



Supplement to the **JOURNAL**

of the **ROYAL ASTRONOMICAL**
SOCIETY of CANADA

ANNUAL REPORT 1978

APRIL 1979

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	1976-1977	A.H. Batten
1936-1937	R.E. DeLury	1978	J.R. Percy

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-	N. Green

REPORT OF THE PRESIDENT

The year 1978 has been one of progress and achievement for the Society, its 18 Centres, and its nearly 3000 members. A very successful General Assembly was held in Edmonton, and our thanks go to all those involved in its organization. Among the highlights were the presidential address by Dr. Alan Batten, the exhibits competition and the varied scientific, business and social events.

The Society's publications, under the general editorship of Dr. Lloyd Higgs, continued to flourish. The *Journal* published a variety of interesting articles and reports; the *National Newsletter* (edited by Franklyn Shinn) combined high editorial quality with unprecedented variety and volume; the *Handbook* sported a new cover, more pages than ever before, and an increasing circulation. At a local level, most Centres produced interesting, effective newsletters, and we are particularly grateful to our two French-speaking Centres for producing valuable publications and handbooks in the French language. With the help of donations to the John F. Heard Memorial Fund, the Society has arranged for the publication (in the *Journal*) of about 60 pages of Dr. Heard's delightful writings. We are grateful to Dr. Donald Fernie for preparing these for publication.

Many Centres embarked on worthwhile projects at the local level: observatories, observing programs, educational and historical programs and publications. These are largely supported at the local level, but the National Council has now established a Special Projects Fund to encourage and support such projects. In this and other ways, the National Council hopes to strengthen and unify the diverse elements of our Society. The valuable work of the Historical Committee, under Art Covington and subsequently Dr. Roy Bishop, should also be acknowledged at this point.

Several individual members achieved distinction in 1978. Ottawa member Rolf Meier discovered a bright comet, and unattached member Warren Morrison was the first to observe Nova Cygni 1978. Toronto member Jack Newton was the first winner of the Ken Chilton Prize (for his book "Deep Sky Objects") and another long-time Toronto member, Douglas Gies, was awarded the Gold Medal. A much-deserved Service Award went to Marie Fidler, from Toronto via Calgary, and Gareth Jacobs and Peter Potts won the Society's prize for best astronomy exhibit at the Canada-wide Science Fair. Through the initiative of the Halifax Centre, the Simon Newcomb award for astronomical writing was approved and initiated for 1979.

In closing, I wish to express the Society's gratitude to all its officers, its committee chairmen and members, to our solicitor Donna Haley and our auditor Morris Altman, to Dr. Alan Batten for his effort, enthusiasm and effectiveness in guiding and unifying the Society in 1976 and 1977, to National Secretary Norman Green for his judgement, advice and assistance in all administrative matters, to National Treasurer Peter Broughton and his successor Marie Fidler for carrying out these duties with their typical care and concern, and to Executive Secretary Rosemary Freeman for the cheerful and effective way in which she has managed the National Office. I am personally grateful to all these individuals for their support during 1978.

John R. Percy

REPORT OF THE NATIONAL SECRETARY

The past year has shown much interest in the varied activities of the Society and membership has been maintained at a high level.

Meetings of the National Council were held on January 28th, May 19th and September 30th. The Executive Committee met on April 29th. A well-attended Annual Meeting was held at the time of the General Assembly in Edmonton on May 21st.

Membership in the Society as of September 30th, 1978, compared to the same date in 1977, is as follows:

	1977	1978
Calgary	87	84
Edmonton	89	103
Halifax	66	102
Hamilton	66	55
Kingston	12	21
London	38	40
Montreal	58	68
La Société d'Ast. de Montréal	75	88
Niagara	24	33
Ottawa	213	239
Québec	129	117
St. John's	14	12
Saskatoon	43	46
Toronto	606	630
Vancouver	141	134
Victoria	88	94
Windsor	40	39
Winnipeg	55	72
Unattached to Centres:		
Canada	213	233
United States	366	400
Overseas	41	44
Honorary	15	15
TOTAL	2479	2669

A very successful General Assembly was held in Edmonton over the week-end of May 19-22. Delegates from fourteen Centres were present. The host Centre arranged excellent facilities for accommodation, meetings and displays at the University of Alberta.

The Gold Medal of the Society was won by Mr. Douglas Gies, the Ken Chilton prize was awarded to Mr. Jack Newton and the Service Award recipient was Mrs. Marie Fidler. Through the initiative of the Halifax Centre a new annual award has been established to be known as the Simon Newcomb Award. Details for submission of entries have been sent to all Centres.

It is with regret that we record the death of the following members, and we extend the sympathy of the Society to their families and friends:

Mr. D.F. Clipsham	Dr. D.A. Keys
Mr. F. Gilbert	Mr. N.J. McCracken
Mr. F.C. Hamilton	Mr. R. Mueller
Mr. J.H. Horning	Miss H.C. Miller
Mr. R.B. Johnston	Mr. Wm. J. Person
	Dr. R.K. Young

The Society's appreciation is extended to all Officers of the National and Centre Councils and to all members of the Society for their continued co-operation and support.

The Society gratefully acknowledges the receipt of annual grants from the National Research Council of Canada and the Ministry of Colleges and Universities of the Province of Ontario.

Norman Green, *National Secretary*

CALGARY CENTRE

Our Centre enjoyed another successful year with good attendance at all the meetings. Nine regular meetings were held, one of which took place at the University of Calgary and another at the University's Rothney Astrophysical Observatory at Priddis, the balance being held at the Calgary Centennial Planetarium. Council also met nine times during the year and the practical workshops were continued.

The meetings were:

January	Dr. Harland Rowe: "Natural Bio-Rhythms". Annual Meeting and election of officers.
February	Dr. Sreenivasan: "Mass Loss in Stars".
March	Dr. T. Alan Clark and Dr. David Fry: "Some Fascinating Effects of Low Temperature".
April	Annual exchange speaker from the Edmonton Centre. Mr. Paul Deans spoke on "Prehistoric Astronomy and Other Speculations".
May	Dr. R. Kraus: "Isotopes".
September	Prof. Robert A. Stebbins: "The Sociology of Amateur Astronomy: Some Research Findings".
October	A practical observing session at the Rothney Astrophysical Observatory at Priddis.
November	Dr. C. Anger: "Auroras on the Earth and Elsewhere".
December	Annual Banquet held at the Highlander Hotel. Although this was a bitterly cold night, we had a good attendance. It was an interesting evening and highlighted with a movie on Hawaii by Prof. Stilwell and slides and talk by John Budlong on navigating small boats across the ocean.

Public Star Nights were held at the Calgary Centennial Planetarium on October 11, 12 and 13, which were very successful except for the first night, which was cloudy.

The Centre extends grateful thanks to the City of Calgary and Mr. S. Wieser, Director, for the use of the facilities of the Calgary Centennial Planetarium, to the University of Calgary for the use of rooms and the Observatory at Priddis and also to AMOCO Canada Petroleum Co. Ltd. who printed our newsletter "The Star Seeker" as a public service. Our members are most appreciative.

Anne Hansen, *Secretary*

EDMONTON CENTRE

1978 will surely be recorded as one of the busiest years for the Edmonton Centre. We had our share of accomplishments, but, all too often it seemed, also our share of disappointments. However, through all the work, frustration, arguments and our best-laid-plans going awry, we all had a good time. Above all else, 1978 was a year that Edmonton Centre members came to know each other better than ever before – a year when many friendships were made that will likely last a lifetime, and surely there is no better measure of success.

'78 was the year Edmonton was great! And we did our best to prove that at the General Assembly in May. Under the direction of Franklyn Loehde, planning committee members arranged a very warm western welcome for all the 170 delegates who came from far and wide across Canada and the U.S. The paper sessions, chaired by Dr. Douglas Hube, the Observing and Display Competition, and a number of tours of Edmonton and vicinity, including that of the newly completed U. of A. Devon Observatory, all made for an exciting weekend.

During 1978, the Centre also took the first step toward incorporation by revising its By-Laws. After many hours of work put in by Alan Dyer, Rod McConnell, Gary Finley, and others, Centre members were able to unanimously accept the new By-Laws at our October meeting. As of this writing these By-Laws are at the National Office for approval.

Last year we also began to work toward acquiring an Edmonton Centre Observing Site.

Many weekends were spent searching the countryside for a possible location, but with a discouraging lack of success. Several potential sites turned up, but all had to be ruled out for one reason or another. However, as 1979 opens, we are still hot on the trail, and we trust that this year will see us start work on a Site development project, and on the various funding schemes that must run parallel with it. The lack of a Centre observatory has certainly not deterred members from conducting active programs of observing and astrophotography.

To encourage this even further, we commenced a series of bi-weekly "Observer's Corner" meetings, ably arranged by Mark and Nadine Leenders. Formerly held as an added feature of our monthly General Meetings, the "O.C.'s" soon became so popular as to require a separate meeting. So on every other Sunday afternoon, a loyal group can often be found talking astronomy in the comfortable surroundings of the U. of A. Physics Lounge. We are very grateful to the Physics Department for allowing us its use.

Our monthly General Meetings continued to be a popular attraction, to the point where attendance threatens to overflow from our regular meeting location, the Queen Elizabeth Planetarium. Nevertheless, it is difficult to begin to estimate the extent to which the Planetarium is of assistance to us; for this, we are indebted. Highlights of our General Meeting topics included two exchange speakers from other Centres: In January, Ken Hewitt-White from the Vancouver Centre spoke on "Some of My Favourite Things in Astronomy", an enthusiastic talk that was an inspiration to us all. In April, Dr. Sreenivasan from the Calgary Centre spoke on "Mass Loss in Stars". At our Annual Banquet in November we were very fortunate to have a talk from Dr. George Ellis of the University of Capetown. His topic of "Cosmology" was very well received.

In late 1978, a group of Centre members under the direction of Kevin Berglund and Lori Walton began planning an extensive astronomical exhibit that, after anticipated completion in mid-1979, will tour various shopping centres and community clubs.

In the spring we circulated a 5-page Questionnaire to all Centre members to assist us in the organization of our Observatory project and in other matters such as membership fees. The results, from well over 50% of our members, have been of great use to us.

"Stardust," our newsletter edited by Paul Deans, continued to bulge with contributions from members. In 1979 we are anticipating a change in format and an improved appearance for what we consider to be already one of the better Centre publications.

Other activities during the past year included the first-light ceremony for Anthony Whyte's Ellerslie Observatory, which houses a 20-cm refractor, the First Annual Buck Mountain Summer Solstice Sacrifice and Debauchery, too many clouded-out observing sessions, including our public Starnight in April, and an ill-fated scheme to charter a jet to the '79 Eclipse. This last item, the Eclipse Flight, was probably our greatest disappointment for the year.

However, one of our greatest successes is the fact that in 1978 and for the first time in Centre history, our membership exceeded the magic 100 mark.

Ivan Rogers, *Secretary*

HALIFAX CENTRE

The Halifax Centre held twelve regular meetings, a centre dinner, a camping-observing weekend, introductory astronomy workshops, and several observing sessions during 1978. Most regular meetings were at the Nova Scotia Museum on the third Friday of each month. The topics and speakers for several of the meetings were:

- January 19 "Joseph Everett and the King's College Observatory": Dr. Roy Bishop
- January 26 "Mont Mégantic Observatory": Dr. René Racine
- February 17 "Measurement of Light Pollution": Steven Morris
- March 31 "Astrophotography": John MacNeil
- April 21 Centre Dinner & Slide Show (Brass Rail Restaurant)
- May 12 "Beta Lyrae": Randall Brooks

June 23	“General Assembly Report”, “A Multiple Mirror Telescope”: Larry Coldwell
July 21	“Astronomical Tour of England”: Randall Brooks
July 29, 30	Camping-Observing Weekend (Blomidon Park and Black Hole)
August 25	Tour of the Mill Village satellite communications station
September 15	“The Center of the Milky Way”: Dr. Gary Welch
October 20	“Stellafane 1978”: Bill Parnell; “The Moon and Fundy”: Dr. Roy Bishop
November 17	“Variable Stars”: Dr. Gopal Kilambi, Walter Zukauskas
December 15	“Asteroids” and “Las Campanas”, Steven Morris

At the beginning of the year the monthly meetings of the executive were opened to the other members, a change which has proven worthwhile to all concerned. Another welcome addition for centre members is *Jovian Scientific*, the only store specializing in astronomical telescopes in Atlantic Canada. One of our members, Barry Mouzar is responsible for this venture.

Nova Notes, the centre newsletter, is probably the single, most important item responsible for the vitality of the Halifax Centre. Through the support it receives from the members and its consistent high quality and punctuality (due entirely to its industrious editor, Randall Brooks), *Nova Notes* has provided a common link amongst its members and has given the centre a distinct identity amongst the other centres across Canada.

1978 has also been an active year for the Halifax Centre at the national level. Four members made the 7400 km round trip to the Edmonton General Assembly in May. Larry Coldwell was the centre representative at the assembly. Larry presented a paper on his unique multiple-mirror telescope, a topic which generated much interest and won a prize in the observing competition. The *Simon Newcomb Award*, a proposal from the Halifax Centre, was adopted by the National Council at its Edmonton meeting. At the same meeting Randall Brooks was elected to the Membership Committee and to a full term on the Editing Committee for the Journal. Roy Bishop was selected as chairman of the Historical Committee. Also, the delegates at the assembly accepted the offer of the Halifax Centre to hold the 1980 General Assembly in Halifax. This will be the second time the assembly has been held in eastern Canada (Halifax also hosted the 1975 assembly), and will be the first time that the R.A.S.C. and the C.A.S. have held a joint meeting.

Roy L. Bishop, *Secretary*

HAMILTON CENTRE

Our general meetings were held, as has been the case for some years past, in McMaster University, and we thank them for their continued support. This year we were able to hold some of our Observers group meetings at the Nature Interpretive Centre of the Royal Botanical Gardens, which made it possible to meet constructively in fair or foul weather. The convenience of meeting with a building to warm up in has spurred our observatory plans forward and the observatory committee, especially Les Powis and Peter Ashenhurst are to be congratulated for their efforts. In 1978 we held 10 regular meetings. Some highlights are as follows:

January	General meeting, members night. Slide presentations “Touring Cape Kennedy” – Rob Allen
February	Planetarium Shows
April	Ralph Dakin on “Eclipse Chasing”
May	“Planet Jupiter” – Dr. Fred Price
November	IUAA meeting – Bob Speck. “History of Astronomy in Scotland” – Phyllis Allen
December	Stellafane – John Hudak. “Infrared telescope” – Film

In addition, we staged an exhibit at the Hamilton and District Science Fair, introducing

many people to observations of the sun and planets. The Centre was instrumental in arranging a trip to Algonquin Radio Observatory, with delegates from at least 4 centres, and groups from the U.S.A. attending. Our thanks are due to Barry Sherman and the Staff of the Herzberg Institute for Astrophysics for making this trip so worthwhile. During the summer members visited meetings of the IUAA and of the NFAAAA. In the Fall we held 2 star nights at the Royal Botanical Gardens HQ, which won us a few new members. John Hudak as Observers group Chairman organized many meetings, to observe a variety of phenomena. The Discussion group, ably chaired as usual by Eric Orr, continued to provide stimulation to its hardcore of participants in a variety of homes.

M.J. Holmes, *Secretary*

KINGSTON CENTRE

1978 was a very successful year for the Kingston Centre. Our membership increased and a corresponding rise in meeting attendance was also noted. The meetings were held on alternate Tuesdays with the other Tuesdays reserved for observing sessions at Queen's University's telescope. However, these observing sessions were attended only by our hardcore observing group of four. A list of our eight more important meetings follows:

- | | |
|-------------|---|
| January 10 | Display night for equipment and photos |
| January 24 | A talk by David Levy on the "Great Comet of 1861" |
| February 7 | A talk by Leo Enright on the astrolabe |
| February 21 | A talk by Dr. A.V. Douglas on the history of the I.A.U. (see National Newsletter June '78 page L42) |
| March 7 | A talk by David Levy on the observation of variable stars |
| March 21 | Elections and a planned lunar observation night for the public |
| April 4 | A talk by Leo Enright on the different types of light in the sky |
| October 5 | A talk by Peter Jedicke of the London Centre on the colonization of space |

Not included in this list is our summer meetings which were still held but attended poorly and were quite informal. Our three annual summer excursions however were very successful. The first to Holleford Crater just north of Kingston proved enjoyable and was followed by two others to Sharbot Lake to celebrate the summer solstice and one to observe the Perseid Meteor Shower. Unfortunately, this last one was plagued by some clouds and the fallout from a skunk at 2:00 am; still we recorded fifty meteors.

In the fall we changed our meetings to alternate Thursdays at 8:00 pm with observing sessions on every clear Tuesday and remaining Thursday. Accordingly our activity has increased.

As many Centres have noted, our newsletter has grown since last year from 2 to 5 pages and as a result we have appointed an editor for 1979.

Finally, our long dragged out telescope building project has seen new hope with the purchase of finished 10" f/5.6 optics by the Centre. This telescope will probably help our many speciality observing projects such as Messier object hunting, astrophotography, comet hunting, variable star observing, and two new projects, a nova search program and long baseline aurora observations with the Maple Ridge Amateur Astronomer's Society in British Columbia. On the whole we have had a very active and enjoyable year with much progress made especially with membership.

Enrico Kindl, *Secretary*

LONDON CENTRE

It may fairly be said that the London Centre enjoyed the most active year in its history during 1978. Fourteen regular meetings were held at the University of Western Ontario, and twelve executive meetings. The program for 1978 was as follows:

- January 13 Sixth Annual Banquet and Annual Meeting, "Chasing Meteors in Western Canada," Dr. Ian Halliday, RASC First Vice-President
- January 20 Members' Night and Film
- February 17 Chin Cheng-Peng, "Astronomy in Taiwan"
- March 17 Annual Dr. H.R. Kingston Memorial Lecture, "Variable Stars in Globular Clusters," Dr. Christine Clement, University of Toronto
- March 31 "The Space Shuttle Remote Manipulator System," Dr. Claus Wagner-Bartak, Spar Aerospace Ltd., Toronto
- April 14 Members' Night
- April 28 "Mythology In Astronomy," Al Kindy, Niagara Centre Exchange Speaker
- May 12 From Hess to HEAO: The History of High Energy Astronomy," Peter Jedicke
- June 16 "I, Claudius – The Crime of Claudius Ptolemy," Dr. Howard Plotkin, U.W.O. Department of Medicine and Science
- July 21 Members' Night
- August 18 "The Astrolabe – Its History and Use," Leo Enright, Kingston Centre Exchange Speaker
- September 15 Members' Night
- October 20 "Instruments for the Collection and Measurement of Photons," Dr. D.F. Gray, U.W.O. Department of Astronomy
- November 17 "Radio Supernova Remnants," Dr. E.R. Seaquist, University of Toronto, Toronto Centre Exchange Speaker
- December 15 "The Pioneer Venus Mission," Peter Jedicke

Centre members participated in a number of trips during 1978. Thirteen members visited the Abrams Planetarium at Michigan State University on March 12; ten members saw the Space Shuttle equipment at Spar Aerospace in Toronto on July 14; three members joined Niagara Centre members in a journey to the Syracuse Summer Seminar of the Niagara Frontier Council of Amateur Astronomical Associations (NFCAAA) July 29 and three members drove to Dayton, Ohio, to see the Air Force Museum on August 26. The London Centre was also well represented at the General Assembly in Edmonton in May, and a carload went to Toronto September 30 to see the McLaughlin Planetarium show and Science Centre.

An exciting highlight of 1978 was Project Zubenelgenubi, which received a Young Canada Works grant of \$12,572. Project Manager Gerald Schieven lectured to nine grade school groups, as well as a number of recreational camps and organizations. The mall displays visited 9 malls and 2 library branches, as well as an outdoor display at Springbank Park. On clear evenings, telescopes were set up at dozens of local parks, and over a thousand people were treated to views of the heavens. The displays were donated to the London Regional Children's Museum at the end of August. In addition to all of this, the rented van provided active Centre members with transportation for about twenty voyages to dark, clear skies north of London for all-night observing sessions.

Under the guidance of Editor Mike Flegel and Publisher Eric Clinton, the Centre's newsletter, "Astronomy London," published two-hundred pages of interesting and informative reading during 1978. President Peter Jedicke continued his active popularization of astronomy through his reports on CKO radio, his course at Fanshawe Community College, his program "Telescope" on the local community broadcasting channel, and numerous lectures to service clubs, schools, Scout troops and to the Centres in Windsor, Niagara and Kingston. Steve Sharpe and Walter Campney continued the fine tradition of variable star observing in the London Centre. ATM Chairman Peter Andreae has commenced grinding a 30-cm blank for eventual use in a Centre Telescope.

A great deal of effort was devoted to the planning of London's biggest event ever – the 1979 General Assembly. Robert W. Cornforth, elected President for 1979 in December, will look forward to welcoming delegates from all Centres.

The coming year promises to be a very exciting one and I for one, am looking forward to it.

Tom Glinos, *Executive Secretary*

CENTRE D'ASTRONOMIE DE MONTRÉAL

Le Centre Français de Montréal et La Société d'Astronomie de Montréal sont étroitement liés. Dû à des difficultés linguistiques, le Centre Français créait La Société d'Astronomie de Montréal en juin 1968, en offrant à ses membres la possibilité facultative de maintenir leurs relations avec la Société Royale d'Astronomie du Canada. De ce fait, toute l'administration du Centre Français fut incluse dans la formation de La Société d'Astronomie de Montréal. Donc vous constaterez dans notre rapport que nous signalons les activités générales de La Société d'Astronomie de Montréal, auxquelles ont participé tous les membres affiliés à la Société Royale d'Astronomie du Canada.

Nous terminons la présente année avec 605 membres, soit une augmentation de 33 sur l'an dernier. 78 des nôtres se sont inscrits à la S.R.A.C., plus 2 membres à vie. Et 13 sont inscrits à la Société Astronomique de France dont nous sommes les agents au Canada.

Notre journal mensuel "Le Québec Astronomique" est tiré à 1000 exemplaires, expédié aux membres, aux abonnés et à titre de relation publique. 700 copies sont distribuées dans la région métropolitaine, environ 140 dans la province de Québec et 20 à travers le Canada.

Notre "Annuaire Astronomique de l'Amateur" a été imprimé à 1500 exemplaires, distribués aux membres et vendus à divers organismes, si bien que nous en avons même retiré un léger bénéfice.

Le Conseil d'Administration s'est réuni dix fois au cours de l'année. À ces réunions une moyenne de présences de 75% a été constatés.

Notre Banquet Annuel a été tenu le 3 juin 1978. À cette occasion, le prix "Etoile d'Argent" a été remis au Rév. Père Louis Genest et le prix "Georgette LeMoyné" à M. Guy Morin.

Notre Soirée Populaire, tenue le 26 août 1978, sous la direction de M. Lionel Beaudoin a attiré plus de 1500 visiteurs. La bonne température aidant, ce fut un véritable succès.

Plusieurs tournées de promotion ont été réalisées dans divers centres publics, soit Centre d'Achats Anjou, Carrefour Laval, Municipalité St-Léonard, Centre Socio-culturel Brossard, Complexe Desjardins, C.E.G.E.P. St-Jérôme.

Nous avons constaté une assistance moyenne de 100 personnes lors de nos réunions hebdomadaires du mardi soir. Nous avons présenté divers sujets de conférences dont une série de causeries intitulée Astronomie Contemporaine, par M. Henry J. Coia, une autre série sur l'Observation Astronomique a été donnée par M. Lucien E. Coallier. Parmi les conférenciers invités, mentionnons le Dr René Racine, directeur de l'observatoire du Québec, au Mont Mégantic, et de M. Charles Bertaud, astronome titulaire de l'observatoire de Paris qui a traité des supernovae.

Notre section d'optique s'est réunie tous les lundis soirs, sous la direction de moniteurs qualifiés. Une quinzaine de membres s'appliquent au polissage de leur miroir. Au moins 50 miroirs ont été terminés et aluminisés par notre atelier, sous la direction de M. Henry J. Coia.

Notre magasin a réalisé un profit de près de \$4000, dont une bonne partie fut versée au fonds consolidé de la Société. Le détail des ventes se répartit comme suit: \$6300. en livres, \$7700 en accessoires d'optique, \$6600. en pièces de mécanique et \$1400. en items divers.

225 volumes ont été empruntés à notre bibliothèque et 20 nouveaux livres ont été acquis.

Les travaux d'érection à notre observatoire de St-Valérien progressent lentement. La question financière est un des obstacles majeurs, sans compter quelques erreurs ni une visite de malandrins qui se sont emparés d'une bonne quantité de notre matériel.

Notre situation financière s'est maintenue. Nous avons bouclé notre budget avec un léger excédent.

Rolland Noël De Tilly, *Secrétaire*

NIAGARA CENTRE REPORT 1978

During 1978, the Niagara Centre incorporated. We continued to develop plans for our proposed Observatory. Again this year, both attendance and interest in our monthly meetings were up over previous years.

Throughout the year, our new Observer's Group, under Chairman Ron Gasbarini, held monthly observing sessions during the year. Membership attendance at these sessions was very good.

Nine regular meetings were presented in 1978 in addition to a number of member and public "Star Nights" during the summer. Meetings and programmes for 1978 were as follows:

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|--------------|--|
| January 12 | Annual Meeting and election of Board of Directors. Programme-Speaker: R.A.S.C. 1st Vice-President, Dr. John R. Percy, "Things That are New in Canadian Astronomy." |
| February 9 | Al Kindy, "Adventures into the Past." |
| March 9 | Film Night: "Galileo – The Age of Reason," and "Apollo 11 – The Eagle has Landed." Robert Jedicke, "The Theory of Relativity." |
| April 13 | Speaker: Jack Newton, Past-President of the Toronto Centre, "Deep Sky Photography for The Amateur." |
| May 11 | Speaker: Peter Jedicke, President of the London Centre, "From Hese to Heao: The History of High Energy Astronomy." |
| September 14 | Ron Gasbarini, Marvin Scott, Charles Fassel, Robert Jedicke: Reports of summer activities and observing sessions with slides. |
| October 12 | Al Kindy, "Our Place in Space," H.N.A. Maclean, "Holography," Mark and Rita Reichle, University of Buffalo, "Holography Demonstrations Using Lasers." |
| November 10 | Annual Banquet – Speaker: Dr. John D. Fernie, David Dunlap Observatory, "Current Research on Cepheid Variables." |
| December 14 | Film Night: "To the Moon," "What on Earth," and "Energy and Matter." |

Ron Gasbarini, *Secretary*

OTTAWA CENTRE

The busy pace of activities during the 1977 was maintained through 1978. Nine well-attended public lecture meetings were held:

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|--------------|--|
| January 27 | Annual Dinner Meeting; Dr. John M. MacLeod, National Research Council: "Large Molecules in Dark Interstellar Clouds" |
| February 27 | Dr. Paul A. Feldman, National Research Council: "Roots of Astrology: An Astronomer's Tour Through Myths, Magic and History" |
| March 31 | Mr. K.F. Tapping, National Research Council: "Solar Radio Pulsations" |
| April 20 | Mr. Jack Newton, Toronto Centre RASC: "Astrophotography" |
| May 5 | Observers' Group – Peter MacKinnon, Chairman. Reports on: The Ottawa Centre's Radio Telescope, A Solar Spectroscope, Photography with the Centre's 40-cm Telescope, Observational Activities |
| September 28 | Dr. R.H. Eather, Boston College, Mass.: "Research Activities on Aurora" |
| October 27 | Dr. A.W. Woodsworth, National Research Council: "Observations of the Black Hole Candidate Cygnus X-1" |
| November 17 | Annual Dinner Meeting; Dr. L.A. Higgs, National Research Council: "From Cosmic Catastrophe to Stellar Rebirth – The Story of Supernova Remnants" |
| December 14 | Film: "The Case of the Ancient Astronauts" with commentary by Dr. P.A. Feldman, National Research Council |

It should be noted that this was the first year in which two Annual Dinner Meetings were held. This happened because of the decision of the Council of the Centre to bring the Centre

financial year in line with that of the National Society where memberships are due on October 1. Holding of the Annual Meeting and election of officers in November will avoid some of the weather problems that happen with a meeting in January and will allow an easier transition for the newly elected Council to take office. At the Annual Meeting in November the Centre adopted a new seal design to meet the requirements of incorporation. The seal incorporates a stylized telescope superimposed on the constellation Ursa Major with the name Ottawa Centre and the initials of the national society in a circular band around the outside. The seal design resulted from a contest among Centre members. The final design incorporated ideas included in submissions from two members – H. Battersby and R. Heaslip. The new design will be used on Centre stationery.

The Observers' Group had a very exciting year. The first visual comet to be discovered by a Canadian was found on April 17 by Rolf Meier using the 60-cm telescope at the Indian River Observatory. The comet was officially designated Comet Meier 1978f. In September, the pioneer Canadian radio astronomer, A.E. Covington, himself an active supporter of the Ottawa Centre, opened the world's largest amateur radio telescope at the Indian River Observatory. The telescope, consisting of two 14 x 5 metre antennas 185 metres apart, was the result of much enthusiasm and hard work by a small number of Observers' Group members under the leadership of Ken Tapping. This instrument will add a new dimension to the Centre's amateur activities.

Although the discovery of Comet Meier and the inauguration of the radio telescope were the peaks of Observers' Group activities, the general high level of activity among the Group members was recognized in two other ways. The Ottawa Centre received the major award, the Judges' Choice, among the exhibits at the General Assembly in Edmonton in May. In August members brought back three prizes from the telescope exhibition at Stellafane in Vermont. Observers Group members also continued to meet monthly to exchange ideas and experiences. Two public star nights and exhibits sponsored by the Group at local fairs served to stimulate interest in astronomy among the general public.

As well as comet discovering, Rolf Meier found time to edit the Centre's newsletter "Astronotes", which completed its seventeenth year of continuous publication in December.

E.H. Dudgeon, *Secretary*

QUEBEC CENTRE

L'année 1978 a été fructueuse. Nous comptons actuellement 114 membres (année 1978-79) et 23 abonnés au "Bulletin", lequel a paru à 11 reprises. "L'Almanach graphique 1978" a été édité pour la 34^e année consécutive et son "Supplément" pour la 3^e année. Une subvention de \$400 octroyée par la SRAC à partir du "Ruth Nortcott Fund" nous a permis de défrayer en partie l'impression des "Ephémérides, 1978" (3^e année, par Dr Jean-Pierre Bernier) et de payer plusieurs éditions du "Bulletin".

Lors de la réunion annuelle de la SRAC à Edmonton en mai 1978, M. Mario Lapointe y a gagné un deuxième prix et un article a paru dans le "Sky and Telescope" de mai 1978. Grâce à la collaboration de l'Université Laval, notre centre a été l'hôte du congrès annuel de l'Association des groupes d'astronomes amateurs (Québec), soit l'AGAA. Ce congrès s'est tenu à Québec du 16 au 18 juin 1978. De nombreux exhibits, conférences et autres activités s'y sont déroulés. D'autre part, plusieurs membres de notre centre ont donné de nombreux volumes, revues, cartes et photos du ciel afin d'enrichir notre bibliothèque. Nous remercions à cette fin MM. Jean-Pierre Bernier, Jean-Paul Boudreault, Benoît Drolet et Paul Marmet. Nous voulons également souligner le départ du Dr Jean-Pierre Bernier à titre de président de notre centre, après plusieurs années de travail intense.

Des conférences et soirées d'observations qui s'adressaient à nos membres et au public en général ont été tenues:

- 11 janvier "Nos ancêtres, les supernovae" par Dr Jean-René Roy, Université Laval. Conférence.
- 15 février "Réalizations des membres" par les membres présents. Rencontre.

- 15 mars "Structure de notre galaxie" par Dr Edouardo Hardy, Université Laval. Conférence.
- 5 avril "La vie extra-terrestre" par M. Louis Fortier. CEGEP de Ste-Foy. Conférence.
- 10 mai "L'astronomie au Mauna Kea" par M. Jean-Marc Carpentier. Radio-Canada. Conférence.
- 12-13 août "Les Perséides". Soirée d'observation à l'observatoire du Collège de Lévis, à St-Nérée de Bellechasse.
- 18 octobre "La videoastronomie" par M. Alphée Nadeau. CEGEP de La Pocatière. Conférence.
- 15 novembre "Un projet d'observatoire à Cabano" par M. Jacques Pelletier. Société d'astronomie de Témiscouata. Conférence.
- 2 fois par mois: Soirées d'observations sur un terrain du Collège du Mont St-Sacrement, à 27 Km de Québec.

Réjean Dutil, *Secrétaire*

ST. JOHN'S

- September 77 A talk was given on the chances of obtaining an observatory dome from the U.S. Base in Argentina.
- October 77 Election of officers.
- November 77 A talk on the IUAA was given by Dr. Ken O'Brian.
- December 77 Dora Russell gave a talk on the Christmas Star. Fact Or Fiction?
- January 78 It was noted that Mrs. Dora Russell had received the Queen's medal for her astronomy - Girl Guide actives. Dr. John Pippy gave a talk on Comets.
- February 78 The centre formed a new observing group and it was noted that we now have two life members.
- March 78 Slide show "The Universe".
- May 78 A talk on how to observe the summer sky.
- June 78 Meeting end for the summer months.

Peter Allston, *Secretary*

SASKATOON CENTRE

1978 has been a very busy year for the Saskatoon Centre. It started out with plans for the Centre dark site Observatory, which did materialize. Thanks to Gordon Patterson and Merlyn Melby for the construction of this observatory and co-operation of members.

At the annual General Assembly in May, our Centre display was judged to be the best in its category and won the Centre a set of books.

The annual July picnic and outing at Diefenbaker Park was fairly well attended by members and a good number of the public turned out as well. Good viewing conditions prevailed and a lot of various objects were shown.

The August outing at the new dark site, called "The Rystrom Observatory", situated on Mr. Ed Rystrom's farm was not as well attended for observing the meteor shower, as most of the sky was covered with a light haze. However a fair number of the brighter meteors were seen.

For the second year the Centre had a display at the Hobby Show. The public was well informed about the upcoming total solar eclipse. The display won a Special Award ribbon for a unique and informative display.

Again classes on Fundamentals of Astronomy and Astrophotography are being held every Saturday at 79 Baldwin Cres. Many thanks to Mr. and Mrs. Patterson for their kindness and hospitality.

A Starry year to all!

Lillia Wilcox, *Secretary*

TORONTO CENTRE

The Toronto Centre has had a busy year, with many projects being completed, and several important new ones being started.

For several years, the C.A. Chant Astronomy Club of Don Mills Collegiate was a very active group, and many of its alumni have made contributions to this Centre. The group counts among its members a Rhodes Scholar, as well as the most recent winner of the Society's Gold Medal, Douglas Gies. I am sure that all members join me in congratulating Doug on his achievement.

It is with regret that the Centre records the passing in the last year of the following members:

Dr. R.K. Young
 Mr. Robert Johnston
 Dr. Frederic C. Hamilton
 Mr. Rolf Mueller
 Mr. Henry A. Horning.

The Programme Committee, headed by Dr. Seaquist, organized an excellent series of seven lectures covering a wide range of topics including history of astronomy, and current observational and theoretical work being done at the David Dunlap Observatory. There were also eight Observers Group meetings held at the Planetarium and five Star Parties at the Centre Observatory organized by Kai Millyard. Richard McWatters and Andreas Gada once again served as the projectionists for these meetings. Dr. Seaquist and Kai Millyard are to be congratulated for providing the Centre with one of the best programmes ever.

Under Richard McDonald the Public Education Committee has continued its very busy schedule of library and parks programmes, as well as a new series of programmes at shopping malls in the Metropolitan Toronto area. All of these projects have been very successful, and it is hoped that members will continue to support this very important line of communication with the public.

In addition to organizing the Observers Group meetings, Kai Millyard has also expanded the activities of his committee to include the administration of the Centre Observatory. A major project has been the construction and outfitting of a warm-up hut at the Observatory, which will make the winter observing a much less rigorous activity, and it is expected, barring poor weather, that more people will use the Observatory than this year's 390 observers. A Radio Astronomy group led by Rodney Nicholson is preparing to operate a small radio observatory.

As observatory activity has increased, so too has the demand of access to the Centre's 'loaner' telescopes. The Robert Johnston Questar Telescope is in especially high demand. All of the loaner instruments are presently in use. It is also expected that greater use will be made of the Centre's observatory refractor and the two major reflectors at the Observatory.

John Morriss reports that a number of telescopes are under construction by members of the Optical Workshop. The primary mirror of the Glassford telescope is now being figured, and it is hoped that this instrument will soon be in service.

Nick Fraser ably served as Editor of 'SCOPE' over the last year, but was forced by other commitments to give up the post during the summer. Editorial staff and contributors are greatly needed. 'SCOPE' is the one way that the Centre keeps in touch with all its members.

Mike Watson has been active organizing an expedition to observe the total solar eclipse in February 1979. Response has been enthusiastic, and has come from not only other Centres in this province, but from a number of American eclipse chasers as well.

Membership continued to increase over the last year, from 624 to 666, including 475 regular, 97 student, 58 life and 36 associate members. It is encouraging to see that in spite of the general atmosphere of financial straits, our organization is growing and our services have been expanded.

Members will note that there have been several changes on the Council this year. Personal and professional commitments must clearly take precedence over volunteer work

MORRIS ALTMAN

CHARTERED ACCOUNTANT

95 KING STREET EAST

TORONTO, CANADA

MSC 1G4

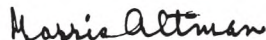
A U D I T O R ' S R E P O R T

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, 1978 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, 1978 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.



Chartered Accountant.

Toronto, Canada,
April 20, 1979.

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

BALANCE SHEET

DECEMBER 31, 1978

(With comparative figures as at December 31, 1977)

	<u>1 9 7 8</u>	<u>1 9 7 7</u>
<u>A S S E T S</u>		
Current Assets		
Cash	\$ 25,861	\$ 6,427
Short-term deposits	2,000	2,000
Accounts receivable	17,206	18,839
Loans to R.A.S.C. Centres	1,000	1,600
Accrued interest on investments	582	604
Prepaid expenses	<u>150</u>	<u>187</u>
	\$ 46,799	\$ 29,657
Investments		
Marketable securities at cost (Market value \$2,760)	3,019	<u>\$ 3,019</u>
Special Funds		
Building Fund	\$152,409	\$181,377
Special Projects Fund (note 1)	36,657	-
Ruth Northcott Memorial Fund	14,898	14,084
Edward R. Paterson Bequest	10,000	10,000
J. F. Heard Memorial Fund	<u>1,865</u>	<u>505</u>
	215,829	\$205,966
Office furniture, equipment and library (nominal value)	<u>1</u>	<u>\$ 1</u>
TOTAL ASSETS	\$265,648	\$238,643
<u>ACCUMULATED DEFICIT</u>	<u>21,660</u>	<u>19,882</u>
	\$287,308	\$258,525
<u>L I A B I L I T I E S</u>		
Current Liabilities		
Accounts payable and accrued charges	\$ 16,499	\$ 14,227
Deferred Income		
Membership fees for ensuing year	\$ 11,971	\$ 9,997
Subscriptions to Journal and Handbook	29,999	19,734
Unappropriated life membership fees (Schedule "A")	<u>13,010</u>	<u>8,601</u>
	54,980	\$ 38,332
Reserve for Special Funds	<u>215,829</u>	<u>\$205,966</u>
	\$287,308	\$258,525

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

STATEMENT OF INCOME AND EXPENDITURES

FOR YEAR ENDED DECEMBER 31, 1978

(With comparative figures for 1977)

	<u>1 9 7 8</u>	<u>1977</u>
<u>I N C O M E</u>		
Membership Fees		
R.A.S.C. Centres	\$ 12,642	\$ 11,867
Individual members	7,849	7,043
Life membership reserve - annual appropriation	<u>1,041</u>	<u>769</u>
	\$ 21,532	<u>\$ 19,679</u>
Grants and Donations		
Government of Canada - annual grant	\$ 7,150	\$ 7,000
Province of Ontario - annual grant	1,500	1,500
National Research Council (special grant)	-	2,500
Miscellaneous donations	<u>81</u>	<u>115</u>
	8,731	<u>\$ 11,115</u>
Publications		
Journal of the R.A.S.C. - subscriptions	\$ 9,488	\$ 5,966
Observer's Handbook	41,475	29,135
Reprints from the Journal	2,022	4,901
Publication charges	<u>6,660</u>	<u>12,057</u>
	\$ 59,645	\$ 52,059
	<u>9,129</u>	<u>5,624</u>
	50,516	<u>\$ 46,435</u>
Miscellaneous Income		
Interest on investments (note 2)	\$ 1,465	\$ 1,435
Gain on foreign exchange	4,827	1,964
Insignia sales	<u>283</u>	<u>189</u>
	6,575	<u>\$ 3,588</u>
<u>TOTAL INCOME</u>	<u>\$ 87,354</u>	<u>\$ 80,817</u>
<u>E X P E N D I T U R E S</u>		
Publications		
Printing and binding	\$ 56,492	\$ 54,683
Editorial fees	1,100	500
Distribution costs	4,297	4,697
Advertising	<u>356</u>	<u>457</u>
	\$ 62,245	\$ 60,337
Office salaries	15,756	14,065
Stationery, printing and office supplies	1,698	1,583
General and office expenses	1,391	1,031
Telephone	288	565
Postage and shipping	3,201	1,035
Life membership allotment to Centres	1,133	1,084
Assistance grants to Centres	-	372
General assembly and travel expenses	1,110	596
Contribution to International Astronomical Union	-	500
Library expense	166	299
Insignia, medals and awards	1,247	193
Insurance	338	348
Canada pension plan and unemployment insurance	450	392
Bad debts	<u>109</u>	<u>30</u>
<u>TOTAL EXPENDITURES</u>	89,132	<u>\$ 82,430</u>
<u>EXCESS OF EXPENDITURES OVER INCOME</u>	<u>\$ 1,778</u>	<u>\$ 1,613</u>

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

STATEMENT OF SPECIAL FUNDS

FOR YEAR ENDED DECEMBER 31, 1978

(With comparative figures for 1977)

	<u>1978</u>	<u>1977</u>
<u>BUILDING FUND</u>		
Balance at beginning of the year	\$181,377	\$173,579
Add: Interest earned on investments	\$ 10,932	\$ 13,901
Dividends received	1,400	882
Mortgage interest earned	-	770
Gain on sale of securities	<u>1,929</u>	-
	14,261	\$ 15,553
	<u>\$195,638</u>	<u>\$189,132</u>
Deduct: Rents for Society's office premises	\$ 8,229	\$ 7,755
Transfer to Special Projects Fund (note 1)	<u>35,000</u>	-
	43,229	\$ 7,755
Balance at end of the year	<u>\$152,409</u>	<u>\$181,377</u>
<u>SPECIAL PROJECTS FUND</u>		
Amount transferred from Building Fund	\$ 35,000	\$ -
Add: Interest earned on investments	<u>3,357</u>	-
	\$ 38,357	-
Deduct: Grants to Centres (note 3)	<u>1,700</u>	-
Balance at end of the year	<u>\$ 36,657</u>	-
<u>RUTH J. NORTHCOTT MEMORIAL FUND</u>		
Balance at beginning of the year	\$ 14,084	\$ 13,467
Add: Public contributions	100	100
Interest earned on investments	<u>1,114</u>	<u>1,017</u>
	\$ 15,298	\$ 14,584
Deduct: Appropriation for designated purposes (note 4)	<u>400</u>	<u>500</u>
Balance at end of the year	<u>\$ 14,898</u>	<u>\$ 14,084</u>
<u>EDWARD R. PATERSON BEQUEST</u>		
Balance at beginning and end of the year	<u>\$ 10,000</u>	<u>\$ 10,000</u>
The interest earned by the Paterson Bequest, amounting to \$959, has been applied to general income.		
<u>J. F. HEARD MEMORIAL FUND</u>		
Balance at beginning of the year	\$ 505	\$ -
Add: Contributions received during the year	<u>1,360</u>	<u>505</u>
Balance at end of the year	<u>\$ 1,865</u>	<u>\$ 505</u>

(For composition of the funds see Schedule "C")

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

STATEMENT OF ACCUMULATED DEFICIT

FOR YEAR ENDED DECEMBER 31, 1978

(With comparative figures for 1977)

	<u>1 9 7 8</u>	<u>1 9 7 7</u>
Deficit at beginning of the year	\$ 19,882	\$ 18,269
Excess of expenditures over income for the year (per statement)	<u>1,778</u>	<u>1,613</u>
Deficit at end of the year	<u>\$ 21,660</u>	<u>\$ 19,882</u>

SCHEDULE "A"

UNAPPROPRIATED LIFE MEMBERSHIP FEES

Balance at beginning of the year	\$ 8,601	\$ 7,270
Add: Life membership fees received in the year	<u>5,450</u>	<u>2,100</u>
	\$ 14,051	\$ 9,370
Deduct: Appropriation to income account	<u>1,041</u>	<u>769</u>
Balance at end of the year	<u>\$ 13,010</u>	<u>\$ 8,601</u>

SCHEDULE "B"

ANALYSIS OF PRINTING COSTS

R. A. S. C. Journal	\$ 30,191	\$ 38,251
Observer's Handbook	15,816	12,975
National Newsletter	8,562	354
Reprints	<u>1,923</u>	<u>3,103</u>
	<u>\$ 56,492</u>	<u>\$ 54,683</u>

SCHEDULE "C"

COMPOSITION OF SPECIAL FUNDS AT DECEMBER 31, 1978

	<u>Building Fund</u>	<u>Special Projects Fund</u>	<u>Ruth Northcott Fund</u>	<u>E. R. Paterson Bequest</u>	<u>J. F. Heard Fund</u>
Cash	\$ 3,991	\$ 282	\$ 1,870	\$ -	\$ 1,865
Term deposits	61,000	35,000	8,533	10,000	-
Securities (at cost)	84,113	-	4,000	-	-
Accrued interest	2,147	1,375	495	-	-
Rent deposit	<u>1,158</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
	<u>\$152,409</u>	<u>\$ 36,657</u>	<u>\$ 14,898</u>	<u>\$ 10,000</u>	<u>\$ 1,865</u>
Market value of securities	<u>\$ 83,800</u>	<u>-</u>	<u>\$ 3,470</u>	<u>-</u>	<u>-</u>

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

NOTES TO FINANCIAL STATEMENTS

FOR YEAR ENDED DECEMBER 31, 1978

1. Special Projects Fund

By resolution of the National Council, the sum of \$35,000 was withdrawn from the Building Fund and set up as a Special Projects Fund, the earnings of which are to be used in support of approved capital projects undertaken by Centres of the Society. The fund was established as at January 1, 1978. Interest earned by the fund in the year 1978 amounted to \$3,357.

2. Interest on Investments

The sum of \$1,465 shown under this heading in the statement of income and expenditures includes \$959 earned by the Edward R. Paterson Fund, which has been credited to the General Account.

3. Disbursements from Special Projects Fund

The following grants were made to Centres of the Society from the Special Projects Fund during the year:

Hamilton Centre - for installation of electricity at its observatory site	\$ 600
Quebec Centre - towards the acquisition of land for an observatory	500
Winnipeg Centre - remission of a loan made to the Centre in 1976 for the construction of an observatory building	<u>600</u>
	<u>\$1,700</u>

4. Disbursements from Ruth Northcott Memorial Fund

The fund contributed \$400 to the Quebec Centre in support of its French publications program.

such as that which your Executive and Council undertake. I ask you to join me in thanking Messrs. D.J. Fitzgerald, Jim Gall, Ted Howard and Jim McKenzie for their services. It is my hope that these gentlemen will continue to make contributions to the activities of the Centre.

B. Ralph Chou, *Secretary*

VANCOUVER CENTRE

The Centre continued to maintain a good relationship with the Vancouver Museums and Planetarium Association with our General Meetings being held in the auditorium of the Centennial Museum, and with our membership receiving special showings of each new planetarium production. Thanks to Mr. Clifford Tosdevin, Director of the V.M.P.A. and to Mr. David Rodger, Curator of the H.R. MacMillan Planetarium for extending these privileges.

Following are the highlights of our programs during the year:

- | | |
|--------------|--|
| January 10 | David Hurd and Robin Goldie gave a short presentation on U.F.O.'s as an introduction to the new planetarium production titled "Unidentified Flying Objects" which was later seen by the members. |
| February 10 | The annual dinner meeting of the Centre was held with the guest speaker being Vancouver Alderman Warnett Kennedy. He spoke on the early days of the British Interplanetary Society. |
| March 11 | Three presentations were made by members of the Centre. They were "Tides" by Tom Tothill; "The Adler Planetarium" on 8mm movies by Jim Bernath and "Amateur Astronomy for the Fun of It" by K. Hewitt-White. |
| April 11 | Our National President, Dr. Alan Batten was guest speaker and his topic was "The Case of the Hyades". |
| May 9 | President Stan Sullivan gave us an insight on how the printing process is used to provide good quality reproductions of astrophotographs. David Rodger then presented an introduction to the new planetarium show "A Journey Through the Galaxy" followed by its presentation to the membership. |
| June 13 | The following members gave brief presentations on current activities or interesting aspects of astronomy: Tom Tothill, David Dodge, David Rodger and Don Sheraton. |
| June 18 | The annual Centre picnic was held at Peace Arch Park. |
| September 12 | The members enjoyed a presentation by our Honorary President, Dr. Vladimir Okulitch on "Telescopes for the Amateur". |
| October 10 | Recent discoveries with respect to the origin of the Indian "Medicine Wheels" found on the western plains were explained by David Rodger and Dr. Michael Ovenden. The members then saw the planetarium show "Magic Circles Under the Sun" dealing with this subject. |
| November 14 | Dr. Paul Davies, visiting professor at U.B.C. spoke on "Black Holes". |
| December 12 | Reports were given on the February 1979 total solar eclipse plans, and on the Gordon MacMillan Southam observatory to be built near the MacMillan planetarium. Following the meeting the members used several of the Planetarium telescopes to take advantage of the clear observing conditions. |

Our thanks go to Janice Booth who has arranged for refreshments at each meeting throughout the year.

James F. Wright, *Secretary*

TREASURERS REPORTS

	Calgary	Edmonton	Halifax	Hamilton	Kingston	London	Montreal	Centre d'Astronomie	
								Montreal	Niagara
REVENUE									
Membership fees	\$1,081.00	\$1,441.00	\$1,125.50	\$ 998.50	\$ 254.00	\$ 616.50	\$ 1,217.00	\$ 598.50	\$ 503.50
Life Members Grants	83.20	15.00	25.00	15.00		15.00	80.00	10.00	
Donations		568.70		568.36		1.65	13.50		110.00
Educational Activities									
Interest & Dividends	210.36	165.81	.36	13.52		36.00	2,535.30	60.00	11.03
Sales of Handbooks Net		3.00	135.11	3.75	12.00	13.00	8.00		40.00
Advertising									
General Assembly		6,386.47		851.90	60.00	104.48		193.00	
Miscellaneous		158.24							
Total Revenue	\$1,374.56	\$8,738.22	\$1,015.75	\$2,451.03	\$ 326.00	\$ 786.63	\$ 3,853.80	\$ 861.50	\$1,152.03
EXPENDITURES									
Fees remitted to N.O.	490.20	844.35	778.50	349.50	132.00	375.00	655.50	589.50	228.00
Library	89.67		50.09		20.00	23.67	50.12		
Meetings & Newsletters	324.25	311.59	100.40	163.94	59.25	77.00	322.29		57.00
Annual Dinner Net	45.50	12.40	27.40		46.75	38.64			459.40
General Assembly (incl. Travel Grants)		5,661.76	216.00	104.00				193.00	
Equipment & Supplies			28.50	297.60	8.00	53.47	93.00		166.32
Office Administration						44.97	44.71		66.34
General Expenses & Audit	45.76		71.05			38.25			158.40
Educational Activities		8.76							
Insurance				35.00			310.00		
Awards & Donations				419.75					
Operating Expense - Observatory	18.20			97.06	40.30	83.94	261.79	24.70	50.32
Miscellaneous		77.12							
Total Expenditures	\$1,013.58	\$6,915.98	\$1,296.94	\$1,466.85	\$ 306.30	\$ 734.94	\$ 1,737.41	\$ 807.20	\$1,186.78
Surplus or (Deficit) on Operations	360.98	1,822.24	(281.19)	984.18	19.70	51.69	2,116.39	54.30	(34.75)
Balance from 1977	4,588.48	1,462.06	603.23	717.77	60.25	1,003.62	7,715.98	49.00	475.59
Balance to 1979	\$4,949.46	\$3,284.30	\$ 322.04	\$1,701.95	\$ 79.95	\$1,055.31	\$ 9,832.37	\$ 103.30	\$ 440.84
Other assets				\$1,788.69		\$1,016.75			

TREASURERS REPORTS

	Ottawa	Quebec	St. John's	Saskatoon	Toronto	Vancouver	Victoria	Windsor	Winnipeg
REVENUE									
Membership Fees	\$2,452.50	\$1,785.50	\$ 107.50	\$ 512.50	\$6,498.72	\$2,532.30	\$ 843.00	\$ 425.00	\$1,382.01
Life Members Grants	120.00	12.80		5.00		35.00	90.00		10.00
Donations	328.01	920.00		3,147.64		237.00	204.61		52.50
Educational Activities	6,026.43	192.00		132.00	9.94			62.50	
Interest & Dividends	203.15	301.42			345.59	73.91	1,207.63	6.99	12.99
Sales of Handbooks Net	132.00		20.00		314.50	67.50		5.25	34.00
Advertising		102.50			885.00				
General Assembly (incl. Travel Grants)	24.89	269.77	90.00	48.50	439.27		90.00		
Miscellaneous					18.69	77.28	435.50		277.28
Total Revenue	\$9,286.95	\$3,583.99	\$ 217.50	\$3,845.64	\$8,511.71	\$3,022.99	\$ 2,870.74	\$ 499.74	\$1,768.78
EXPENDITURES									
Fees remitted to N.O.	1,465.10	1,056.00	79.50	307.50	4,025.70	1,827.30	501.00	265.50	560.75
Library	296.71		15.00	47.03		29.61	57.24	57.95	
Meetings & Newsletters	553.56			293.06	2,278.40	1,209.16	228.03	142.56	409.86
Annual Dinner Net							524.50		
General Assembly					449.00		240.00		
Equipment & Supplies	100.20	1,187.33	33.00	177.80	94.50		258.40	61.72	268.49
Office Administration	347.24	328.74		68.33	660.34		16.17		
General Expenses & Audit	104.64	292.50			50.00				
Educational Activities	5,813.97	150.00			88.38		116.08	62.70	60.00
Insurance	311.00				165.00				194.00
Awards & Donations	6.00								517.50
Operating Expenses - Observatory	314.79	84.90		3,322.14	406.48	35.63	26.00		
Miscellaneous					48.29				
Total Expenditures	\$9,313.21	\$3,099.47	\$ 127.50	\$4,215.86	\$8,266.09	\$3,101.70	\$ 1,967.42	\$ 590.43	\$2,010.60
Surplus or (Deficit) on Operations	(26.26)	484.52	90.00	(370.22)	245.62	(78.71)	903.32	(90.69)	(241.82)
Balance from 1977	2,668.71	153.24	66.00	302.21	2,029.86	1,232.92	17,447.12	432.08	382.52
Balance to 1979	\$2,642.45	\$ 637.76	\$ 156.00	\$ (68.01)	\$2,275.48	\$1,154.21	\$18,350.44	\$ 341.39	\$ 140.70
Other Assets					\$9,661.60				

VICTORIA CENTRE

Eight meetings were held in 1978 by the Victoria Centre, including the Annual Dinner at the University of Victoria's Gold Room. Regular meetings were held in UVIC's Elliott Building. Meeting topics included talks by R. Napier, S. van den Bergh, R. Williams, J. Snyder, and R. Carlberg, as well as a panel discussion, activities night and a movie. Mrs. K. Haslam hosted a reception for Dr. van den Bergh.

Mirror grinding classes were conducted by Roger Williams, and weekly observing sessions were under the charge of George Ball.

Victoria Centre once again helped out at the D.A.O. Saturday evening public observing periods. Our popular Summer Evenings Under the Stars program included lectures by J. Bonfonti, Don Dundee, Ken Hewett-White, and Ann Gower, and a trip to the D.A.O.

Frank Younger, *Secretary*

WINDSOR CENTRE

The Windsor Centre held eight regular meetings during 1978. All eight meetings were held at St. Clair College. Two council meetings were held during the year. The annual field trip saw the club visit the new Detroit Science Centre. A brief resumé of the regular monthly meetings follows:

- January 24 Mr. Randy Groundwater spoke of plans to make better use of the St. Clair College Observatory by organizing an observing program. Mr. Bert Huneault's talk on "Current Events" covered highlights of 1977 and looked ahead at 1978. Dr. Alan H. Batten of the Astrophysical Observatory in Victoria and the National President of the Society was our guest speaker. He gave an illustrated talk titled "The Case Of The Hyades".
- February 21 Mr. Randy Groundwater reported that the St. Clair College Observatory would be open to the public every Thursday evening with a member directing the observations. Mr. Jim Meredith discussed "Current Events". Mr. John Thompson spoke on the achievements of Dr. Edwin Hubble, including recent revisions of the famous Hubble theory, "Hubble's Constant".
- March 21 Mr. Randy Groundwater reported on the Solar Eclipse Expedition organized by the Toronto Centre. Randy and Mr. Jim Meredith gave their accounts of a bright fireball sighted on the evening of March 6. Randy also showed some slides of a recent lunar eclipse. Mr. Fred Jones and Mr. Cyril Hallam gave an illustrated talk titled "Pot Holes and Pot Holes". They reported on and showed slides of pot holes which were formed by water and glaciers during the ice age in the Muskoka region.
- April 18 Mr. Mario Fabris discussed "Current Events". Mr. Ian Wilson made available to the club a number of informative astrophotography handouts. Mr. Richard Lawrence gave a talk on "Plate Tectonics" for the main feature presentation. He used two up-to-date films to outline this interesting area of scientific research.
- May 16 Mr. Bert Huneault gave a talk on "Current Events" in which he featured some information on recent solar activities. In the feature presentation, our President, Randy Groundwater gave a lecture on "Celestial Coordinates and the Vastness of the Universe" which sparked a lively debate on the "Big Bang Theory". He followed his report up with a film titled "Powers of Ten".
- June 17 A field trip by chartered bus to the Detroit Science Centre.
- September 19 Mr. Randy Groundwater discussed "Current Events" including the discovery of a satellite of Pluto and a discussion of the discovery of rings around

Uranus. The main feature of this meeting was a fifth eight-minute film titled "The Planets". It gave us some interesting findings made by recent space probes to several of the planets.

- October 17 Mr. John Thompson gave a report on "Current Events". Mr. Walter Manzig gave a very informative talk titled "The Cosmic Neutrino". We were very fortunate to have as a guest speaker Mr. Peter Jedicke, President of the London Centre. He gave an interesting discussion titled "The Colonization of Space". The members learned that no longer was this subject just a figment of a science fiction writer's imagination but was taking its place in the forefront of scientific research.
- November 21 The annual meeting of the Windsor Centre included the election of officers and council for 1979. Mr. John Thompson and Mr. Randy Groundwater discussed "Current Events" including the observation of Jupiter and Saturn and their moons. Mr. Dan Bawtenheimer presented an interesting study of the sun, planets, and Halley's Comet titled "The Solar System".

Several of the ladies of the Windsor Centre served refreshments at the conclusion of the meeting.

John D. Scislawski, *Secretary*

WINNIPEG CENTRE

During this year, 10 general meetings were conducted at the University of Winnipeg, and 6 Council meetings at Glenlea or at various homes. Programmes for the general meetings were as follows:

- October 14 Annual Meeting, Election of Officers, "Aurorae Borealis from Northern Manitoba" by Mr. Don Hladiuk.
- November 11 Through the courtesy of Mr. Bill Peters, 2 films "Question of Life", 1976 "Vikings", 1976. Mars slide presentation by Mr. D. Hladiuk.
- December 9 Workshop on Astrophotography by Mr. Daniel Wright.
- January 13 Workshop on the "Practical Aspects of "Astrophotography" by Mr. D. Wright.
- February 10 "How Galaxies Form" by Dr. Martin Clutton-Brook.
- March 10 "Astronomical Discoveries, Past and Present" by Mr. Robert Miller.
- April 14 "Scale of the Universe – Distance to the Hyades Cluster" by Dr. R. Bochonko.
- May 12 "Igneous Activity on the Moon" by Mr. Hans Thater.
- June 9 "The Amateur in the Community" by Mr. Greg Bailey. 1978 General Assembly slide presentation by Mrs. Phyllis Belfield.
- September 8 "Potpourri of Summer Activities" by the members.

Our Centre has had a very active year. The year 1977 closed with a Christmas party held at Glenlea Observatory. Many members, filled with the Christmas spirit, donated gifts to the Centre, which were greatly appreciated.

During our summer session from May to October, 10 public observing nights were held at our Observatory in Glenlea. With the assistance of the local media in publicizing our programmes, the sessions were very successful and well attended by the community. Members who conducted these sessions were very well prepared and flexible as in many instances the weather had changed in the course of an evening thereby curtailing the observational activities. In these cases mini-lectures and/or slide shows were presented by members.

A total of 15 school and community programmes were conducted by various members of our Centre. The majority were held at Glenlea with a few held at community picnics or at school sites.

The Observatory was in constant use, particularly on nice, warm summer evenings in which some members remained out all night with their projects in astrophotography. Various members conducted meteor counts, experiments with variable stars, astrophotography, and aurorae studies among other activities. In the midst of all the summer activities a farewell party was held at Glenlea for an astonished Mr. Franklyn B. Shinn and his wife, who left Winnipeg for the more favourable climes of Victoria, B.C.

Many members are currently involved in or have completed projects such as telescope making, constructing drive correctors and tripods for their own telescopes. Members have been using their own instruments at Glenlea, while others book the dome telescope or attend the "Members Observing Night" on Saturdays. The telescope mounted in the dome is an 8" Cassegrain instrument built by Mr. Bill Peters, who generously loaned the telescope to the Centre. During the latter part of the summer members were preparing for a science display to be held in the Eatons, Downtown, Department store during October.

Reflecting over this past year, our Centre has been very active and at times hectic. Many activities have taken place with many more planned for the upcoming year. The year, 1977-78 has been successful for our Centre and 1978-79 promises to be more so.

Patricia Berezowski, *Secretary*

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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 graduating fourth year University of Toronto Arts & Science student who has both an A standing in his fourth year and the highest average mark in the two full courses and two half courses in astronomy which are contained in the Astronomy specialist programme, provided this average is over 80%. If no student satisfies these criteria, the award is not made.

1906 – *W.E. Harper	1933 – K.O. Wright	1963 – P.H. Reynolds
1907 – R.M. Motherwell	1935 – Miss F.S. Patterson	1965 – A.F.J. Moffat
1909 – *R.K. Young	1937 – D.A. MacRae	1966 – W.A. Sherwood
1910 – R.J. McDiarmid	1940 – W.F.M. Buscombe	1967 – R.H. Chambers
1911 – R.S. Sheppard	1948 – R.W. Tanner	1968 – P.G. Martin
1913 – E.A. Hodgson	1949 – I. Halliday	1970 – J. Kormendy
1914 – G.S. Campbell	1956 – D.C. Morton	1971 – Blake F. Kinahan
1926 – *F.S. Hogg	1960 – C.R. Purton	1972 – M.J. McCutcheon
1929 – P.M. Millman	1961 – R.C. Henry	1976 – Chris Rodgers
1931 – W.S. Armstrong	1962 – J.R. Percy	1977 – M. De Robertis
		1978 – D.R. Gies

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)	1964 – C.S. Beals (Ottawa)
*J.H. Horning (National Treasurer)	*M.W. Burke-Gaffney, S.J. (Halifax)
1960 – Charles M. Good (Montreal)	W.T. Goddard (Hamilton)
Miss F. Laforest (Montréal)	1965 – D.C. Bawtenheimer (Windsor)
Frederic L. Troyer (Toronto)	*John F. Heard (Toronto)
1961 – *Robert Peters (Victoria)	A.M. Crooker (Vancouver)
1962 – Jean Asselin (Montréal)	Ernest S. Keeping (Edmonton)
Robert J. Clark (Vancouver)	*W.S. Mallory (Hamilton)
*Jesse Ketchum (Toronto)	1966 – P. Lemieux (Montreal)
Joseph A. Pearce (Victoria)	*S. Litchinsky (Calgary)
1963 – Edwin E. Bridgen (Montreal)	W.J. McCallion (Hamilton)
Miss M. Burland (Ottawa)	W.A. Warren (Montreal)
A. Vibert Douglas (Kingston)	

*Deceased

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|---|-------------------------------------|
| 1967 – H.S. Hogg (Toronto) | 1973 – Fred P. Lossing (Ottawa) |
| P.M. Millman (Ottawa) | 1974 – Ian Halliday (Ottawa) |
| *R.J. Northcott (Toronto) | Fred Williams (Victoria) |
| *H. Simard (Montreal) | 1975 – D.J. FitzGerald |
| J.F. Wright (Vancouver) | 1976 – F. Loehde (Edmonton) |
| 1968 – *D.R.P. Coats (Calgary & Winnipeg) | *Ken Chilton (Hamilton) |
| George Ball (Victoria) | R. Belfield (Winnipeg) |
| Herbert Fox (Hamilton) | Mrs. P. Belfield (Winnipeg) |
| 1970 – Norman Green (Hamilton) | 1977 – P. Marmet (Quebec) |
| J.E. Kennedy (Saskatoon) | J.R. Percy (Toronto) |
| 1971 – K.B. Meiklejohn (Calgary) | Mrs. D. Russell (St. John's) |
| J.N.R. Scatliff (Winnipeg) | 1978 – Mrs. Marie Fidler Litchinsky |
| 1972 – Vern Ramsay (Toronto) | (Calgary & Toronto) |
| B.F. Shinn (Winnipeg) | |
| F. Schneider (Hamilton) | *Deceased |

KEN CHILTON PRIZE OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

The Chilton Prize was established in 1977 by the National Council of the Society, in remembrance of K.E. Chilton, an active member of the Hamilton Centre. The Prize is awarded annually to an amateur astronomer resident in Canada, in recognition of a significant piece of astronomical work carried out or published during the year.

1978 – J.B. Newton (Toronto).

DECEASED MEMBERS FOR 1978

It is with regret we record the decease of the following members in 1978

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|-----------------------------|-------------------------------------|
| Mr. D.F. Clipsham (Toronto) | Dr. D.A. Keys (Montreal) |
| Mr. F. Gilbert (Montreal) | Mr. N.J. McCracken (Cdn unattached) |
| Dr. F.C. Hamilton (Toronto) | Mr. R. Mueller (Toronto) |
| Mr. J.H. Horning (Toronto) | Miss H.C. Miller (Cdn unattached) |
| Mr. R.B. Johnson (Toronto) | Mr. Wm. J. Person (Windsor) |
| | Dr. R.K. Young (Toronto) |

HONORARY MEMBERS OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

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|----------------------------------|---------------------------------------|
| Dr. V.A. Ambartsumian (U.S.R.R.) | Dr. A.R. Sandage (U.S.A.) |
| Dr. Bart J. Bok (U.S.A.) | Dr. Martin Schwarzschild (U.S.A.) |
| Dr. A. Dollfus (France) | Dr. Josif S. Shklovsky (U.S.S.R.) |
| Dr. Leo Goldberg (U.S.A.) | Prof. Bengt G. Stromgren (Denmark) |
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| Prof. H.H. Plaskett (England) | Dr. R. v.d. R. Woolley (S. Africa) |
| Sir Martin Ryle (England) | |

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