – "The Universe".
- February "Minor Planets", Clifford Cunningham.
- March "A Trip to Kenya and the Solar Eclipse", Gerald Kennedy.
- April "Star Clusters and Stellar Associations", Murray Kaitting.
- May "Take Astrology, Seriously!", John Dowdell.
- June "Greek Astronomy", John Dubinski.
- July Summer Break
- August
- September "The Role Which the Changing Brightness of Celestial Objects Has Played in the Development of Astronomical Concepts", Professor Ray Koenig.
- October Part II of the above title, Professor Ray Koenig.
- November "Archeo-astronomy", Ian McGregor.
- December "The State of Astronomy Around the Time of the Birth of Jesus Christ", Joe Giberson.

Centre members participated in several of the major observing highlights of the year. The February total solar eclipse in Kenya, the grazing occultation of the third magnitude binary Gamma Virginus and the Perseid Meteor shower to name just a few. However, the major and certainly most memorable event was our Grand Opening of September 12, joining with the R.A.S.C. Dr. Ian Halliday, President of the R.A.S.C. formally welcomed us as the 19th centre and spoke on the national character of the Society and its membership of more than 3,000 astronomers. Ceremonies commenced under the direction of Professor Ray Koenig of WLU. Our Honorary President and founder of the astronomy club, Carl Arndt, gave a slide show on the 28 year history of the Grand Valley Astronomers. Following an introduction by Clifford Cunningham, Dr. Helen Sawyer Hogg of the University of Toronto and Honorary President of the R.A.S.C. delivered the Centre's inaugural address on the topic of Variable Stars In Globular Clusters. In appreciation for her visit, Gerald Kennedy presented her with a plaque on behalf of the Centre.

Ending the ceremonies at WLU was a brief slide show of the two observatories near Ayr, south of Kitchener. About 50 people then proceeded to the observatory site where Dr. Hogg cut a red ribbon and declared the facilities open.

The event proved to be a great success, with representatives from five Centres present, as well as two visitors from New York. In all, more than 100 people attended.

In a nutshell, 1980 was a most positive and expanding year of growth and development for our Centre and I personally see no reason to turn back now!

Murray Kaitting, *Secretary*



## LONDON CENTRE

During the year of 1980 the program of public lectures held at the University of Western Ontario was as follows:

- January 18 Members Night.
- January 19 Eighth Annual Banquet and Annual Meeting, *Spotted Dogs*, Dr. John R. Percy, National President R.A.S.C.
- February 15 *In Search of the Evolutionary Path of Meteors or 'Great Balls of Fire! What are They!'*, Dr. J. Jones, U.W.O. Dept. of Physics.
- March 21 Annual Dr. H.R. Kingston Memorial Lecture, *Planetary Atmospheres*, Dr. W.S. Fyfe, U.W.O. Dept. of Geology.
- March 28 "Newfoundland Standard Time: History and Problems," Garry Dymond, St. John's Centre, R.A.S.C.
- April 18 *A Look at the London Regional Children's Museum's Planetarium*, Peter Jedicke, National Representative, London Centre.
- May 16 *Harlow Shapley and the Size of the Universe*, Dr. H. Plotkin, U.W.O. Dept. of History of Medicine and Science
- June 20 *Astronomy Programs For Children*, David Levy, Kingston Centre.
- July 18 *Recent Activities of the Kingston Centre*, Leo Enright, Kingston Centre.
- August 15 *Be Stars*, Jaymie Matthews, London Centre.
- September 19 Members Night.
- October 17 *The Halifax and Tucson Astronomical Meetings*, Clifford Cunningham, Waterloo Centre.
- November 21 Fourth Annual Presidential Address, *IOU the IUE*, Gerald Schieven, President, London Centre.
- December 18 *Magnetic Stars*, Dr. J. D. Landstreet, U.W.O. Dept. of Astronomy.

1980 was a busy year for the London Centre. Its members travelled far and wide to view and attend events of astronomical interest. There were trips to Stellafane, Bruce Nuclear Generating, Syracuse Summer Seminar, the NFCAAA in Niagara Falls, and the Jackson Space Centre in Michigan to name a few.

The Centre's service to the community continues thanks to Peter Jedicke and his course at Fanshawe College and his television show *Telescope*. Additional thanks must go to both Peter and Gerald Schieven for their many hours of volunteer work at the London Regional Childrens Museum. 1980 saw the culmination of several years of effort to bring a planetarium (albiet small) to the city of London.

The Centre hosted several events of interest this past year. In conjunction with the U.W.O. Department of Astronomy a successful Astronomy Day was held in April. May saw the Centre host the Spring Meeting of the Niagara Frontier Council of Amateur Astronomical Associations (NFCAAA). This was a meeting of astronomy clubs, both American and Canadian, around the 'Golden Horseshoe' area of the Great Lakes.

The Centre had several speaker exchanges with other Centres, including a speaker exchange with the St. John's Centre. This exchange was the first of its type in a new program initiated by the National Office which partially funded the exchange.

Individual recognition must go to our variable star and deep sky observers who uphold the Centre tradition of high quality amateur observations. Special recognition must go to treasurer Steven Sharp who, with over 4000 observations, became one of the eight top observers for the AAVSO in 1980. Special recognition must also go to Zedenko Saroch who continues his work in astronomy in the city of Sarnia. The individual achievements of Walter Campney must be noted. Walter has completed his own personal observatory and has it equipped with a 10-inch telescope of his own construction. Our thanks must also go to Eric Clinton for the many pages of editing he has done for the Centre publication *Astronomy London*.

1980 saw the London Centre sponsor, along with the Federal Government's Summer Youth Employment Program, Project Zubenelgenubi 1980. With a budget of over \$8000.00 Project



individual successes. From our Centre, of which five members turned out, Mr. Alister Ling, Mr. David Brown and Mr. Gary Boyle were successful. The second trip was to Bedford, also in the Eastern Townships, and was organized by Mr. David Brown. Although Mr. Brown organized the trip only Mr. Alister Ling and Mr. Gary Boyle were able to attend. Mr. Ling was completely successful, and Mr. Boyle qualifyingly so.

Also in January of this year our Centre was offered the use of a piece of land at Alexandria, Ontario, for the purpose of out-of-town observing. We are indebted to Mr. Fred Clarke of Stellar Telescopes Inc., and his associates for the use of this land, which is at his parents' summer home. Mr. Clarke and his friends have an observatory built there which they have named "Cedarcrest Observatory". Having been out there on a few occasions I can attest to the fact that the seeing conditions for astronomical purposes are excellent. A third and fourth field trip which we hope will involve many of our members is being organized to partake in a "Messier Marathon" at Mr. Clarke's Cedarcrest Observatory.

Re our editing of *SKYWARD*: the editor, Mrs. E.R. Pride and staff have found it unprofitable to put out an edition of *SKYWARD* every month, mainly because there are not sufficient articles being written at this present time. Therefore we have decided to publish only every two months. We have lately become more critical of content because of Rev. Norman Green's comments and have refused articles which we have found too jocular and/or of a non-astronomical nature.

In closing, I would like to add that although our problems a year ago were monumental, considerable inroads have been made and are continuing to be made. In June of this year our Treasurer, who is also the editor of *SKYWARD*, Mrs. E.R. Pride, will be representing the Montreal Centre as our National Representative at the National Assembly in Victoria. Mrs. Pride was appointed to this post at a Board Meeting of the Montreal Centre in January of this year.

Ronald Ogilvie Pow, *Secretary*

## LE CENTRE FRANCAIS DE MONTRÉAL

Le Centre Francais de Montréal et La Société d'Astronomie de Montréal sont intimement liés. Les deux organismes ont la même direction.

L'année écoulée a subi un léger fléchissement dans nos activités et dans nos adhésions: de 836 membres que nous étions l'an passée, nous avons terminé l'année avec 806. Nos activités ont été fortement gênées par la grève des employés de la Ville de Montréal, pendant plusieurs semaines (environ 15), nous n'avions pas accès à notre Centre de réunion, au Jardin Botanique et nous avons été obligés de nous trouver un nouveau local à l'été 1980, avec l'avènement des Floralties qui ont également restreint l'espace qui nous était réservé. Pendant tout le printemps, nos activités ont forcément été nulles.

Parmi nos sociétaires, 77 membres séniors et 17 juniors se sont également inscrits comme membres de la Société Royale d'Astronomie du Canada.

Des dons pour un total de \$1381.50 ont été obtenus pour notre observatoire.

Lors de notre Souper Annuel, 56 convives ont assisté à la remise des prix Georgette LeMoyné, attribué à M. Roger Gagnon, L'Etoile d'Argent décernée à M. Rolland Noël de Tilly et un trophée spécial à Mme Lise Melançon en hommage pour leurs services.

Les travaux à l'observatoire avance lentement. On doit y faire du déboisement et un groupe travaille à la construction du dôme. Les planchers de béton sont coulés et une porte de sécurité est actuellement installée.

Notre soirée populaire ne fut pas un succès en raison de la météo qui a compromis la participation. Toutefois des conférences et des projections ont suppléé à l'intérêt de l'observation pour les quelque 200 personnes présentes.

Trois excursions furent organisées, dont deux à l'Observatoire du Québec, au Mont Mégantic et une à Ottawa, au Musée de la Science et de la Technologie ainsi qu'à l'observatoire du Dominion. Malheureusement la météo n'était pas favorable non plus.

Nous avons participé à l'Expo-Science tenue au Complexe Desjardins et à la Semaine des Sciences, aux Galeries d'Anjou.

Au cours de nos réunions hebdomadaires, nous avons profité de conférenciers de

marque, tel que: Drs Wladimir Paskievici, Gilles Beaudet, Jean-Louis Tassoul, Gilles Fontaine et J.R. Percy, président de la Société Royale. Parmi les membres invités à nous entretenir, mentionnons: MM. Lucien Coallier, Anthony Moffat, Gilles Ménard, Roger Gagnon, Patrice Gérin-Roze, Didier Saumon entre autres.

Notre magasin, en raison de la grève et du déménagement, a subi une réduction considérable dans le résultat de ses ventes. A la section d'optique on remarque que l'on se borne à polir que des miroirs de 6 pouces.

Notre concours annuel des fabricants de télescope d'amateur, C.A.F.T.A., a connu une assistance de beaucoup plus nombreuses et cinq fois plus de télescopes que l'an dernier. Encore là, malheureusement, la météo ne nous a pas favorisés.

Notre bibliothèque possède près de 300 volumes. Cette année, 243 ont été empruntés par nos membres et 24 sont actuellement en circulation. Nous avons acquis 17 nouveaux volumes au courant de cette année.

Rolland Noël de Tilly, *secrétaire*

## NIAGARA CENTRE

A tremendous series of monthly meetings, banquets, star nights, lectures, and public displays combined to form the most productive year, possibly, ever experienced in the Niagara Centre's history.

The unprecedented cooperation with Brock University in St. Catharines, Ontario, lead to several enjoyable talks by Drs. Koffyberg and Andersen of Brock University's Physics Department. The joint efforts of the Niagara Centre and Brock University are sure to be prosperous in the near future.

Our semi-annual banquets in April and November continue to highlight an interesting season of events, drawing friends not only from Niagara Centre but also from other Centres in Southern Ontario and astronomy clubs in upstate New York. The Niagara Centre celebrated its 20th Anniversary as a Centre of the R.A.S.C. by hosting the autumn meeting of the Niagara Frontier Council of Amateur Astronomical Associations, and it was one of the best attended meetings ever held.

The Niagara Centre initiates and participates in many astronomical excursions during the entire year. Trips to London for the NFCAAA and banquets are always well attended and journeys to the General Assembly in Halifax, the Syracuse Summer Seminar and Stellafane generated many participants in 1980.

A new committee under the hand of Gordon Macdonald has fulfilled its ongoing purpose of creating more community interest in astronomy and the Niagara Centre. One job of the Membership Committee is to telephone members and guests to encourage attendance of meetings and events.

We have gone to great lengths to bring our newsletter up to the standards of other Centre's publications. We hope the other Centres now enjoy being on the *Niagara Whirlpool's* "circulation" list!

The year of 1981 is looked at with the knowledge that increased fervor within the Centre will create another winning year.

There were seven regular meetings and two banquets in 1980. The programmes were as follows:

- January 10 Annual Meeting  
Election of Board of Directors – Member's Night, with Hugh Maclean and Marvin Scott on "General Astrophotography", and Charles Fassel showing films and slides of Voyager 1's fly-by of Jupiter.
- February 14 Guest Speaker – Rev. Norman Green, on "A Remarkable Century – 1543 to 1642 – From Copernicus to Newton", and a NASA Film – "Apollo 15", arranged by C. Fassel.
- March 13 Al Kindy speaking on "Mythology in the Sky" and a film arranged by C. Fassel entitled "Universe".
- April 11 Banquet – held at the Skylon Tower, featured Dr. W.H. Wehlauf, University of Western Ontario – "The Canada-France-Hawaii Telescope".

- May 8 Guest Speaker – Prof. Franz Koffyberg, Brock University, on “Black Holes”.  
Also Marvin Scott and Charles Fassel on “Planetary Astrophotography”.
- May 23, June 20, July 18, August 15, September 19 – Public Star Nights and Mall Displays.
- September 11 Member’s Night  
Robert Jedicke – “The Music of Astronomers”, an audio-visual presentation of slides in harmony with modern and classical music. Hugh Maclean - Observation Report; and a selection of “Astro-Songs” by Rob Jedicke, John Van Ophem, Cathy Majtenyi, Ron Gasbarini, Raymond Osborne and Charles Fassel.
- October 9 Guest Speaker – Prof. Per H. Andersen, Brock University, on “Stellar Evolution”.  
Also Al Kinky on “Stellar Parallax”.
- November 8 Banquet and Autumn Meeting of the Niagara Frontier Council of Amateur Astronomical Associations. Held at Brock University and the Skylon Tower.  
Ernest Seaquist\* \*Univ. of Toronto
- December 11 Guest Speakers: Peter Ashenhurst, Hamilton Centre, on “The Construction of the Hamilton Centre Observatory” and “Navigation by the Stars”. Brian MacKid, Hamilton Centre, on “My Pet Questar and its Accessories”.

Robert Jedicke, *Secretary*

## CENTRE DE QUÉBEC

L'année 1980 fut riche en événements de toutes sortes. Notre Centre comptait 98 membres lors de l'année 1979-80 et 24 membres associés. La version 1980 des publications suivantes a été réalisée: “Almanach graphique” et “Supplément à l'almanach” dont près de 3,000 exemplaires ont été distribués gratuitement. Les “Ephémérides” ont été refondues et publiées par M. Robert Tremblay. Nos membres reçoivent également “Le Québec astronomique” revue officielle de l'Association des groupes d'astronomes amateurs (A.G.A.A.). Nous publions de plus, de façon irrégulière, le “Bulletin” qui contient des nouvelles d'intérêt local. La S.R.A.C. nous a accordé une subvention de \$400 à partir du “Ruth Northcott Fund” pour défrayer une partie du coût de nos publications, de même qu'un montant de \$500 pour améliorer la collection de notre bibliothèque. L'achat de volumes a déjà commencé. Nous avons obtenu de l'A.G.A.A. une subvention de \$300 pour payer en partie le coût de production de “Almanach graphique 1980”. Nous avons également eu le plaisir de recevoir la visite du président national, le Dr John R. Percy.

En terminant, voici la liste chronologique des conférences et des soirées d'observations (qui ont pu se concrétiser) s'adressant à nos membres et au public en général:

- 30 janvier “À la recherche des énergies qui se perdent” par M. Alphonse Tardif, professeur de physique et directeur de l'observatoire du Collège de Lévis.
- 12 mars “Techniques de pointe pour la collecte d'images en astronomie” par M. Mario Lapointe, étudiant au Collège de Lévis et secrétaire de l'A.G.A.A.
- 2 avril “Les nouveaux radio-télescopes et leurs possibilités” par M.P.P. Kronberg, Ph.D., professeur d'astrophysique à l'Université de Toronto.
- 18 avril Soirée d'observations à l'observatoire du Collège de Lévis, à St-Nérée de Bellechasse.
- 4 juin Assemblée générale annuelle et élection des membres du Conseil.
- 10-11 août Soirées d'observations “Les Perséides” à l'observatoire de l'Université Laval, à St-Elzéar de Beauce.
- 24 septembre “Réalizations des membres” par les membres présents et présentation de deux films sur Jupiter à partir des images fournies par Voyager I.
- 15 octobre “Les Mayas et leur astronomie” par Mlle Lise Dumouchel, membre de la Société d'astronomie de Montréal.
- 22 octobre “Des pierres qui tombent du ciel” par M. Jean-Denis Carette, Ph.D., professeur à l'Université Laval.
- 26 novembre “L'astrologie démystifiée” par Mme Noëlla Blondeau, diplômée de l'Institut d'astro-psychologie de Québec (institut privée).
- 5 décembre Soirée d'observation à l'observatoire du Collège de Lévis, à St-Nérée de Bellechasse.

Anita Poulin, *Secrétaire*

## SASKATOON CENTRE

The year 1980 was a good one for the Saskatoon Centre, with an increase in membership. Plans are going ahead for a 16" telescope to be installed at the dark site and for hosting the 1982 G.A.

The long weekend in May, the observers group was invited out to Kindersley by one of our members to show the general public telescopes and various astronomical objects if the weather co-operated. The skies stayed clear until after midnight and unexpectedly large crowds came out. Long lines of people from surrounding areas formed behind all of 12 or so telescopes and everyone enjoyed themselves.

Three of our members attended the Halifax G.A. and found it very enjoyable and informative. The holding of joint assemblies like this one should be done whenever possible as both the amateur and professional can learn from each other and leads to better understanding between the groups.

The annual public star night was held in July and the weather cooperated only on the first of the two nights. A good turnout was recorded with a lot of interest shown in the 12½" Dobson in its first public appearance.

Our Centre's annual outing in August was to observe the meteor shower even though it was two days before the peak. Six or seven members returning to the dark site on the night of the peak counted over 150 meteors in one and half hours.

At the annual general meeting in October the years activities were outlined and elections held with results as follows:

Honorary President:	Dr. B.W. Currie
President:	Gordon Patterson
Vice President:	Mike Wesolowski
Treasurer:	Mike Williams
Secretary:	Lillia Wilcox
Centre Rep.	Jim Young
Programming	Doug Miller
Activities	Rick Huziak
Librarian	Joan Badger
Editor	John Greer
Councillors	Len Herrem
	Mike Burianyak
	Susan Greer
	Pat Fey

Endless clear skies to all.

Lillia Wilcox, *Secretary*

## TORONTO CENTRE

The highlight of the past year was once again a total solar eclipse. An expedition of 28 members led by Ian McGregor and Andreas Gada travelled to Kenya for a 2-week game-viewing and eclipse safari. New friendships, thousands of slides and prints, souvenirs and memories of a magnificent total solar eclipse were brought back by all participants. Plans are being drafted for an expedition to Indonesia in 1983.

Dr. Ernest Seaquist, our Second Vice-President, organized an excellent series of 11 lecture meetings. Topics included planetary astronomy, celestial mechanics, history of astronomy in Canada, theory of stellar evolution, gravitational lenses, observational methods and instrumentation, and the CFH telescope. Highlights of the programme were RASC President Dr. John Percy's lecture on variable stars, and Dr. Seaquist's talk on the peculiar object SS433. We are once again grateful to the David Dunlap Observatory staff and students for their hospitality at the Annual Open House. We thank Dr. Seaquist, projectionist Richard McWatters, Refreshments Committee Chairman Debbie Tonge and all other members who have helped with the meetings.

The Observers Group meetings and star parties have featured presentations of slides from both the 1979 and 1980 eclipse expeditions, and numerous observer-related topics. While

## MORRIS ALTMAN

CHARTERED ACCOUNTANT

95 KING STREET EAST  
TORONTO, CANADA  
M5C 1G4A U D I T O R ' S   R E P O R T

To the Members of  
The Royal Astronomical Society of Canada.

I have examined the balance sheet of The Royal Astronomical Society of Canada as at December 31, 1980 and the statements of income and expenditures, special funds and accumulated deficit for the year ended on that date. My examination was made in accordance with generally accepted auditing standards and accordingly it included such tests and other procedures as I considered necessary in the circumstances, except as hereinafter noted.

The receipts of the Society, because of their nature, are not susceptible to verification by normal audit procedure and are shown in the financial statements as they have been recorded in the books of the Society. My verification of these items was limited to a comparison of recorded receipts with bank deposits.

In my opinion, subject to the limitation in the scope of my examination noted in the preceding paragraph, the accompanying statements present fairly the financial position of the Society as at December 31, 1980 and the results of its operations for the year then ended, in accordance with generally accepted accounting principles appropriate for non-commercial organizations, on a basis consistent with that of the preceding year.

*Morris Altman*

Chartered Accountant.

Toronto, Canada,  
April 10, 1981.

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

BALANCE SHEET

DECEMBER 31, 1980

(With comparative figures as at December 31, 1979)

	1 9 8 0	1979
<u>A S S E T S</u>		
Current Assets		
Cash and short-term deposits	\$ 16,138	\$ 34,428
Accounts receivable	33,497	14,927
Loans to R.A.S.C. Centres	1,000	1,000
Prepaid expenses and sundry credits	246	376
	\$ 50,881	\$ 50,731
Investments		
Marketable securities, at cost (Market value - \$2,224; 1979 - \$2,422)	3,019	\$ 3,019
Special Funds		
Building Fund	\$164,128	\$158,170
Special Projects Fund	41,875	39,595
Ruth Northcott Memorial Fund	16,745	15,577
Edward R. Paterson Bequest	11,404	10,695
	234,152	\$224,037
Office furniture and equipment (nominal value)	1	\$ 1
<u>TOTAL ASSETS</u>	\$288,053	\$277,788
ACCUMULATED DEFICIT (per statement)	27,596	15,881
	\$315,649	\$293,669
<u>L I A B I L I T I E S</u>		
Current Liabilities		
Accounts payable and accrued charges	\$ 11,142	\$ 11,044
Deferred Income		
Membership fees for ensuing year	\$ 10,916	\$ 11,564
Subscriptions to Journal and Handbook	43,149	32,205
Unappropriated life membership fees (Schedule "A")	16,288	14,819
	70,353	\$ 58,588
Reserve for Special Funds	234,154	\$224,037
	\$315,649	\$293,669



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

STATEMENT OF INCOME AND EXPENDITURES

FOR YEAR ENDED DECEMBER 31, 1980

(With comparative figures for 1979)

<u>I N C O M E</u>	<u>1 9 8 0</u>	<u>1979</u>
Membership Fees		
R.A.S.C. Centres	\$ 16,732	\$ 16,859
Individual members	8,696	10,297
Life membership reserve - annual appropriation	<u>1,331</u>	<u>1,191</u>
	\$ 26,759	\$ 28,347
Grants and Donations		
Government of Canada - annual grant	\$ 7,000	\$ 8,000
Province of Ontario - annual grant	1,500	1,500
Miscellaneous donations	<u>85</u>	<u>56</u>
	8,585	\$ 9,556
Publications		
Journal of the R.A.S.C. - subscriptions	\$ 11,403	\$ 10,434
Observer's Handbook	35,443	35,146
Reprints from the Journal	2,639	2,465
Publication charges	<u>6,470</u>	<u>7,355</u>
	55,955	\$ 55,400
Miscellaneous Income		
Interest on investments	\$ 452	\$ 932
Foreign exchange gains	5,073	6,334
Insignia sales	<u>220</u>	<u>178</u>
	5,745	\$ 7,444
TOTAL INCOME	<u>\$ 97,044</u>	<u>\$100,747</u>
<u>E X P E N D I T U R E S</u>		
Publications (Schedule "B")	\$ 73,523	\$ 66,642
Office salaries	19,320	16,914
Employee welfare contributions	698	624
Stationery, printing and supplies	1,554	1,172
Office equipment acquisitions	3,776	-
Postage and shipping expense	3,216	4,025
General and office expenses	1,497	1,375
Life membership allotment to Centres	1,286	1,203
General assembly and travel expenses	1,865	1,249
Advertising and publicity	347	181
Telephone	441	428
Insurance	321	325
Library expense	486	289
Insignia, medals and awards	698	591
Bad debts recovered	<u>( 269)</u>	<u>( 50)</u>
	108,759	\$ 94,968
EXCESS OF INCOME OVER EXPENDITURES (EXPENDITURES OVER INCOME)	<u>(\$11,715)</u>	<u>\$ 5,779</u>

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

STATEMENT OF ACCUMULATED DEFICIT

FOR YEAR ENDED DECEMBER 31, 1980

(With comparative figures for 1979)

	<u>1980</u>	<u>1979</u>
Deficit at beginning of the year	\$ 15,881	\$ 21,660
Excess of income over expenditures (expenditures over income) for the year, per statement	<u>(11,715)</u>	<u>5,779</u>
Deficit at end of the year	<u>\$ 27,596</u>	<u>\$ 15,881</u>

SCHEDULE "A"

UNAPPROPRIATED LIFE MEMBERSHIP FEES

Balance at beginning of the year	\$ 14,819	\$ 13,010
Add: Life membership fees received in the year	<u>2,800</u>	<u>3,000</u>
	\$ 17,619	\$ 16,010
Deduct: Appropriation to income account	<u>1,331</u>	<u>1,191</u>
Balance at end of the year	<u>\$ 16,288</u>	<u>\$ 14,819</u>

SCHEDULE "B"

PUBLICATION COSTS

R.A.S.C. Journal

Printing of Journal	\$ 36,149	\$ 34,179
Printing of National Newsletter	9,365	7,559
Editorial assistance	500	700
Distribution costs	3,026	2,883
Reprints	<u>2,539</u>	<u>2,503</u>
	\$ 51,579	<u>\$ 47,824</u>

Observer's Handbook

Printing	\$ 20,600	\$ 17,812
Editorial assistance	635	635
Distribution costs	467	198
Advertising	<u>242</u>	<u>173</u>
	<u>21,944</u>	<u>\$ 18,818</u>
	<u>\$ 73,523</u>	<u>\$ 66,642</u>

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

STATEMENT OF SPECIAL FUNDS

FOR YEAR ENDED DECEMBER 31, 1980

(With comparative figures for 1979)

	<u>1980</u>	<u>1979</u>
<u>BUILDING FUND</u>		
Balance at beginning of the year	\$158,170	\$152,409
Add: Interest earned on investments	\$ 14,276	12,486
Dividends received	<u>1,306</u>	<u>1,681</u>
	15,582	\$ 14,167
	<u>\$173,752</u>	<u>\$166,576</u>
Deduct: Rent for Society's office premises	\$ 8,884	\$ 8,406
Discount on bond redeemed	<u>740</u>	<u>-</u>
	9,624	\$ 8,406
Balance at end of the year	<u>\$164,128</u>	<u>\$158,170</u>
<u>SPECIAL PROJECTS FUND</u>		
Balance at beginning of the year	\$ 39,595	\$ 36,657
Add: Interest earned on investments	<u>3,480</u>	<u>3,288</u>
	\$ 43,075	\$ 39,945
Deduct: Grants to Centres	<u>1,200</u>	<u>350</u>
Balance at end of the year	<u>\$ 41,875</u>	<u>\$ 39,595</u>
<u>RUTH J. NORTHCOTT MEMORIAL FUND</u>		
Balance at beginning of the year	\$ 15,577	\$ 14,898
Add: Interest earned on investments	<u>1,665</u>	<u>1,310</u>
	\$ 17,242	\$ 16,208
Deduct: Appropriation for designated purposes	<u>496</u>	<u>631</u>
Balance at end of the year	<u>\$ 16,746</u>	<u>\$ 15,577</u>

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

STATEMENT OF SPECIAL FUNDS  
(Continued)

	1980	1979
<u>EDWARD R. PATERSON BEQUEST</u>		
Balance at beginning of the year	\$ 10,695	\$ 10,000
Add: Interest earned on investments	969	941
	\$ 11,664	\$ 10,941
Deduct: Grants to Centres	259	246
	\$ 11,405	\$ 10,695

J. F. HEARD PUBLICATION FUND

This fund was terminated in 1979, the available funds having been applied to the publication of the Collected Reminiscences of John Frederick Heard.

COMPOSITION OF SPECIAL FUNDS AT DECEMBER 31, 1980

	BUILDING FUND	SPECIAL PROJECTS FUND	RUTH NORTHCOTT FUND	EDWARD R. PATERSON BEQUEST	TOTAL
Cash	\$ 5,616	\$ 5,399	\$ 3,306	\$ 994	\$ 15,315
Term deposits	90,000	35,000	9,000	10,000	144,000
Securities (at cost)	63,372	-	4,000	-	67,372
Accrued interest	3,982	1,476	440	411	6,309
Rent deposit	1,158	-	-	-	1,158
	\$164,128	\$ 41,875	\$ 16,746	\$ 11,405	\$234,154
Market value of securities	\$ 67,201	-	\$ 2,942	-	\$ 70,143

THE FINANCIAL STATEMENTS ARE APPROVED  
ON BEHALF OF THE COUNCIL OF THE SOCIETY

Jan Halliday President

David Fisher Treasurer

## TREASURERS REPORTS

	Centre d'Astronomie							Niagara
	Calgary	Edmonton	Halifax	Hamilton	Kingston	London	Montreal	
<b>REVENUE</b>								
Membership fees	\$1,206.51	\$1,696.40	\$1,684.00	\$1,188.00	\$318.00	\$1,117.00	\$1,052.40	\$640.00
Life Member Grants			139.20	25.60	25.60	38.40	102.40	6.40
Donations		8.44	200.00	4,979.71	5.00	247.00	10.00	14.46
Educational Activities		63.00						
Interest & Dividends	392.25	408.15		5.99	4.00	54.75	1,656.53	3.97
Sales of Handbooks (Net)		22.50	184.75			52.00		26.00
Advertising								
General Assembly (incl. Travel Grants)	150.00	210.00	176.00		3.00	1,851.65	160.00	34.25
Miscellaneous	11.85		234.37	1,516.17				
<b>Total Revenue</b>	<b>\$1,610.61</b>	<b>\$2,408.49</b>	<b>\$2,618.32</b>	<b>\$7,715.47</b>	<b>\$355.60</b>	<b>\$3,360.80</b>	<b>\$2,821.33</b>	<b>\$725.08</b>
<b>EXPENDITURES</b>								
Fees remitted to N.O.	\$816.80	\$980.40	\$1,250.40	\$464.70	\$190.80	\$606.80	\$506.40	\$438.00
Library	37.50		56.90				101.26	
Meetings & Newsletters	509.11	1,030.18	62.20		121.63	961.90	332.74	431.75
Annual Dinner (Net)		46.65				488.75		(253.16)
General Assembly (incl. Travel Grants)	150.00	210.00	175.14		35.00		160.00	
Equipment & Supplies			30.00		25.00			
Office Administration	8.84	44.94	209.74				350.00	14.40
General Expenses & Audit				504.76	.80	119.94		164.00
Educational Activities			53.85				515.00	
Insurance				158.00				
Awards & Donations		88.08	17.47					
Operating Expenses - Observatory				4,524.82		588.50	673.27	9.80
Miscellaneous		54.52	120.00	949.87			88.19	
<b>Total Expenditures</b>	<b>\$1,372.25</b>	<b>\$2,454.77</b>	<b>\$1,975.70</b>	<b>\$5,802.15</b>	<b>\$373.23</b>	<b>\$2,765.89</b>	<b>\$2,216.86</b>	<b>\$804.79</b>
Surplus or (Deficit) on Operations	238.36	(46.28)	642.62	1,913.32	(17.63)	594.91	604.47	(79.71)
<b>Balance from 1979</b>	<b>5,432.90</b>		352.79		108.91	1,450.40		604.39
<b>Balance to 1981</b>	<b>\$5,671.26</b>		<b>\$995.41</b>	<b>\$</b>	<b>\$91.28</b>	<b>\$2,045.31</b>		<b>\$524.68</b>
Other Assets		\$5,170.49				\$2,719.65	\$30,000.00	

## TREASURERS REPORTS

	Ottawa	Quebec	St. John's	Saskatoon	Toronto	Vancouver	Victoria	Windsor	Winnipeg
<b>REVENUE</b>									
Membership Fees	\$3,206.00	\$1,623.00		\$ 730.00	\$ 9,146.97	\$1,768.00	\$ 1,106.00	\$ 794.50	\$2,220.00
Life Member Grants	166.40			19.20	345.60	96.00	134.40		12.80
Donations	422.91	200.00		9,217.48	49.00	146.00			85.00
Educational Activities	256.00	970.00		306.25	32.61				
Interest & Dividends	634.40	266.00			930.12	601.05	2,146.04		2.45
Sales of Handbooks (Net)	316.00				84.00	43.00	264.00	13.50	32.00
Advertising					370.20				
General Assembly (incl. Travel Grants)	8.00	1,232.00		151.00		238.00	240.00		
Miscellaneous					347.21	2,768.75	1,271.00	19.78	363.46
<b>Total Revenue</b>	<b>\$5,009.71</b>	<b>\$4,291.00</b>		<b>\$10,423.93</b>	<b>\$11,345.71</b>	<b>\$5,672.80</b>	<b>\$ 5,221.44</b>	<b>\$ 827.78</b>	<b>\$2,715.71</b>
<b>EXPENDITURES</b>									
Fees remitted to N.O.	\$2,019.20	\$1,055.00		\$ 847.60	\$ 5,007.20	\$ 362.00	\$ 735.60	\$ 551.60	\$ 547.20
Library	257.21	334.00		30.70	10.19		99.72	59.66	
Meetings & Newsletters	1,314.68			100.13	2,663.55	1,084.33	873.98	66.43	500.37
Annual Dinner (Net)	21.95	100.00			101.77		1,280.50		
General Assembly (incl. Travel Grants)		160.00			75.68	426.56	662.76		85.00
Equipment & Supplies	347.29	1,109.00					198.35	176.99	
Office Administration				118.35	1,408.12		64.98		21.16
General Expenses & Audit	331.39	350.00		151.00	102.16	35.02	68.72		
Educational Activities	358.00	150.00		232.13		632.96	405.00		
Insurance									
Awards & Donations							32.96		780.00
Operating Expenses - Observatory	422.37	549.00			288.16		162.10	1.60	507.56
Miscellaneous					225.65				
<b>Total Expenditures</b>	<b>\$5,072.09</b>	<b>\$3,807.00</b>		<b>\$ 1,479.91</b>	<b>\$ 9,872.29</b>	<b>\$2,551.06</b>	<b>\$ 4,584.67</b>	<b>\$ 856.28</b>	<b>\$2,441.29</b>
Surplus or (Deficit) on Operations	(62.38)	484.00		8,944.02	1,473.42	3,121.74	660.97	(28.50)	274.42
Balance from 1979	2,488.26	833.00			13,586.35	3,742.97	21,010.31	441.10	394.44
Balance to 1981	\$2,425.88	\$1,317.00			\$15,059.77	\$6,864.71	\$21,671.28	\$ 421.60	\$ 668.86
Other Assets	\$5,114.56				\$ 2,874.02				

NOT REPORTED

attendance at these meetings was low this year, they will be continued and it is hoped that members will come forward to present short talks and revive interest in this part of our programme.

Membership as at 30 June 1980 was 489 Regular, 90 Student, and 56 Life, for a total of 635. In an attempt to reduce the 30% turnover in membership which we have experienced in recent years, the Membership Committee, under Rodney Nicholson, has for the first time organised a mailing of renewal invoices to all members. A membership promotion flyer has also been prepared for use at public education programmes.

It is with regret that I must report the recent passing of a long-time member, Mr. H.A. 'Bert' Winnearls. For many years Mr. Winnearls was to be found in the Library of the Planetarium before meetings of the Centre, guiding members to books and periodicals in that collection. The Centre extends its sympathy to his family.

The Executive Committee has undergone two major changes this past year. In late November, Mrs. Anne Scott tendered her resignation as President due to other commitments, and was succeeded by Ian McGregor. In March, Michael Watson stepped down as Treasurer. He was succeeded by Mr. Alfred W. Scott. To Mrs. Scott and Mr. Watson we extend our thanks for their services to the Centre and our best wishes for the future.

The Awards Committee, while not recommending any recipients for awards this year, has been considering a new in-house awards programme. The proposals will be presented to Council in the next year, and when approved will be published in *Scope*. The Committee will be responsible for recommending recipients for the Society's new Messier Certificate which has been announced in the *Journal* and *National Newsletter*.

Centre Historian/Archivist Phil Mozel has been researching the history of astronomy in Canada, especially in connection with the Woodstock College Observatory. He also continues as Curator in charge of the Centre's telescopes, books, displays and historical records.

John Morriss has continued as Director of the Optical Workshop. The Workshop has been open twice weekly for members to design and construct their own instruments.

The Public Education Committee under Co-Chairmen Ralph Chou and Phil Mozel organised six evening programmes of lectures, films and telescope viewing at public libraries across the Metropolitan Toronto area. The average attendance at these programmes was 30. The Committee thanks the speakers (Richard McDonald, Tom Wujec, Ian McGregor and Douglas Gies) and Cathy Drake, Randy Attwood and Richard McWatters, for helping to make the programme a success.

*Scope* has seen two editors this year. Andrea Schlect stepped down in January after the birth of her daughter, and was succeeded by Randy Attwood. Members who helped with the preparation and distribution of *Scope* were Cathy Drake, Mikki Dadauin, Nonna Russ, Bruce Waters, Joel Steinberg, Eric Galt and Ian McGregor. The Centre is grateful to Terry Wang, the secretary at the McLaughlin Planetarium, for her help in typing the master copy for *Scope*.

Under the direction of Ralph Chou, a committee consisting of Dr. Kenneth Clute, Jim Cobban and Ian McGregor has been working on a comprehensive revision of our By-laws. This project is expected to take another year to complete.

The Observers Group has not been very active this past year. Under Andreas Gada's leadership, the Observers Group organized a very successful Telescope Workshop Day at York University in July, as well as the winter Members' Nights and Observatory Star Parties. The Observatory Building has not been used very much this year due to mechanical problems which have prevented operation of the telescope. Work on completion of the 12½ inch Newtonian telescope has been delayed for several months. However, the Observatory Warmup Building is available to keyholders wishing to use their own instruments at the site. In early October, Council appointed Douglas Welch, formerly of Ottawa Centre, to succeed Mr. Gada who resigned his post in July. We wish Mr. Gada well in his future endeavours, and hope that Mr. Welch will find his new responsibilities interesting and enjoyable.

In closing, I would like to thank the Executive, Council and Committee Chairmen for helping to keep the administrative chores to a minimum and the Centre's operations running smoothly. I am sure that all members join me in wishing those candidates who assume office tonight well in their new posts, and tendering grateful thanks to those who are stepping down.

B. Ralph Chou, B.Sc., O.D., *Secretary*

## VANCOUVER CENTRE

The Vancouver Centre will reach its Golden Anniversary in November, 1981, and in anticipation of this event an observatory project is under way at a site some 55 km south of the city, on the property of Art Holmes, council member.

The Centre continued to use the facilities of the Vancouver Centennial Museum and H.R. MacMillan Planetarium for its activities. Our thanks for this privilege go to the Vancouver Museums and Planetarium Association.

Ten general meetings and an equal number of council meetings were held in 1980, and a summer picnic. Through the courtesy of the Director, David Hurd, our members were able to attend special presentations of each new planetarium show.

Programs at our 1980 general meetings were as follows:

- January 8 Auction of items bequeathed to Centre from the late Mr. Dale McKelvey.
- February 12 Annual Dinner Meeting, Guest Speaker, Ian McLennan.
- March 11 Chandra Madhosingh, film "Dice with the Universe".  
Basil Chiu – sunspot slides.  
Ken Hewitt-White, past, present and future observatory sites.
- April 8 Tony Barrett – History of Astronomy.
- May 13 Presentation to David Rodger, retiring Director of Planetarium, eyepiece box.  
Slides by Basil Chiu and Karl Miller.  
Planetarium show – "Moon Myths and Madness".
- June 10 Dr. Harvey Richardson of D.A.O. Victoria – "Larger Telescopes".
- September 9 David Dodge – report on General Assembly in Halifax, N.S.  
Karl Miller – Palomar Observatory.  
Chandra Madhosingh – Midnight sun in Scandinavia.  
Ken Hewitt-White – "Star Truk" summer in B.C. provincial parks.  
Jim Bernath – film of Mt. St. Helen's, with special effects.
- October 14 Isabel Chen – Eclipse of the sun in Tanzania.  
Planetarium show, "Death of the Dinosaurs."
- November 11 Mrs. Zorgo – "Miracle of the Sea".  
Dr. Leigh Palmer – film of Black Holes.  
Tim Lomas – "Activities of the North American Interplanetary Society".
- December 9 Election of officers.  
Report on Voyager Saturn Mission, by 4 members present at JPL,  
Chandra Madhosingh, Neil Laffra, Ken Hewitt-White and Eric Dunn.

S.R. Baker, *Secretary*

## VICTORIA CENTRE

The Victoria Centre held seven general meetings during 1980, with topics and speakers as follows:

- February 13 "Activities of the Edmonton Centre" – Alan Dyer.
- March 12 Annual General Meeting and dinner (at the Green Room, Commons Block, University of Victoria): "An astronomical tour of Australia and New Zealand"  
– Dr. Colin Scarfe.
- April 9 Members' night, with presentations by Jack Newton, Bill Carley, and Alf Donnelly.
- September 10 Members' night, with presentations by Jack Newton, Leo van der Byl, and Alf Donnelly.
- October 8 "Observatory site selection in Saudia Arabia" – Ernest Pfannenschmidt.
- November 12 "Construction of cold cameras for astrophotography" – George Ball.
- December 10 Annual General Meeting and dinner (at Holyrood House Restaurant):  
"A visit to the new China" – Dr. Bernadette Harris.

In addition, the bi-annual series of lectures under the theme "Summer Evenings under the Stars" was held as follows:

- July 30 "The night sky" – Jack Newton.



- August 6 "Exploration of the solar system" – Tim Lomas.  
 August 13 "Windows on the universe" – Chris Aikman.  
 August 20 Film "The Crab Nebula", with commentary by Philip Teece.

Each of these talks was followed by observing sessions with members' telescopes on the grounds of the UVIC campus. The series concluded with an observing session on the 1.85 metre telescope of the Dominion Astrophysical Observatory on August 27. In addition to the above, two other star parties were held in Beacon Hill park on the nights of August 2nd and 9th. Also additionally, the council met four times during the year to conduct the Centre's business.

As the Centre had made little visible progress in completing an agreement to use the historic Gonzales weather observatory as an astronomical site, the Centre has redirected its effort into construction of a trailer-mounted mobile observatory with a 50 cm diameter reflecting telescope. Leo van der Byl is in the forefront of this project, and considerable progress has been made to date. As usual, the Centre was active at the annual Victoria Hobby Show, April 17-20. Friday evening observing sessions with the UVIC telescope continued under George Ball's capable direction. This year's Victoria Centre Book Prize was awarded to graduating UVIC student Alan Busch of Campbell River. The 1981 council was elected by acclamation. The Centre looks forward to 1981 with enthusiasm as we host our first-ever General Assembly in Victoria.

Chris Aikman, *Secretary*

## WINDSOR CENTRE

The Windsor Centre held eight regular meetings at St. Clair College during 1980. Three Council meetings were held during the year. An observing session was held in May at the St. Clair Observatory. As part of our summer observing program, field trips to Wheatly Provincial Park were undertaken in July and August. A brief resume of the regular monthly meetings follows:

- January 15 David Hamilton presented an excellent slideshow, demonstrating his exceptional abilities at Astrophotography. David managed to photograph many faint star-clusters, nebulae and a few galaxies. He concluded his presentation by showing some slides on the Arizona meteor crater.
- February 19 Jim Meredith discussed the use of "celestial co-ordinates" for the amateur astronomer. David Hamilton screened some of the two-hundred-forty slides shot from the NASA space probes Pioneer, Viking and Voyager.
- March 18 David Hamilton screened more of the NASA slides taken by the Viking probes to Mars and the Voyager I's photographs of Jupiter. The main feature was presented by Ron Mayville: "An outline of the basics in Astrophotography". Ron examined guided and unguided photography, time exposures and wide-angle constellation shots.
- April 15 Randy Groundwater presented the final group of NASA slides on the Voyager II's trip to Jupiter. The main feature was presented by Dr. Edward Glass from the University of Windsor, entitled "Quasars".
- June 17 Eric Johnson screened a short film on the Apollo II mission. The main feature was a B.B.C. production entitled "The Planets". This 50 minute film examined the most recent planetary discoveries made by NASA's unmanned space probes.
- September 16 Randy Groundwater showed some slides taken by him at the forty-fifth annual Stellafane convention of amateur telescope-makers and astronomers, held during the second week of August 1980, at Springfield, Vermont. The 1980 Stellafane convention was one of the most successful in recent years. The main feature "Stonehenge" was presented by Brian Perry. This outstanding presentation was based on Brian's trip to England in June of 1980.
- October 20 Len Staffin gave an enlightening talk on "Cosmology and Cosmogony". The main feature was a slide show on "telescopes, deep sky observing and astrophotography" presented by Randy Groundwater. Several types of telescopes were displayed to enhance the discussion.
- November 18 The annual meeting of the Windsor Centre began with the election of officers for 1981. The main feature was the film "Birth and Death of a Star".

Lorison A. Durocher, *Secretary*

## WINNIPEG CENTRE

- October 12, The Annual General Meeting of the Winnipeg Centre, and election of Officers  
1979: and Councillors for the 1979/80 season. Also a film "The Crab Nebula" was shown.
- November 9, Dr. Martin Clutton-Brock gave a most interesting lecture "The Destiny of the  
1979: Universe". What is the ultimate fate of the Universe?
- December 14, "Micro Computers in Astronomy" was the topic of a lecture given by  
1979: Mr. William Peters. This was followed by a pictorial slide display of the construction of the University of Manitoba's observatory at Glenlea, narrated by Dr. Richard Bochonko, and "The Use of Star Atlases" a short abstract by Mr. William Krosney.
- January 11, Film Festival. Three films were shown – "The Apollo 16 Moon Flight" courtesy  
1980: of Mr. William Peters; "Flaming Sky" and "The Active Sun" courtesy of Mr. C. Rutkowski.
- February 8, Dr. George Clark, Professor of Earth Sciences at the University of Manitoba,  
1980: presented a lecture on Volcanism, which included a short film on the development of the luna crust (The Moon, a Giant Step in Geology).
- March 14, "Solar Eclipse in Kenya" by Mr. and Mrs. William Peters, "Solar Eclipse in  
1980: India" by Mr. Robert Ballantyne.
- April 11, Professor G. Good, professor of history at the University of Winnipeg, gave a  
1980: lecture entitled "The Life and Times of John Herschel". A display of science fiction art was given by a new member, Dave Sine.
- May 9, Two films through the courtesy of Mr. Chris Rutkowski, "The Starry Messenger"  
1980: from the Ascent of Man series, and "Exploring the Milky Way".
- June 13, Eclipse 1980 slide show by Mr. Don Hladiuk, guest speaker from the Calgary  
1980: Centre, RASC. An excellent slide show taking us on a trip half way around the world to see the Kenya eclipse.
- September 12, Mr. Ernst Spielman, from the Manitoba Planetarium, gave Centre members a  
1980: lecture and inside view on how the Planetarium achieves some of its special effects. There was also a slide show on "Vikings I and II Mars Landers" narrated by Mr. Chris Rutkowski.

The major event for the Winnipeg Centre for this year was the arrival of the Celestron 14. Once installed the grand reopening of our Glenlea Observatory and C14 was held on March 29th, 1980. Maestro Piero Gamba, Honorary President of the Winnipeg Centre, cut the ceremonial ribbon. This was followed by a night of viewing by approximately 30 members. An Open House for RASC members was held at the University of Manitoba's new observatory on January 25th, 1980. Ten members braved the  $-30^{\circ}\text{C}$  weather. On Saturday, April 26th, the Winnipeg Centre celebrated Astronomy Day 1980 by holding an Open House all day at the Glenlea observatory. Solar viewing during the day was followed by deep sky and planetary viewing in the evening. A display was also held during the afternoon at the Manitoba Planetarium. On Sunday, May 11th, 1980, the Winnipeg Centre was asked to participate in a display at the Planetarium Concourse to commemorate National Museum Day. Astrophotography display, telescopes and other astronomy paraphernalia was displayed to the public with the aid of five members from the Centre. During the summer months a star party, organized by four Centre members was held for school children at Birds Hill Provincial Park. One occurrence during the summer resulted in some very long-faced astronomers paying fines for illegal parking. This occurred during a lunar eclipse in Winnipeg's City Park. While members to the west of the City were able to see the eclipse in the early morning hours, the members in City Park had their view obscured by low cloud, and to make matters worse found parking tickets on their cars when they returned to go home. In the Fall, two star nights were held for the public at Lindhurst Drive Park, the first being very successful, approximately 200 people in attendance, the second, although clouded out, still attracted approximately 85 – 100 people. On the August Labour Day weekend, five members packed their tents and telescopes and travelled to Riding Mountain National Park, where they ran a three day astronomical weekend for the public. Lectures, slide shows and viewing were the main presentations to the public. The shows were very well received by approximately 200

diehard, soggy, campers. During the early part of the winter three separate school parties have attended lectures and viewing evenings at the Glenlea Observatory.

This has been a very busy year for the Winnipeg Centre, and even larger events are being planned for the forthcoming year.

P. Berezowski (former), C. Rutkowski (present), *Secretary*

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