A HISTORY OF THE MONTREAL CENTRE

FIFTY TIMES AROUND THE SUN

THE PROPERTY OF:
THE ROYAL ASTRONOMICAL
SOCIETY OF CANADA
252 COLLEGE ST.
TORONTO 2B

ROYAL ASTRONOMICAL SOCIETY of CANADA

F I F T Y T I M E S A R O U N D T H E S U N

A History of

THE MONTREAL CENTRE

ROYAL ASTRONOMICAL SOCIETY OF CANADA

1918 to 1968

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I N T R O D U C T I O N

When a history of the Montreal Centre was first suggested as a 50th Anniversary project, James Low, the Centre's archivist, agreed to write it, but the task proved to be greater than he had anticipated and he asked to be relieved of it. It was then decided to have the history written by a group of members instead of one individual. Accordingly, an Editor was appointed who in turn appointed a Committee to share the responsibility of the many decisions that would have to be made.

Everyone wanted a printed book, of course, but that would have been much too expensive, and perhaps a little pretentious. Commerical production by other methods was explored but these, too, were rather costly, for we wanted to make copies of the history available to our members at a nominal charge. It was finally decided to run off the text of the book on our own Gestetner. The very pleasing cover was designed by Joe and Rita Prezament, illustrations throughout the book are by Rita Prezament, and we are indebted to Vincent Ladouceur for the printing of the covers and reproduction of the photographs.

The photographs in the history were selected from the Centre's photograph albums which only date back to the early 40's. Regrettably, there was no readily available source of photographs of the early days of the Centre. In choosing the photographs, we tried to cover as many events and to include as many members as possible, but the quality of the prints had to be considered and some interesting snapshots could not be used because they would not reproduce well.

How long should the history be? It could fill three or four hundred pages, but we wanted it to be read from cover to cover. Condensing fifty years into about as many pages was quite a challenge, though, for we still wanted a history with some flesh and blood and not just a skeleton of dates and facts. Again, it was a matter of selection, and some of our readers will undoubtedly be disappointed because events which they considered memorable are not mentioned or are dismissed in a brief sentence or two. If there seems to be more emphasis on the second half of the Centre's past, it is because the expansion program began in the early 40's and because the Centre's records for this period are more complete.

In a book of this size it has not been possible to trace the careers of individual members, no matter how great their contributions to the Centre, but it is hoped that the reader will do this himself by frequent reference to the list of officers in Appendix I. We have been concerned lest members who have played a less prominent role be overlooked, but it has not been possible to name all the people who served on committees or who participated in each of the observational programs. If we had done so, the history would sound like the 'begat' chapters of the Old Testament. The appendices do include the names of Council members and of those who were awarded membership certificates in recognition of their services to the Centre.

The sources of information available to the authors were the Centre's Minute Books, the Telescope Record Book, the Observatory Attendance Book, the Centre's newsletter, various correspondence files, observation report files, the Society's Journal, and the members' own recollections. There were a few gaps in the records and an occasional contradiction and ambiguity.

The history was produced in less than eight months. There was a period of considerable confusion when all the authors wanted to borrow the record books at the same time. If we have a suggestion to make to the editors of the next history of the Centre, it is that they allow themselves a lot more time. (If you have any suggestions as to how this history could be improved, please present them in writing and in a sealed envelope addressed to the 100th Anniversary Committee.) There is a deadline to be met, for we want to have a copy of the history in your hands at the 50th Anniversary Dinner on September 12th. As we write this page, much of the Gestetner work remains to be done, and then there is the collating and binding. With a little luck, we'll just make it.

THE EDITORS

August 26, 1968

*** CHAPTER 1 ***

HOW THE MONTREAL CENTRE WAS ORGANIZED

This year the Montreal Centre is half as old as the National Society, and to understand better the organization of this Centre, it is necessary to include a brief review of the early growth of the National Society. While the Centre is celebrating its Golden Anniversary, the National Society is celebrating its Centennial.

The first meeting of the Toronto Astronomical Club was held on December 1, 1868, under the leadership of Andrew Elvins. The Society held meetings at irregular intervals and under several different names until incorporation in 1890 as "The Astronomical and Physical Society of Toronto". A Royal Charter was granted in 1903 and the name changed to "The Royal Astronomical Society of Canada". Andrew Elvins may be considered the "father" of the National Society, for he was a leader who actively encouraged the growth of Canadian astronomy from the first meeting until his death at the age of ninety-five in 1918 - the year the Montreal Centre was formed.

As early as 1893 small astronomical societies formed outside of Toronto and became affiliated with the Toronto group. In 1906 the first true Centre of the Royal Astronomical Society of Canada was formed in Ottawa.

By 1918 Centres were organized in seven cities. The First World War was a difficult time for the Society, though, with membership and activity decreasing. Four of the Centres became inactive and others limited their activity. However, interest increased in the Montreal area during the war, and this Centre was the only one to be organized between 1914 and 1922.

Well before the organization of a Centre, there were residents of the Montreal area who joined the National Society as early as 1892. By 1917 there were fourteen paid-up members in this Province, mostly in the Montreal area.

In January of 1918, the Rev.W.T.B.Crombie of Kingsbury, Quebec, wrote to W.E.W.Jackson, the General Secretary of the National Society, suggesting that a Centre be formed in this Province, and asked for the approval and assistance of the Society. This communication was placed before the General Council meeting of February 22, and after some discussion it was agreed that a Centre should be established in the Province of Quebec, preferably in Montreal. Shortly after the Rev. Mr Crombie wrote to the Society, Mr H.E.S. Asbury of Westmount made a similar suggestion, and he was notified of the activity of the Rev. Mr Crombie. Several years earlier, Mr Asbury had suggested a Centre be formed here but nothing came of it.

When the Rev. Mr Crombie was informed of the Council's approval, he sent a letter to each member resident in this Province, asking for suggestions. Replies were received from eleven of the fourteen members, and all were encouraging and enthusiastic. A number of places were offered for the first meeting, and the offer made by Mr James Weir of the Department of Geodesy, McGill University, of a classroom in the Engineering Building was accepted.

The organizational meeting was called for May 28, 1918. The minutes of this meeting read, in part:

"...the members of the Royal Astronomical Society of Canada resident in the Province of Quebec met (pursuant to notice sent to each member) on the twenty-eighth day of May, one thousand nine hundred and eighteen, the following members being present: Jas.Weir, B.Sc., Montreal; H.E.S.Asbury,Westmount; Mgr.C.P.Choquette, Lic.Scs.,St.Hyacinthe; Lt.-Col.W.E.Lyman, B.A.,Montreal; Geo. Sample, Montreal; John Corway, Montreal; Rev.W.T.B.Crombie, M.A., B.D., Kingsbury.

"The object of the meeting was to organize a centre of the R.A.S.C. for the Province of Quebec, elect officers and make further arrangements.

" Mr James Weir, B.Sc., was appointed to the chair for the evening and Rev.W.T.B.Crombie acted as secretary pro tem.

"Rev. Mr Crombie narrated the steps that led up to the calling of the present meeting, and after each member present had expressed his mind and letters of absent members had been read, the meeting proceeded to the election of officers, which resulted as follows:-

"President - Mgr. Choquette, M.A.,Lic.Scs., St. Hyacinthe
Vice-President - H.E.S.Asbury, Westmount
Secretary-Treasurer - Rev.W.T.B.Crombie, M.A., B.D., Kingsbury
Council - George Sample, James Weir, B.Sc., Lt.-Col. R. Wilson, Lt.-Col. W.E.Lyman, B.A., John Corway.

"It was decided to hold the meeting in the Engineering Building, which, we were assured, would be available at a small expense in the evenings; that the Society hold its inauguration meeting in the month of September next, and that Dr Otto Klotz, Chief Astronomer and Director of the Dominion Observatory, Ottawa, be invited to address the meeting, the date of the meeting to be arranged."

Several days later the results of this meeting were reported to the National Society, and on June 21, 1918, the action taken by the Quebec members in forming a Centre in Montreal was unanimously approved.

On September 12, 1918, the first regular meeting of the Royal Astronomical Society of Canada, Montreal Centre was held in the Engineering Building of McGill University. It was decided that meetings should be held quarterly, on the second Thursday of September, December, March and June. (In later years the number of meetings increased and the date varied, but for some years now the regular meetings of the Montreal Centre are normally held on the second Thursday of each month.) Dr Otto Klotz had agreed to be the first speaker before the Centre, and his subject was on the work of the Dominion Observatory. The form of this meeting was similar to that of to-day but more formal. The lecture concluded in a form not seen at modern meetings: "The lecturer .... brought his address to a close by an appeal to the loyalty and devotion of his audience by a picture of our gracious majesties of the British Empire. ... The meeting closed with the National Anthem."

- James Low

*** CHAPTER 2 ***

THE EARLY DAYS

While much information can be extracted from the Minute Book, it was thought that we could best recapture the atmosphere of the early days of the Montreal Centre by including in this history the personal recollections of some of its members. The five members who were asked to contribute to this section of the book have all served as officers of the Centre and contributed in many ways to its growth and development.

Dr A. Vibert Douglas, who became a member in 1923, is now living in Kingston, Ontario, where she was instrumental in forming the Kingston Centre of the Society. E. E. Bridgen, who joined the Montreal Centre in 1923, moved out to the West Coast a few years ago, and he and his wife Lucienne are now very active members of the Victoria Centre. E. Russell Paterson, who joined in 1924, is still a member of the Montreal Centre and is still lecturing at Sir George Williams University. Dr Henry F. Hall became a member in 1933 and is now Honorary President of the Montreal Centre. Frank J. DeKinder joined the Centre in 1934 and is still an active member. Without further introduction, we shall let these people speak for themselves in the order named.

* * * * *

My first contact with the Montreal Centre of the Royal Astronomical Society of Canada was in the autumn of 1919 when I returned to McGill University as an undergraduate after a four-year absence in England. The Centre had been recently formed by a group of interested citizens who appeared to me, when I attended a few of their meetings, to be a far from youthful group of people; but I now remind myself that the war years in Great Britain had conditioned me to regard all men over 43 years of age (the upper limit for conscription) as "the old men"!

Professors A. S. Eve, Louis Vessot King and A. Norman Shaw, all of the Department of Physics, were interested in the Centre and Dr Eve gave them the privilege of holding their meetings in the Macdonald Physics Building, a privilege greatly appreciated throughout these many years.

In 1921 I went again to Great Britain, this time for two years at Cambridge where I worked in the Cavendish Laboratory under Rutherford and then at the Observatory with Eddington where my life-long interest in astronomy and astrophysics was established. Returning in 1923 to McGill University as a member of the teaching staff, I naturally joined the Montreal Centre. Very soon Dr Eve proposed my name as Secretary-Treasurer of the Centre, a position to which I was reelected annually until I left McGill for Queen's University in the autumn of 1939.

My task was not only the membership records, the accounts, and the minutes, but to a considerable extent the planning for speakers for several meetings each session.

Some of the faithful members are clearly brought to mind. Mgr. Choquette was the most colourful, a warm-hearted, genial prelate from a Seminary in Ste. Hyacinthe. Others included Dr. W. D. Lighthall, Col. and Mrs Walter Lyman, Dr George Lyman, Mr F.DeKinder, Dr. H. F. Hall, Mr Asbury, Mr Russell Paterson, Mr E. E. Bridgen. From the Mathematics Department a notable new member was Professor A. H. S. Gillson, fresh from the Royal Navy after Cambridge, and from the Physics Department, Dr David Keys.

Some of the meetings come vividly before my mind. One elderly member begged the Executive Committee to give him the floor, and we listened to a fanatical opponent of Evolution whose geometrical "proof" that man and ape had no affiliation consisted in fitting a human figure with head, arms and legs into a pentagon, whereas the ape with head, arms, legs and tail fitted into a hexagon!

Professor Gillson gave several stimulating, witty lectures on current problems of astronomy and relativity. Few men could hold an audience spell-bound for well over one and a half hours as could he. At one meeting Mgr. Choquette described his visit to Stoneyhurst Observatory in Yorkshire to view a total solar eclipse, later fulfilling a long-standing desire to visit Spain, where to his dismay he discovered that the Spanish priests could not converse with him in Latin - the lingua franca on which he had relied, not knowing Spanish himself. At another meeting Dr Lighthall discussed the astronomical and other cultural attainments of the Mayas.

We relied heavily in those years on speakers from Ottawa and occasionally a Harvard Professor - Dr Annie J. Cannon, W. J. Luyten, D. H. Menzel and Canadian-born S. A. Mitchell whose proud boast it was that he had gone on more eclipse expeditions than any other astronomer.

Memorable joint meetings with the McGill Physical Society gave our Centre the opportunity to hear famous men of the calibre of Abbé (later Canon) Georges Lemaître of Louvain, Dr Ludwig Silberstein of Rochester,Dr W.de Sitter of Leiden, Dr E.W.Brown of Yale and the philosophical discourses of Bertrand Russell and Alfred North Whitehead.

Various efforts made in those early years led to the purchase of a portable telescope and observational meetings were held for a time on the roof of the Sun Life Building; but it was after I left Montreal that an observatory was established on McGill grounds, putting new life into the Centre and leading to the admirable varied observational activities for which it is now so justly famous.

- A. Vibert Douglas

Looking back over the years, I recall that my acquaintance with the Society and the Montreal Centre dates from 1922, at about which time I had settled into civilian life after discharge from the C.E.F. in 1919. I noticed announcements of lectures on astronomy to be given at the Macdonald Physics Building and, having some elementary knowledge of the subject, attended several of them. The meetings were more formal than they became later - times change - the National Anthem was sung at the opening.

At the meeting of January 26, 1923, I was elected, amongst others, a member of the Society. The President was Mr Justice Howard. The speaker of the evening was Prof. C. A. Chant of the University of Toronto, whose subject was "The Eclipse Expedition to Australia", the particular object of which was to obtain evidence of Einstein's Theory. Several notables were present - Sir Arthur Currie and Dean Adams and Dean Laing of McGill.

Amongst the members whom I met about this period were Mgr. Choquette, Mr J. Corway, Mr G. Sample, Dr A. S. Eve and Dr A. Vibert Douglas. Dr Eve and I were well acquainted as he was Major of the unit in which I enlisted in 1916.

In its early years the Centre had not become an observing group, and the principal activity was the monthly lecture at the Physics Building. These meetings were well attended, the lectures usually given by members of the Faculty or visiting professionals. Mr H.E.S.Asbury, Past-president, lectured occasionally as did also some of the other members. In February and March 1924 a series of lectures for beginners was given by Dr Gillson. I have still the notes taken during this course, which was an excellent and comprehensive introduction. At the meeting of February 22, 1929, I gave my first astronomical lecture, if my talk may be so designated, the subject being "The Constellations", and my task was made easier by slides kindly provided by Dr A. Vibert Douglas.

At times, observations were arranged by Mr H.E.S.Asbury with his 6-inch refractor, which instrument is now in the possession of the Centre. I have a distinct recollection of having assisted in setting up this instrument at one of the outdoor meetings on the grounds of the Mechanics Institute, at the corner of Atwater Avenue and St. Catherine Street. Just imagine trying to make observations from this particular place at the present time! The only interference then was some vibration as streetcars passed.

In January 1925 a total eclipse of the sun occurred, visible in the Niagara District, and arrangements were made for members of the Centre to witness the event. I was one of the party, which included Dr Vibert Douglas, Col. and Mrs Lyman, and several others. This was, for most of us, the first opportunity of seeing this most interesting phenomenon and there was considerable excitement. We went to Hamilton by the night train, and the next morning broke bright and clear over Lake Ontario, raising our hopes. That same evening snow began to fall, and on "The Day" snow and overcast skies. From Hamilton Mountain we saw but the closing partial phase of the eclipse.

From some papers preserved from these early days, it seems that I made and recorded observations of constellations and the aurora. Later I undertook regular aurora observations and for some years reported to Cornell. That was before regular observation work commenced in the Centre. Perhaps the most outstanding event was the total solar eclipse of August 1932. This was witnessed by a number of members of the Centre, but I am uncertain whether any group was organized. I went to a point near Sorel armed with binoculars and thermometer. In the afternoon I had the intense satisfaction of seeing the eclipse against a background of clear, blue sky. Shortly after the end of totality the sky clouded over, but I had had the "sight of a lifetime".

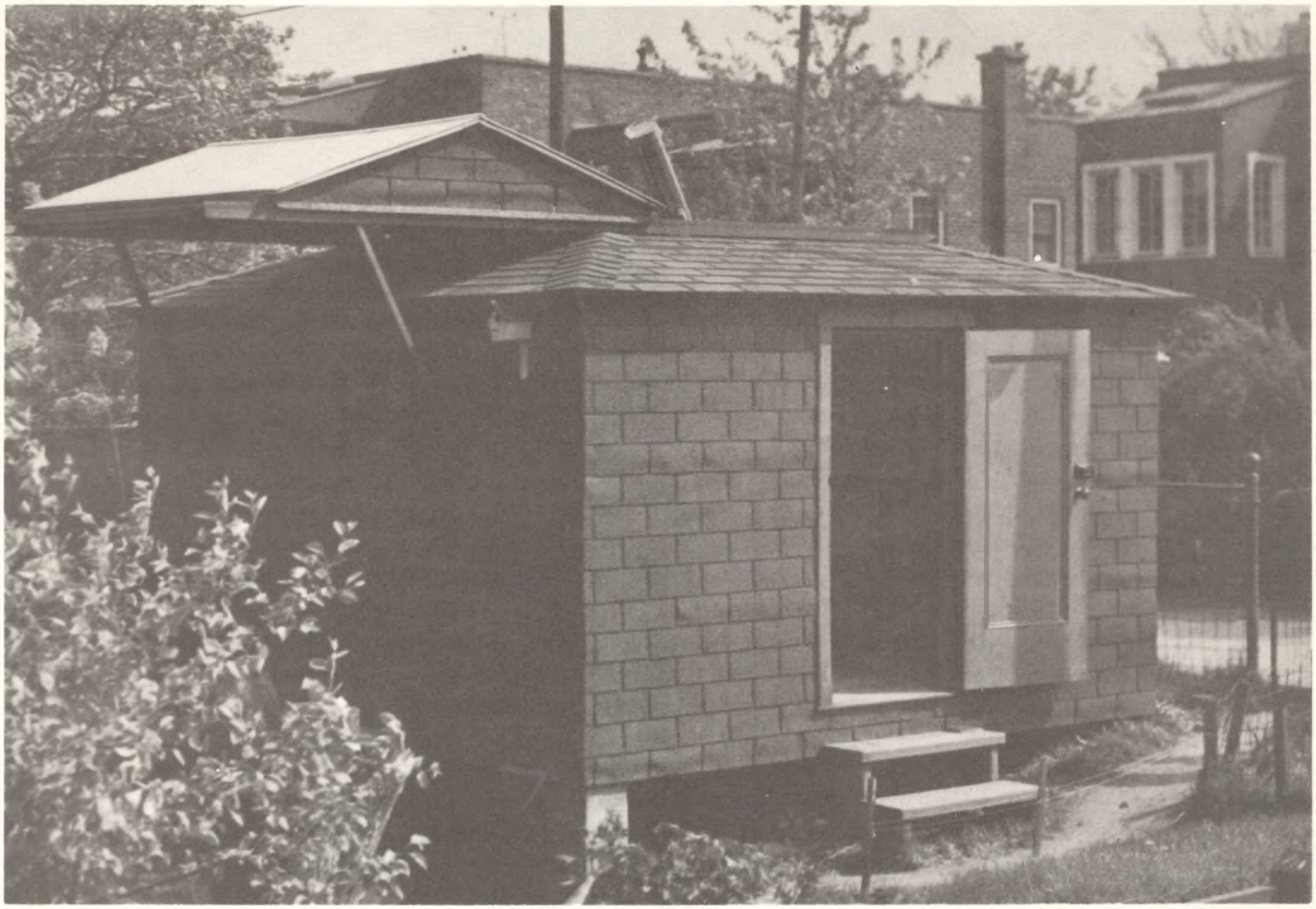
Then followed the era of the Depression during which, save for attending lectures, I was inactive. When I was able to resume, Ville Marie Observatory, at the residence of Mr DeLisle Garneau, had become the centre for the Saturday evening meetings, and the 6-inch refractor, acquired by the Centre on the death of Mr Asbury, was mounted in the Observatory. Through the generosity of Mr Garneau, meetings and observations were made over a period of about thirteen years, until activities were transferred to the present location. It was at Wilson Avenue that I was asked to serve on the Council of the Centre, which in several capacities I did for fifteen years, until leaving Montreal. This brings me from the early days to the recent.

A review of these years shows the value of an interest in the Universe around us, an enlightening diversion from the duties which the necessities of life impose, and an enduring mental activity which preserves the faculties for still further development in the years which follow the regular "working" life.

- E. E. Bridgen

The early meetings of the Society were characterized by a desire to introduce as much dignity as possible into the gatherings. We could never pose as a "Learned Society" inasmuch as no qualifications for membership were required except an interest in Astronomy, but we tried to make up for this by the correctness of our proceedings. One feature was the understanding that both the speaker and the chairman should appear in dinner dress with black tie. This created a problem in later years when the Council was considering nominations; when anyone's name was mentioned for President, the question arose, either spoken or in our minds, "Does he possess a dinner costume?"

Another feature of dignity concerned the inclusion of the word "Royal" in the name of the Society, a matter of justifiable pride. My earliest recollection of a meeting is a vivid mental picture of the late Mr G. Harper Hall (beloved by so many of us), then president, opening the meeting by calling all present to their feet and courageously leading them in the singing of "God Save the King". When my own term of office as president came about, following that, I believe, of Dr Henry F. Hall (we each possessed a dinner suit), our musical ability was not considered, for the custom had then died out.



My own interest in Astronomy was aroused by attendance at a course of lectures given at McGill under its Extension Department and conducted by the late Dr A.H.S.Gillson of the Physics Department. There were six evening lectures and the course cost $1.50. This was in February-March 1924. My yellowed notebook is one of my most prized possessions, and I often quote from it in the courses in Astronomy I have been giving in Sir George Williams University for the past twenty-five years. For instance, our galaxy is THE physical universe - nothing exists beyond it. The peculiar spiral-shaped objects are outliers of the galaxy, probably the result of disintegration of globular clusters. There is no idea of ridiculing Dr Gillson's course (it was standard material in 1924) but of showing the amazing progress there has been even in one lifetime.

My membership in the R.A.S.C. dates from February 1924, evidently at the opening lecture of Prof. Gillson's course. Membership cost $2.00. After paying this fee annually for many years I was advised by a fellow member to save money, as he had done, by becoming a Life Member. For this I paid the noble sum of $25.00 in May 1946. As I have experienced a very long life, this act has proved to be one of my few profitable financial deals.

In the early history of any society there is usually one member who is the main moving spirit. In our case this was Dr A. Vibert Douglas, then with the Department of Physics at McGill. Her office in the Macdonald Physics Building was for many years the only headquarters we had.

The beginning of the amazing observational work now carried on by the Montreal Centre can be pinpointed in the basement of the home of Mr DeLisle Garneau in Notre Dame de Grace. The 6-inch refractor was mounted in a small observatory in his backyard, and the finished playroom beside the furnace housed our library and served as a meeting room for talks when the sky was clouded on Saturday evenings. A first visit was a bit of a hazardous experience - I always advised people to carry a small flash-lamp in their pocket. There was a breakneck flight of stairs from ground level down to the basement entrance. The path to the observatory was a rough one with an unexpected step in the middle of it. The household furnace had an automatic oil-burner. At indoor meetings on cloudy nights when a talk was to be given by a member, the commencement of the talk appeared to act as a signal for the oil-burner to become active, with the result that the remarks of the speaker were made to a rumbling undertone of machinery at work. Many of the foundations of the present widespread observational activities of the Centre are, however, due to the hospitality and patience of the Garneau family.

No other society in my knowledge, of comparable size and extent of activities, has been able through so many years to carry on with exclusively volunteer assistance, even in the necessary humdrum office work. Those of us who have benefitted from their efforts can never adequately express our sense of gratitude and admiration as we celebrate our fiftieth birthday.

- E. Russell Paterson

In the nineteen thirties the Centre was, along with other organizations, severely affected by the depression. However, regular meetings were held and occasional observation parties were organized.

Dr A. Vibert Douglas, who was then a member of the Physics Department of McGill University, was the active organizer of the Centre in her capacity as Secretary-Treasurer for many years. As a labour of love, she kept the minutes and the accounts and organized most of the meetings.

Some of the Presidents of the Montreal Centre in the period under consideration were: Mr G.Harper Hall, Mr G. R. Lighthall, Mr H. F. Hall, Mr E. Russell Paterson and Mr D. P. Gillmor, K.C.

The Centre possessed its valuable 6-inch refractor at the time but no permanent place in which to use it. It was set up on the McGill campus from time to time, but even then, city lights and surrounding trees made observing difficult. The Centre obtained permission to mount its telescope on the Sun Life Building after it was completed. This was then by far the tallest building in Montreal and, although conditions were far from perfect, many evenings were spent there by enthusiastic members observing such planets and other bright objects as might be visible. It was there that disaster befell the Telescope Committee one evening. Cold weather had made the asphalt roof hard and the tripod slipped apart, breaking the major lens of the telescope. In spite of the difficult financial circumstances, this was replaced - partly by subscription of those interested.

With the declaration of war in 1939, the rather free and easy access which the Sun Life Assurance Company had given members of the Society to the roof of their building had to be withdrawn for security reasons. Thus ended a phase of the Centre's program. This, however, was replaced by a much more active phase under the stimulus of new members entering at the time.

- Henry F. Hall

It was in 1934 that I joined the Montreal Centre, but I have in my possession a collection of year books from 1925 on. How I came to have the year books from 1925 to 1933 I do not now recall. The year I joined, my good friend, the late Mr George Harper Hall, was president of the Centre and Dr A. Vibert Douglas was Secretary-Treasurer.

It was the custom at that time that the President and the lecturer of the evening wear formal dress. From the first meetings that I attended I still remember some very interesting lectures by Professor McLean, Dr Eve and Dr King. I found, however, that most of the lectures were of such a scientific and professional nature that I feared many amateur astronomers were frightened away. As a matter of fact, the monthly meetings were attended by only a handful of people.

One evening in a conversation with Dr Douglas, I ventured to remark that it might be in the interest of the Centre to have occasionally a lecture on a more popular subject. Dr Douglas thought it a good idea and then and there invited me to give just such a lecture. I balked at the suggestion as I had never given a public lecture. At her insistence, though, I finally accepted the challenge and prepared a talk on our present knowledge of the Solar System.

In order to attract attendance, I saw to it that my lecture was announced in every English-speaking High School of the city and in certain public places. The result was overwhelming. Not only were all the seats in the lecture hall of the Physics Building filled but the galleries as well. In front of such a crowd I was bewildered to give my first lecture. Especially at the beginning of my talk, dressed as I was in a rented evening suit, my mouth was very dry and I had difficulty to swallow and to speak. But with some encouraging looks from Dr Douglas and with the help of sips of water, this condition gradually improved, and the talk was quite a success, judging by the number of questions asked of me at its close.

In 1935 I was elected to the Council. Amongst these professional and learned people I felt quite ill at ease. Council meetings, however, were not held very often. Then, as now, when an important out-of-town speaker came to give a lecture, the Council offered him a dinner before the meeting. These dinners were generally held at the Faculty Club of the University and evening dress was 'de rigueur'. When in the course of years the Centre had become more democratic and evening dress had finally been abandoned, Mr Harper Hall, with whose wife and himself Mrs DeKinder and I had become intimate friends, often regretted 'the good old days' when, according to him, the Society was more 'dignified'.

Several episodes during all these years stand out in my memory as, for instance, the first time the Society's 6-inch telescope was taken from its case in the basement of the Physics Building and was set up on the campus of the University after a meeting.

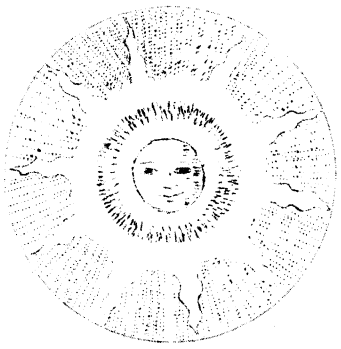
It was quite an event when subsequently we could install this telescope on the roof of the Sun Life Building, permission for which having been obtained through the intervention of Mr Harper Hall with his friend Mr Cregeen, then Superintendent of the building. Then came the accident during one of the observation meetings on this roof when one of the legs of the tripod slipped and the end of the telescope hit the roof, shattering the lens. The end of our observing site came with the outbreak of the Second World War when military authorities denied us the use of the roof.

For a short while afterwards we installed the telescope on the roof of the Engineering Building of the University, but this proved unsatisfactory as the roof was not solid and every time someone took a few steps around the telescope the instrument would shake. Then came the time when Mr DeLisle Garneau, who had been building a private observatory behind his residence on Wilson Avenue, offered to install the telescope in his observatory, at the

same time giving us permission to hold our observation meetings in the basement of his house when the weather was inclement or the sky overcast. The inauguration of this observatory took place on Pearl Harbour Day in 1941.

More than one generation of younger members has passed through our membership list and among them many have taken over the leadership from older hands. The prosperous and active state in which the Centre now finds itself is due in no small part to their efforts and their devotion to the work.

- Frank J. DeKinder



*** CHAPTER 3 ***

FIFTY YEARS OF GROWTH

The Montreal Centre of the Royal Astronomical Society of Canada, incorporated in April 1964, has operated under Provincial Charter since that date and is therefore more independent from the National Society than most Centres.

There is a Board of Directors consisting of eighteen members, all elected yearly by the membership, eight of which are officers elected in their functions by the membership at the Annual Meeting or by the Board itself. All this is a far cry from the first Council, established in 1918, which consisted of a President, a Vice-President, a Secretary-Treasurer and five members.

A complete list of the officers and members of the Council (or Board) over the past fifty years is given in Appendix I, from which it can be seen that additional offices were created as the need arose. A Recording Secretary was added in 1920 (to relieve the work of the Secretary-Treasurer). This office was soon discontinued but was resumed in 1942. The office of Treasurer was at times combined with that of Secretary, but the two offices have been separate since 1941. A Second Vice-President was added in 1921, because the meetings were infrequent and there had to be someone in authority when the President and sometimes the Vice-President could not attend.

In 1934, following the acquisition of the 6-inch refractor, the office of Chairman of Telescope Committee was created and later renamed Director of Observations as the duties of the office expanded. An Assistant Director of Observations was added in 1957 but as the Centre had by this time moved into its present Observatory, a reallocation of duties was indicated and the two offices were redesignated as Director of Observatory and Director of Observational Activities. When the Centre's Library was formed in 1936, Librarian was added to the list of officers.

In 1920 the number of Council members was increased to seven. The membership of the Centre grew rapidly and in 1922 the meetings were increased to once a month during the winter season, which added considerably to the work of the Executive, and so the Council was expanded to twelve members. The number of Council members fluctuated between ten and fourteen for several years. Around 1946 the number of officers was fixed at eight, members of the Council at ten, with the provision that the latter should not serve more than three years consecutively. This was a move designed to have as many members as possible participate in the affairs of the Centre, and at the same time establish a reserve of capable people for the executive functions. All the work of the Centre is done on a voluntary basis and some of it is hard work and requires a fair amount of a person's spare time; some people cannot afford to give this indefinitely for various and valid reasons, and if they are dedicated observers, their observing work will suffer as well.

Since the incorporation of the Centre, the by-laws state that the number of Directors is eighteen, executive functions are eight, plus the immediate Past-President. This leaves nine members-at-large who have a maximum tour of duty of three years, as have the President and Vice-President. As mentioned before, the Board as a whole has to be re-elected every year.

The meeting of September 12, 1918 was organized by a group of eight members of the National Society residing in Quebec. After the Centre had been established, a number of members-at-large of the Society chose to join the Montreal group from as far afield as Litchbury, Mass. and Halifax, N.S., and some members transferred from the Toronto and Ottawa Centres. At the end of 1919 there was a total of 38 members, which increased to 44 in 1920. Then in 1921 there was a fairly large expansion and at the annual meeting that year the Secretary reported thirty new members, with six of them from the staff of McGill University. After this there seems to have been a steady increase, starting more or less when the frequency of the meetings increased, which was exactly the purpose of that move.

The Depression of the thirties did not have quite as much effect on the membership as one might have expected. The annual meeting of 1929 reported 112 members; in 1930 there were 114, with a note, however, that 27 (almost 25%) had not yet paid! This seems to have been solved, because at the next annual meeting there were 115 members. But if the actual loss during these years was not serious, there was not much increase either. The membership reached a peak of 134 in 1937, after which there was a drop. The advent of World War II in 1939 showed mainly in a considerable increase in the percentage of members of the fairer sex, and this persisted all through the war years, as can be readily understood.

Until this time there had never been an attempt made to go out and recruit new members; whoever joined did so because he or she had found, largely by accident, that there was such an organization as the Montreal Centre. When Mr D. Gillmor, K.C. became President, however, he was determined to "spread the word" and actively look for new members. This drive had some spectacular results. In the first half of 1942 there were 59 new members, several of whom became active and prominent members and served on the executive in later years. The same pattern was repeated in 1943, with more than one hundred new members. The percentage of "drop-outs" amongst new members may have been higher than before, though. The year 1944 saw a slight change in the pattern, with the larger part of the increase at the end of the year, and the same happened in 1945 and 1946. The explanation may be seen in the accumulation of applications during the summer months in which no official meetings were held; these were dealt with at the annual meeting, the first after the summer recess. In these years the membership figure came close to 300. The rapid growth of the Centre resulted in a marked change in the composition of its membership, which formerly had been drawn largely from academic circles but now represented a good cross section of the city's population.

In 1947 a group of about forty French-speaking members decided that they would be able to support themselves as a separate group that would attract the large number of French-language Montrealers who were interested in astronomy but, unlike the pre-World War II members, were not sufficiently fluent in English to profit from membership in the Montreal Centre, whose business was and still is conducted in English. The subsequent growth of this group has proven them right, and le Centre d'Astronomie de Montréal (originally called le Centre Français de Montréal) has already celebrated its 21st Anniversary.

Our present membership runs to about 200, with a fairly large percentage of student members - our regular members of the near future - and a turnover caused more by people moving around than by loss of interest.

The Board of Directors holds four or five meetings a year to administer the business affairs of the Centre, which consist of:

(a) organizing meetings, public as well as closed, and observation parties for special events,
(b) maintaining the Observatory and its contents,
(c) arranging courses in astronomy for the general public and for special groups.

There are normally eight lecture meetings each year, held in the Macdonald Physics Building lecture theatre at McGill University. Other public meetings are held every Saturday evening at the Centre's Observatory, and there is usually a Star Night in the fall, held in Westmount Park, and a Family Night at the Observatory in the spring. Other meetings are the Wednesday observation meetings at the Observatory, for members only, where observing techniques are developed. The expansion of the Centre's observation program and its observing facilities are described in other chapters of this history.

With the occupation by the Centre of McGill University's former radar experimental building on the upper campus began a new and important chapter in the Centre's history, which led ultimately to its incorporation in 1964 as a non-profit, educational institution under Provincial Charter. The main reason for incorporation was that the Centre could then purchase and hold real estate in its own name. Although we were - and still are - very pleased with our centrally located meeting place, the observing conditions are no longer what they were in 1954, and the expansion of McGill University may make it necessary that we start looking for another site, in which case it would be essential that the Centre be able to purchase land and/or buildings elsewhere. For accessibility, of course, it will be difficult to find a location to match the present one. The Centre has a considerable number of members who have to rely on public transportation, and a central location, or at least one close to good public transportation, is important. It is hoped that we can stay at this site for some time to come, but if the need arises we can act on our own.

The act of incorporation was a long and tedious business, involving many meetings, much correspondence, and the drafting of a new constitution. The Centre is indebted to the members who undertook this task - E. E. Bridgen, W. J. Cullinan, Miss E. Dack, F. J. DeKinder, Dr J.-P. Jean, A. R. MacLennan, W. A. Warren - and to Mr Malcolm M. Thomson who worked closely with the Committee, acting on behalf of the National Society so that the constitution of the newly incorporated body would be mutually acceptable.

One of the consequences of incorporation has been that the Centre introduced a minimum age for membership of 16 years. This move has caused some distress amongst the enthusiastic young people that regularly apply for membership. However, it was decided upon at the time to safeguard the Centre's assets and also to protect the observational activities of those members that have to come to the Observatory for their work. We have found that most of the seriously interested young people under age 16 will try to participate in as many activities as they can, and then join the Centre as soon as possible, or else become unattached members of the National Society (which has no age limit) to obtain the Society's publications. We feel that this restriction may actually have helped the serious applicants by making them realize that there was some-

things worthwhile waiting for them at age 16. They have often proved themselves as observers long before that time, so that nominating them for membership is no longer the meaningless formality it sometimes seems to be to visitors to our meetings but actually a pleasure for those who have watched these young people develop their skills.

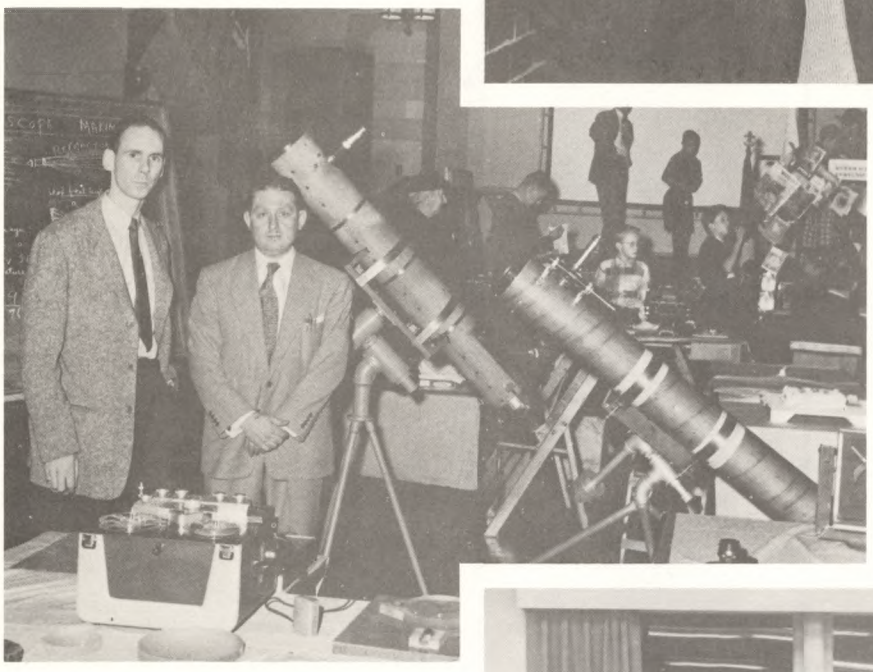
In recent years the Montreal Centre has performed a public service by offering introductory courses in astronomy to the general public. The Minute Book reveals that this was not a new idea. In 1926 and again in 1927, Mr H.E.S.Asbury arranged for three elementary lectures which were given in the Mechanics Institute on Atwater Avenue. Mention has already been made of Prof. Gillson's introductory course in 1924-25. There was also a period when the Centre held two lectures each month, one of which was at an introductory level and formed part of a series. The second lecture meeting at McGill University was replaced by the Saturday evening talks at the Centre's Observatory, but these did not really fill the need so far as the general public was concerned. Consequently, short courses of six to eight lectures, which were disassociated from the Centre's own meetings, were offered to the public at a nominal charge. The members of the Montreal Centre most actively involved in organizing these courses in the last few years were Sidney M. Sundell, T. T. Topham, Isabel K. Williamson, Alfred H. Capper and Bryan Rawlings. Classroom accommodation was provided by either Sir George Williams University or the Montreal High School. In 1967 an eight-lecture course was sponsored jointly by the Dow Planetarium and the Montreal Centre, with the Planetarium providing the facilities and the Montreal Centre the lecturers. This was a highly successful venture which, it is hoped, will be repeated.

There has been close co-operation with the Dow Planetarium since long before its opening, and the English-language lecturers and other technical staff for the Planetarium were recruited from the Montreal Centre, just as the French-speaking lecturers came mostly from le Centre d'Astronomie.

One of our concerns has been to make the Montreal public aware of the existence of the Royal Astronomical Society of Canada. Interested people often did not know where to go for information, for our Centre had neither a permanent mailing address nor a telephone listing. (There is no postal delivery to our little observatory building, and a telephone with no one on hand to answer it seemed a doubtful asset and costly to boot.) The rental of a post office box solved part of the problem. Then the Dow Planetarium agreed to provide what amounts to a telephone answering service if an additional telephone were installed on their premises but listed in the telephone book under the Society's name. This is a service that is very much appreciated.

Although now an incorporated body, the Montreal Centre continues to be represented on the National Council, as in the past, by its President and a representative appointed by its Board. Several members of the Montreal Centre have also served on the National Council as elective members, that is, elected on the annual ballot by the membership of the Society as a whole, and some have served in other capacities, such as members of the Standing Committee for Observational Activities, National Co-ordinators and other committees.

- Walter Jutting



*** CHAPTER 4 ***

THE DOLLAR STORY

It has been said that money is a necessary evil. Whether evil or not, it has been necessary for the Montreal Centre. Do not readjust your set! This will not be a dry account of revenue and expenses but an account of the highlights of the last fifty years.

One of the first chores of the Rev. Mr Crombie, the first Secretary-Treasurer of the Centre, was to purchase record books for the Centre. The Minute Book for September 12, 1918 reads: "It was moved by Mr George Sample and seconded by H. E. Asbury, that the Secretary's expenses in connection with the purchase of MINUTE BOOK, MEMBERSHIP ROLL, CASH BOOK, etc., together with postage to members and others amounting in all to THREE DOLLARS AND TWENTY-EIGHT CENTS be paid. This was CARRIED."

Those were the days when a Dollar was a DOLLAR if you had one! Money was not a favourite topic at meetings, which were held quarterly with the public invited. At the meeting of March 13, 1919, much satisfaction was expressed when the Treasurer announced that a grant of $150.00 had been received from Toronto Centre! It would not do to have money in and not out, so it was unanimously agreed that the Treasurer be reimbursed for travelling expenses - retroactive to the first meeting.

The first recorded Annual Statement was presented at a meeting of the Council on December 11, 1919. You might enjoy checking this.

"The Treasurer presented his annual report which showed $245.65 as the total receipts for the year, $175.00 of which had been received by Grants from the parent Society and $71.65 in fees.

"Cash sent to H. W. Baker, Toronto	$71.00
Lecturers' expenses	28.15
Expenses of Sec.Treas. as ordered by Council	32.20
Postage and Stationery	13.27
Advertisement	12.75
Janitor's expenses	9.00
LANTERN attendant	6.00
Secretary's books and other expenses	4.20
Total of expenditure	176.57
Leaving a balance on hand of	70.08

"The report was received with much satisfaction."

You may not get the same result, but this did not dampen the enthusiastic satisfaction, and the Council immediately moved to write to Toronto for a further grant of $100.00 for 1920! Whether or not the National Office had trouble adding to the same result, or looked with a jaundiced eye on the huge surplus of $70.08, the fact remains that the grant for the following year was reduced to $60.00, but the Centre still managed to show an improvement of 20 per cent, with cash on hand of $85.06.

With the excuse that they had "neither the funds nor the authority", the Montreal Commission turned down, in 1921, our Centre's request for a grant. That year Toronto supplied a grant of $60.00, but Montreal Centre cash was down to $48.25. The struggle continued and in 1925 receipts were $201.00 and cash balance $1.41. Membership was 69. The report shows an entry of "Miscellaneous expense, $0.10". Could that ten cents possibly be an error correction?

Times have not changed much. In 1926 it was recorded that bringing in good speakers costs money and our Centre could not afford the expense unless, (1) a grant could be obtained from the Provincial Government, (2) the membership was increased, or (3) the annual dues increased.

Hope dies hard and in 1927 certain members considered it "not impossible" that the Province might equip and endow an observatory for the joint use of McGill University and the University of Montreal, in the amount of $200,000. Meanwhile the treasury showed a cash balance of $189.24, somewhat inadequate to finance ambitious building plans!

The membership in May 1928 stood at 121. However, letters were sent out to all "members" who had not paid dues for one or two years, informing them that failure to pay would be equivalent to resignation. "This reduced our list of members to 95." It is noted, however, that 1928 saw tardy payment of six arrears for 1926 and six for 1927, all at $2.00 per annum per member. 1929 membership stood at 112.

The market crash commenced December 1929. Bear in mind that the Society had to weather seven years of the Great Depression. Despite the depression, the Montreal Centre prospered and in November 1932 purchased a 7-foot length Aitchison telescope from the family of Mr H. E. S. Asbury, for the sum of $205.00. (This was the Centre's first large refractor with 6-inch objective.) The Centre finished the year with 85 members and $232.31 in cash.

In 1935 it was proposed to go to St. Albans to see a 9-inch Alvin Clark equatorial telescope. This was the telescope used by Mount Wilson in locating their site. A price of $3,000 was mentioned but nothing appears to have come of this suggestion.

The objective of the Centre's 6-inch telescope was broken in an accident in 1936. In the interim the Centre was able to use a 9-inch reflector belonging to Mr A. M. Donnelly, but the 6-inch objective was replaced at a cost of $252.60 and is still in use. To pay for this, 39 members donated a total of $232.50.

During the early years of the Second World War membership declined to about 75 and annual gross receipts averaged about $250. Dues were still just $2.00 per annum. Financing must have been very difficult. Efforts were made in 1944 to get the National Society to raise the fees, and these efforts were continued for some years.

In 1944, by doing the work themselves, the members managed to replace, at a cost of $50, the wooden post on which the 6-inch refractor was mounted in Mr Garneau's observatory on Wilson Avenue. A 6-inch pipe was mounted in concrete to support an equatorial mount constructed of pipe fittings.

When a column and other parts were required to set up the telescope on McGill grounds, it was found most economical to buy a complete telescope from Mr Bertram J. Topham and use such parts as were needed. The total cost came to $259 and the telescope was brought from Toronto in 1955.

For some time it had been obvious that a new observing site must be found and when Mr Garneau's observatory was no longer available to the Centre in 1954 much work had been done. A number of plans had been in operation to raise the funds for an observatory. Amongst the first was the "Pennies from Heaven" scheme originated in April 1953. A number of little bags were handed out to members who agreed to put a penny in the bag each night when at least one star could be seen. By October $42.38 had been accumulated, and that is a lot of pennies! In 1954 an appeal was made for help in the construction and equipping of an observatory on McGill grounds. By October 1954 generous donations of cash, electric fixtures, paint, doors, etc. had been received. Not to be forgotten is the role of Obadiah, the Observatory Pig, who contributed much for the purchase of chairs, supplies and innumerable items for the observatory. By June 1955 enough money had been accumulated from these various sources so that the dome had been ordered and was under construction.

Although members did much of the work themselves, some of the construction work of the present observatory had to be contracted out, and the total cost came to $2,800. Work proceeded more rapidly when our Centre benefited from the generous Townsend Bequest.

The late Mr G. Horsley Townsend had been an active member of our Centre and was well aware of our financial difficulties. He generously remembered the Montreal Centre in his will, and on September 7, 1955 our Centre received the following bequest:

(1) Cash, $25,000
(2) A Zeiss Telescope with accessories
(3) A pair of 10x50 Zeiss Binoculars

From the Townsend Bequest a sum of $5,000 was transferred to the Observatory Fund. The balance, close to $20,000, was invested for the Montreal Centre after discussion between the Trustees of the Centre and the Crown Trust Company. Since 1955, therefore, the members of the Montreal Centre have had the benefit of revenue from these investments. Without this additional revenue, it would not have been possible to build up and maintain our present standard.

Over the years there has been a gradual change in the fee structure. Fees were set by the National Society and were originally $2.00 per annum, then $3.00, then $5.00, with these amounts to be remitted entirely to the National Office, who in turn would rebate one-third in the form of a grant. Imagine the plight of our Centre, trying to finance on 66 cents per member! In recent years the fees were raised again but in fact the Montreal Centre became independent in this respect upon incorporation in 1964. By agreement, we now remit to the National Office $4.50 per regular member, or $2.00 per student member, retaining the balance of dues set by the by-laws of the Montreal Centre. The remittances to the National Society cover the cost of the annual Observer's Handbook, the Society's bi-monthly Journal, and the operating expenses of the National Office.

Life membership fees are on a different basis. Over the years, life membership has been available for a lump payment of $25.00, then $40.00, then $50.00, then $75.00 and currently $100.00. These sums, however, are payable to the National Office in total, and the Centre receives in return a small annual grant, which is at present on the basis of $2.00 per annum per life member. During the past two years representations have been made to the National Society, pressing for an increase in Life Membership fees and for a more equitable distribution.

In 1963 an excursion was organized by our Centre for members and the general public to view the spectacular solar eclipse. An amount of $1,342 was collected and paid out for railway expenses.

As the Centre's activities increased, so did its expenses. The items for which the Centre now has to budget each year include a mountain of paper for newsletter and observing forms; office and housekeeping equipment and supplies; heating and electricity bills; insurance on equipment; repairs to building. The most recent extraordinary expenses were in 1966 when $689 was spent to replace the floor covering in the meeting room and to repair the deck of the observatory.

In our fiftieth year we can look back on a record of much accomplished. Worries and problems remain, but it is to be hoped that we will never be satisfied with progress made. We must think of the possibility of building, somehow and sometime, a really suitable observatory. We must keep pace with the times in our programs and equipment. We must maintain our standards in the face of continually rising costs. Our greatest asset is a membership of approximately 200 in recent years, with many keen and active astronomers.

In the record of fifty years one finds reference to the work of so many individuals to the benefit of your Centre that it is impossible to mention all who have willingly donated their time, work and money to further our interests. Our hearty thanks to them all!

- Alfred H. Capper

*** CHAPTER 5 ***

THE LECTURE MEETINGS

Nearly all the public lecture meetings of the Montreal Centre have taken place at McGill University. The first meeting was held on Thursday, September 12, 1918, in the Engineering Building. The address was given by Dr Otto Klotz on "The Work Done by the Dominion Observatory, Ottawa".

At first meetings were held quarterly, but in 1921 monthly meetings were inaugurated and the Physics Building became the new home of the Centre. At that time Dr J. S. Plaskett of the Dominion Observatory, B.C., spoke to an audience of about 130 on "Modern Ideas of the Universe". Professor Eve of McGill commented on "the indifference of the unthinking multitude who thronged the moving picture places but neglected lectures such as this". In the same year Dr Harlow Shapley spoke to an even larger audience, choosing as his subject "Astronomical Investigations of Light and Space".

In succeeding years the Centre was addressed by many scientists of note, among whom should be mentioned C. A. Chant, D. L. Silberstein, A.N. Whitehead, W. J. Luyten, S. Rosseland, Willem de Sitter and D. H. Menzel. A lecture on "The Expanding Universe" by Abbé Georges Lemaître in February 1933 was especially memorable. It was given in the Montreal High School to an audience of more than one thousand! Its popularity was so great that it had to be repeated later in the year.

More recently the establishment of the G. Horsley Townsend Memorial Lectures has enabled the Centre to hear another group of distinguished speakers. These lectures began in 1956 with Dr Harlow Shapley who spoke about "The Clouds of Magellan - Gateways to the Universe". The auditorium of the Physical Science Centre of McGill University was filled to capacity. Other lectures in this series include such prominent scientists as Robert M. Petrie, "Stellar Associations"; Fred L. Whipple, "Satellite Tracking"; Cecilia Payne-Gaposchkin, "Variable Stars and Stellar Evolution"; Lawrence Aller,"Synthesis of the Elements in the Stars"; G. C. M. McVittie, "Recent Developments in Cosmology"; Peter M. Millman, "Man in Space"; Gerald Clemence,"The Measurement of Time".

Over the years, the staffs of the National Research Council, the David Dunlap Observatory, the Dominion Observatory, Queen's University and McGill University have generously contributed to the program. In addition, many members of the Centre have made their contribution. The latter group has usually been responsible for the enthusiasm for which the Montreal Centre is noted. In particular, for a period of fourteen years two lecture meetings a month were held, of which one was given by a guest speaker and the other by a member. Those given by members usually constituted a series of introductory lectures. About 1955, weekly public meetings were inaugurated at the Centre's Observatory and the elementary lectures were dropped from the lecture program at McGill. They were replaced by short talks given at the Observatory and a short introductory course for prospective members.

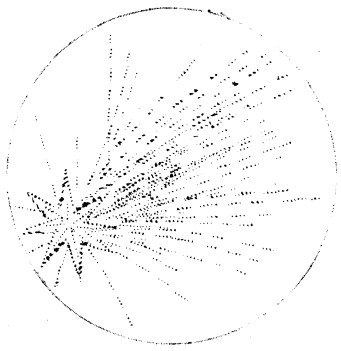
Motion pictures were shown for the first time in 1922. They were "Worlds in the Making" and "The Mysteries of Space". In December 1942 four films were shown to an audience of 250. This was so successful that four more were shown at the next meeting to a group of similar size. These meetings produced a great revival of interest in astronomy and brought more than one hundred new members into the Centre within a month. It was noted that "a sound track supplying a running commentary added greatly to the interest and enjoyment of those present".

Within the past ten years many motion pictures have been screened in colour. These have always proved to be popular, although at this time colour television may be a serious competitor.

At some time in the forties, the practice arose of serving refreshments at the Annual Meeting in October and again at the closing meeting in May. At the same time the May meeting was programmed in a lighter vein. Sometimes this took the form of audience participation patterned after popular radio programs. On one occasion a debate was held on the topic, "Will man ever reach the Moon?" Do you remember which side you took at that time? "The Story of Frederick", an astronomical adaptation of Gilbert and Sullivan, was first presented in 1954 and repeated this spring. By all accounts this was a popular hit.

On Thursday, September 12, 1968, fifty years to the day from its inception, the Montreal Centre has been fortunate to obtain Dr Peter M. Millman as its speaker and guest of honour at its Anniversary Dinner. Dr Millman has always been a very good friend of the Centre and has honoured us with his services on many previous occasions.

- T. F. Morris



*** CHAPTER 6 ***

BOOKS - AND MORE BOOKS

We are rather proud of our Centre's Library. It now contains well over four hundred books in addition to bound periodicals. The books cover a wide range - books of an introductory nature and those at the college textbook level; rare old books of historical interest and books on the latest advances in astronomy; books for the observer, the photographer, the telescope maker; catalogues, star atlases and other reference books. More than one visitor has remarked that our Library is probably unequalled by that of any similar amateur organization. It had a very modest beginning, though, and its growth over the years has been due to a number of reasons, not the least of which was the Centre's wise choice of librarians.

It was at the Centre's Council Meeting of March 26, 1935 that the formation of a library for the use of the members was approved. Several Council members immediately offered donations. With gifts of twenty "volumes or pieces of literature", the Library was formed, and Mr Frank DeKinder became the Centre's first Librarian. At the annual meeting six months later, he reported that sixteen members had borrowed a total of 62 books. A bookcase was purchased for $9.18, and the Centre subscribed to "Telescope". By 1936 the number of books had increased to 48, but members were not making as much use of them. At the annual meeting in November 1938, the Librarian reported that "during the year 1937-8 interest in the library sagged badly. Only five different volumes have been taken out by four members. The Library is located at the residence of the Librarian, 5684 Clark Street. Books can be obtained on Wednesdays between 7 & 8 P.M. and on Saturday between 3 & 5 P.M." Mr DeKinder was concerned about the lack of interest and several times suggested that a more central location for the library would be advantageous. He also began to take a selection of books to the regular lecture meetings of the Centre for the convenience of the members.

In the spring of 1943, it was decided to transfer the library to the home of DeLisle Garneau on Wilson Avenue, where the Centre was then holding its observation meetings, and John Duffie, who was a resident of Notre Dame de Grace, became Librarian. The transfer of the books resulted in a more extensive circulation. In October 1944, Mr Duffie reported that 126 volumes had been borrowed during the year and that the Library now contained 100 books in addition to periodicals. As the Second World War drew to a close, everyone was very conscious of the veterans in the military hospitals. On the suggestion of the Librarian, several astronomical books were purchased and presented to St. Anne's Military Hospital and Queen Mary Veterans Hospital for the use of the patients. In 1945 Mr Duffie resigned as Librarian due to pressure of work and Charles M. Good was appointed to the office, a position which he held for the next twenty years except for the period from 1954 to 1957 when he was President of the Montreal Centre.

As members became more aware of the Library, the number of donations increased. In the year ending October 1947, for instance, thirty-five books were donated. A second bookcase was acquired but even this would have been inadequate to house the library except for the fact that so many books were

always in circulation. In that same year 365 books and 120 periodicals were borrowed. Subsequently all donations were acknowledged in the Centre's newsletter, first published in March 1948. This not only drew attention to books available but encouraged more donations. At one time the Centre's Library had contained a number of books in the French language but in 1947 these were presented to the newly formed Centre Français de Montréal.

Mr DeKinder had had the foresight to have early volumes of the Society's Journal bound. Mr Good continued this practice and also hunted around for missing issues of other periodicals, such as "Popular Astronomy" and "Sky and Telescope", so that these, too, could be bound. He haunted the bookstores for books to round out the different sections of the Library, and he drove many miles to recover borrowed books from delinquent members. He concerned himself with the repair and rebinding of books which were now showing the signs of constant handling, and he began the practice of having on hand for resale to members a small supply of the more popular observing books, such as "Norton's Star Atlas" and "Field Book of the Skies". From time to time mimeographed lists of the library books were sent out to all members but eventually it was found too difficult to keep these up to date.

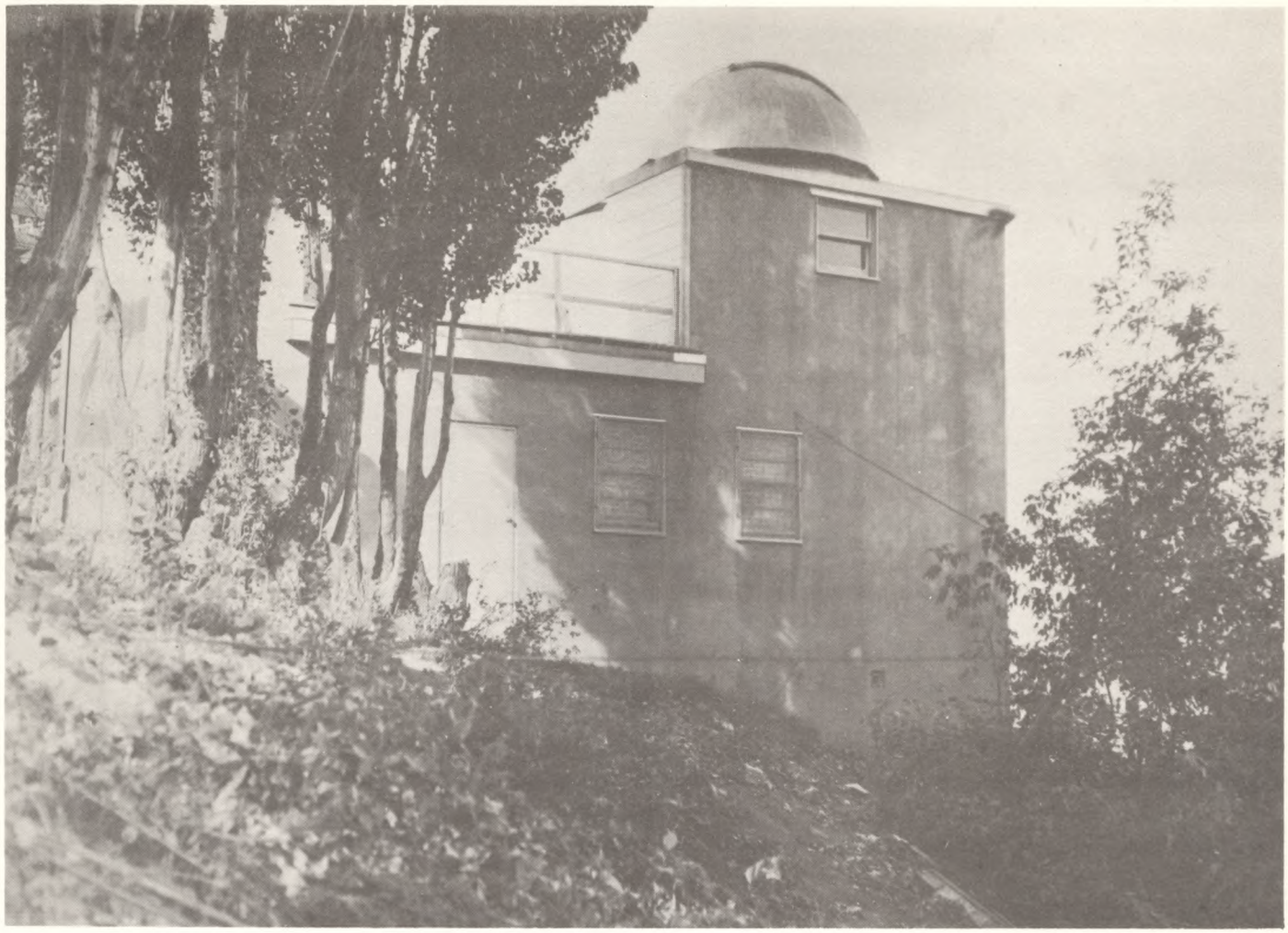
In the autumn of 1954 the Library was transferred to the Centre's present observatory. Bookshelves were built in one corner of the meeting room and the bookcases were discarded. The Observatory was open at least two evenings a week and members now had a place in which to browse. The Library grew, through purchases and donations. (It is always well remembered in the gifts under the tree at the Centre's Christmas party.) More bookcases were built; the books available for circulation were arranged in one section, reference library in another.

In 1965 Mr Good became President of the Montreal Centre for a second time. Alex MacLennan was Librarian for a year, and then our present Librarian, Donald Frappier, assumed the office. Mr Frappier initiated the regular feature "The Armchair Astronomer" in the Centre's newsletter. He tackled the task of recataloguing and indexing the Library which had now reached proportions where a more comprehensivw system of cataloguing was desirable. In addition, he arranged and indexed the Centre's embryo collection of rock and mineral specimens. The Librarian is also custodian of the Centre's slide collection which has not grown at the same rate as the Library but still serves a useful purpose, particularly for illustrated talks to groups of visitors.

It can be seen that there were three main reasons for the growth of our Library - the librarians who put much time and thought into it, the facilities available for housing the library and giving members access to it, and the generosity of the many, many members and friends, too numerous to name.

The Centre's Library contains many valuable books. Amongst its most treasured are the books that are autographed by the authors - Harlow Shapley, Cecilia Payne-Gaposchkin, A. Vibert Douglas, G.C.M.McVittie, Fred L. Whipple, and others. There are also the precious old books now out of print. Members are encouraged to use the Library but are asked to handle the books with care, for many of them are irreplaceable.

- Isabel K. Williamson




JOINT
CEMENT

*** CHAPTER 7 ***

FROM TELESCOPE TO OBSERVATORY

The First World War was being fought in Europe, and political unrest coupled with financial instability was rampant, but in 1918 a group of men interested in the natural sciences and especially the pursuit of astronomy as a hobby banded themselves together to form the Royal Astronomical Society of Canada, Montreal Centre. Who were these men? Their names today do not mean too much to those unacquainted with the beginnings of the Society, but they were engineers, teachers, men of the cloth, a soldier, a railway technician; all had in common the love of astronomy and a desire to delve into the knowledge gathered by their earlier prototypes. From the beginning they were interested in observing as well as studying, and the members who were owners of telescopes brought their instruments to meetings to let visitors and members view the wonders of the sky.

It was not until 1932, however, that the Montreal Centre acquired its first instrument, the Aitchison telescope of Mr H.E.S.Asbury, a founding member who had given much of his time and extensive knowledge to the Centre. The purchase of this instrument, which was a 6-inch refractor with alt-azimuth mounting and mahogany tripod, was made possible by the contributions of twenty-two members of the Centre. For the next year or so this first instrument was set up on meeting nights on McGill grounds close by the Macdonald Physics Building.

In 1934, through the good offices of Mr G. Harper Hall and Mr K.Cregeen, arrangements were made to use the seventh floor balcony of the Sun Life Building for observation meetings. It was here that in 1935 an accident occurred. The tripod slipped and the instrument crashed to the asphalt, shattering the objective lens. Alfred Donnelly immediately lent his 9-inch reflector to the Centre until a new objective was purchased a year later, from Dolland and Aitchison in England, contributions from members practically defraying the cost.

The year 1935 was a very active one. The formation of a library was discussed, a telescope making class was formed, and a search was started for a suitable location for an observatory to house the telescope. Nature in the raw is seldom mild, and this was made very evident to those hardy members who attended the observation meetings. The winds at the higher levels of the Sun Life Building made it almost impossible to observe with ease, and at times hoards of shadflies attacked the observers. But it took man to drive the Centre from this site. World War II erupted and for security reasons permission to observe from the Sun Life Building was withdrawn.

Then followed two dark years. All observational activity as a group was cancelled while members sought another location. In 1941 a new member was proposed who would become the nucleus around whom the observing members would gravitate. He was DeLisle Garneau. In the fall of 1941 Mr Garneau built an observatory - a small, wooden structure with a sliding roof - in the garden of his home on Wilson Avenue in Notre Dame de Grace. Ville Marie Observatory, as it was named, was opened with due ceremony on December 7, 1941 , Pearl Harbor

Day). It was really built to house Mr Garneau's own 4-inch refractor, but knowing the Centre's plight, he placed his facilities at our disposal. In the spring of 1942, our 6-inch refractor was mounted in the observatory on a wooden post; its carrying case and the Centre's library were placed in the basement playroom where members now gathered for informal talks when the weather was unsuitable for observing. Many of our members still refer to "Wilson Avenue" with feelings of nostalgia for many pleasant memories are associated with it.

In 1942 the Montreal Centre acquired its second instrument, a 12-inch reflector which, under circumstances that our files do not make clear, the Kiwanis Club had given to McGill University who in turn presented it to the Montreal Centre. This instrument had a metal skeletal tube and alt-azimuth mounting. It was disappointing to find, on testing the mirror, that the figure was not too good. On his return from the Air Force, Alfred Donnelly ground a 12-inch mirror which was installed in the Centre's cell, supposedly on temporary loan until he had corrected the Centre's mirror but it is still there. In spite of its limitations, this reflector was in almost constant use as a second instrument on Wilson Avenue. It has been used less and less since the Centre moved to its present Observatory but there are plans to make it more serviceable.

In May 1943 a member was proposed and admitted who would leave a lasting legacy to the Montreal Centre. He was an older man who attended lecture meetings regularly and often joined in the observing sessions and discussions at Wilson Avenue, being keenly interested in all the Centre's activities. His name was G. Horsley Townsend.

The very nature of astronomy demands that those who are interested must give so that they can derive pleasure from accomplishment. As the observation program expanded, the equipment was pressed into greater service, and an equatorial mounting was needed for the 6-inch refractor. With very limited funds available, a few members decided to do the job themselves. This was no small task! The wooden post was replaced by a 6-inch pipe sunk into a block of concrete, an equatorial mounting was made of pipe fittings, and setting circles were added. Upon completion of the work, G. Harper Hall proposed a resolution that "the Montreal Centre put on record its appreciation of the fine achievement of those who undertook to place the Society's 6-inch refractor telescope on an equatorial mounting, and that the Montreal Centre express its gratitude to Messrs. F. T. Matthews, F. W. Henshaw, D. E. Douglas and C. M. Good, for their ungrudging efforts in carrying to completion a difficult and exacting task."

The Montreal Centre enjoyed the hospitality of DeLisle Garneau for over eleven years, but even during this happy time it was realized that if the Centre continued to expand it would soon need its own observatory. And so once again a Committee was formed to explore ways and means, and in 1953 an Observatory Fund was established, but everyone was reluctant to disturb the status quo until Mr Garneau's decision to move to the Lakeshore precipitated matters. Around this time, Dr A. Norman Shaw, then Honorary President of the Montreal Centre, learned that McGill University was about to demolish a small building on the upper campus that had been used for experimental radar work during the war years. He intervened on behalf of the Centre and obtained the use of the building, with permission to make any changes needed to convert it into an observatory.

A new round of activities began in the autumn of 1954. Estimates were obtained by Mr DeKinder whose knowledge of the construction industry was of great help. The foundations of the building were extended to provide a full basement, the trap door to the basement was replaced by a staircase, an observatory was erected on the roof, and a concrete column sunk into the ground to support a telescope. To keep down the cost, the members did much of the work themselves - carpentry, painting, electrical work. Work parties continued into the small hours of the morning, and many members made use of their vacations to help with the construction. There is no complete record of all those who participated in the work parties, but it is known that Robert Venor was actively involved in the basement work and that Charles Good was in charge of painting and electrical work.

Many of the readers of this history have seen a forked telescope mounting standing in the meeting room of our present observatory. This is the mounting for the 110 mm Zeiss refractor, which has a full complement of accessories and which was part of the G. Horsley Townsend legacy received in the summer of 1955. The bequest included a sum of $25,000, which came at a very opportune time. Construction costs were higher than expected, approximately $2,800 had already been spent on the building, and funds were low. The transfer of part of the Townsend legacy to the Observatory Fund enabled the work to proceed. It was a red letter day when the observatory dome was hoisted into place. It was another great day when a weary work party laid the last tile on the meeting room floor.

Business as usual was the order of the day while all the construction was going on. The Centre had transferred its equipment to the new premises and held its first meeting there on November 20, 1954.

Plans for the observatory included replacing the mounting of the 6-inch refractor with more sophisticated equipment. The Centre learned that Bertram J. Topham, a well-known amateur astronomer in Toronto, was disposing of his equipment because of failing health. Mr G. Harper Hall, who had visited Mr Topham's observatory, recommended the purchase of the equatorial mounting with pedestal and motor drive, but as Mr Topham wanted to dispose of the whole unit, his 6¼-inch refractor was purchased as well. On August 20, 1956 this equipment was installed in the Centre's observatory. It was later found that the Centre's original 6-inch refractor was the better instrument and it replaced the other in the observatory dome.

With the possession of real estate, the Centre also inherited the problems of material things - spring floods, broken windows, power failures, heating and maintenance inadequancies, but these were all offset by the very real pleasure of having an observatory to which we had access at all times. Activities at the Observatory were not limited to the Wednesday and Saturday observation meetings. The building was used for Council and committee meetings, library and research, the production of the newsletter.

Over a period of time a number of changes were made in the building. The most important was the change in the heating system. Originally there was a little space heater with a tank that held fuel for barely two hours of operation. The building could not be kept heated between meetings and the room temperature would drop below freezing in mid-winter. At a Council meeting that first winter when members sat huddled in overcoats, a motion to purchase

an oil furnace with thermostat control was passed with despatch. To rectify the building's main drawback, the lack of running water, was too costly a project to undertake. Some changes added greatly to the appearance of the meeting room. Bookshelves were built at one end, three of the windows were used as frames for transparencies, while a fourth was fitted with display shelves for rock and mineral specimens. The basement room was partitioned off into workshop, office room, radio room and reading corner. Here again it would be impossible to name everyone who worked on these projects but the members most actively engaged were Charles Good, George Wedge, Constantine Papacosmas, Donald Frappier and, more recently, John Allcock, Alfred Capper, Boyd Ramsay and Walter Jutting.

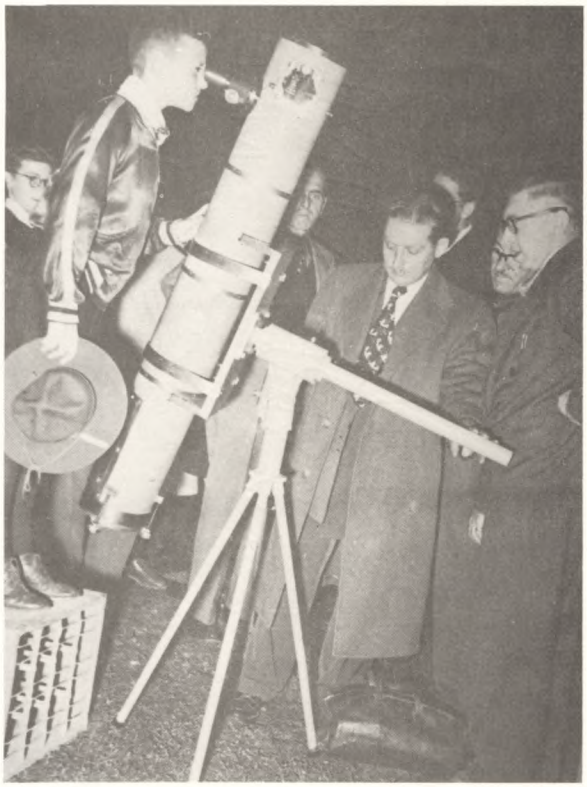
The present observatory has seen exciting times. The Montreal Centre was host to the AAVSO, the A.L.P.O. and the R.A.S.C. General Assembly. Guest speakers were often brought to the Observatory for coffee after a lecture meeting, and the attendance book contains the signatures of many well-known professional astronomers. Many of us recall listening enthralled while Dr Harlow Shapley and Dr Peter Millman "talked shop", and a hurriedly organized party for Dr Cecilia Payne-Gaposchkin was another memorable occasion. Special evenings at the Observatory were arranged for Scouts, Guides, high school students and other groups of young people. Family Nights, Christmas parties and preparations for Star Nights helped to maintain a high pitch of excitement, most of the stimulus for these activities being generated by the Director of Observations, Miss I. K. Williamson, with her ability to organize and to inject enthusiasm in others.

But all happenings were not fun. On two occasions the dome was broken into and burglarized, much valuable equipment being taken. Damage was done by unwelcome visitors who climbed up the outside of the building and on to the dome to view the football games in Molson Stadium. Slowly the site, from an observer's point of view, was deteriorating; the trees around the building soon needed topping, air pollution over the city created heavy smog, new buildings on the upper field added many lights, and the city itself was growing. So the search for a better site continued and with this in mind, a provincial charter was obtained.

The Centre has received many gifts of equipment. The 6-inch reflector that Mr A. V. Whipple made for his wife and which won an award at Stellafane was presented to the Centre on her death. The family of Mrs Suzanna Wright gave the Centre the little 5-inch reflector that she made and used. An 80mm Zeiss refractor was presented to the Centre by the family of Julian C. Smith. Several members, on graduating to more sophisticated equipment, gave their first instruments to the Centre. (Some of these telescopes go out on loan to members while others are kept at the Observatory where they are available for special events.) The barograph was the gift of DeLisle Garneau. The 35mm slide projector was in memory of Miss Mary MacKenzie, the map desk in the Observatory dome in memory of Paul S. Scott. Other gifts included sextants and transit instruments. All have been carefully recorded with the names of the donors.

This brings us up to 1968 - from nothing but an idea in 1918 to an idea plus physical facilities to aid the interested amateur astronomer in his search for knowledge.

- Louis R. Duchow



*** CHAPTER 8 ***

QUO DUCIT URANIA

Our records indicate that from the very beginning our members not only wanted to read and hear about astronomical objects and phenomena but were eager to see for themselves that these things were really so.

Almost immediately after its organization meeting, the Centre subscribed to the Harvard announcement bulletins, and star charts and other observing aids were discussed at meetings. On March 13, 1919, Miss Mabel Ellicott of Lachine "explained in a very pleasing way the uses of the star planisphere. Her explanations were greeted with hearty applause." (Miss Ellicott was the Centre's first woman member and also the first woman elected to the Centre's Council.) As has already been mentioned, telescopes were often set up for observing sessions after lecture meetings, but there seems to have been no systematic recording of observations until the Centre's 6-inch refractor was transferred to the Sun Life Building on May 10, 1934. A Telescope Committee was then formed and a Telescope Record Book inaugurated in which the Committee members were asked to record the dates of observation meetings, with the names of those attending and details of observations made. We read that at the first observation meeting, held on May 26, 1934, observations were made of Jupiter and its satellites, Mizar and Alcor, Beta Cygni, and Polaris and its companion. The members of the first Telescope Committee were G. Harper Hall, G. Lighthall, E. Russell Paterson, F. J. DeKinder, O. A. Ferrier and K. Cregeen. (Other familiar names - Henry F. Hall, Alfred Donnelly, Frances Morgan - appeared a little later.)

The Telescope Record Book gives an uninterrupted and extremely interesting account of observation meetings up until the autumn of 1937. Less detailed reports were kept during 1938 and were temporarily discontinued when the Centre had to leave this site on the declaration of war in 1939. Entries were resumed in the spring of 1942 when the Centre's telescope was installed in Mr Garneau's observatory on Wilson Avenue. The Telescope Committee was expanded to twelve members, with DeLisle Garneau as Chairman. More familiar names are noted in the records - A. V. Maage, J. W. Duffie, C. M. Good, I. K. Williamson, F. W. Henshaw, F. T. Matthews, D. E. Douglas.

The first meeting at Wilson Avenue was held on Friday, June 5, 1942. During that first summer, observation meetings were scheduled for Thursday evenings but postponed until the Friday when the sky was overcast. When the Thursday lecture meetings were resumed in the autumn, the observation meetings were changed to another evening and, because in those days everyone worked on Saturday morning, Saturday evening was better than Friday for late hours. For these weekly meetings the Committee member in charge was expected to have a little talk in readiness in case observations were not possible. In the colder weather everyone was glad to go indoors for awhile to warm up and the members began to expect a talk in addition to the observing session. At first the talks were closely related to the observation program planned for the evening. The Field Book of the Skies was the bible of the Telescope Committee, and one by one the constellations were explored. Eventually, the scope of the talks was broadened considerably.

In the mid-forties the observation program began to expand as members became interested in making systematic observations of practical value. Separate report forms and files were maintained for these observations, and in July 1946 entries in the Record Book were discontinued, but all members and visitors were asked to sign the Attendance Book at each meeting. Then as now, it was the objective to have a program that would offer something to every member, no matter how limited his experience, his equipment or the time he could devote to observing. Some programs had no value other than the pleasure given the observer, some trained the observer for more advanced work, others gave him the satisfaction of making a practical contribution to astronomy.

Interest in the various fields of observation has fluctuated greatly over the years. The loss of a member who had given leadership in some field could dampen enthusiasm. So could persistently poor observing conditions. On the other hand, some spectacular phenomenon or the acquisition of new equipment would stimulate activity. Specific events for which teams are organized have always been popular, and the Montreal Centre's observations of meteor showers and solar eclipses are described in separate chapters of this history. Another chapter is devoted to the Messier Club.

In the forties, one of the most active sections was the Aurora Section. There were many brilliant displays during this period, the darker skies made fainter aurora visible, and no optical equipment was required. Up until the International Geophysical Year, members of the Montreal Centre reported to Dr Carl W. Gartlein of Cornell University. One of our most active observers was Mrs Katherine Zorgo, who was chairman of the section for many years. From January to May 1946, the Centre contributed to Exercise Musk Ox of the Royal Canadian Air Force, reporting aurora observed during this period on special forms to Squadron Leader Peter M. Millman. For the I.G.Y. (1958-59) observers used instructions and report forms supplied by the National Research Council, Ottawa. Following the I.G.Y., the Centre continued to use these forms, reporting to Dr Millman at N.R.C., but as only the brightest displays can now be observed from the heart of the city, interest in this field of observation has waned.

The search for novae appealed to those whose only equipment was a pair of binoculars. This was essentially a negative program, but observers derived satisfaction from contributing to the Nova Search program of the AAVSO and acquired a sense of proprietorship towards their assigned areas of the sky.

Some of our older members remember seeing Halley's Comet in 1910, but others had to wait many years for a comet bright enough to cause excitement. According to the Record Book, on July 31, 1936, Peltier's Comet, which was 6th or 7th magnitude, was viewed with difficulty because of a nearly full moon. Finsler's Comet, which was "somewhat fainter than the stars in the Big Dipper", was observed with binoculars by thirty members on August 5, 1937. The records contain references to several other faint comets. Then on April 21, 1957, our members first observed zero magnitude Comet Arend-Roland, which had a long, beautiful tail. In August 1957 Comet Mrkos, 2nd magnitude, appeared on the scene. Many observations were made of these comets and of Comet Burnham, Comet Wilson and others that followed. The Great Comet of 1965, though, was a great disappointment to Montreal observers. It was so close to the sun in the morning sky that it could not be seen through the thick layer of city smog, as the group gathered at Westmount Lookout at 5 a.m. on October 17th well remembers.

Early records show that the planets, which have always had a particular appeal for the amateur astronomer, were observed frequently. Phenomena of Jupiter's satellites were timed, an occultation of Jupiter by the moon was recorded. Some observers - DeLisle Garneau, Brian Cockhill, Frances Morgan and a few others - made series of observations and sketches of Jupiter and Mars. The Planetary Section reached a peak, though, in the late fifties and early sixties under the chairmanship of Geoffrey Gaherty and Klaus Brasch, who developed a specific program for each planet, made composite maps of Mars from members' drawings, calculated the rotation period of Jupiter from members' timings of central meridian transits, and generally stimulated interest in planetary work. The Centre missed these two members when their studies took them from Montreal.

The Moon is a popular object, too, being within the range of small telescopes. The Record Book tells us that at observation meetings members became familiar with the lunar features, but little directive was given lunar observers until Miss Mary Mackenzie became chairman, and the Lunar Section subsequently reached a peak under George Wedge, who organized a training course for new observers and developed such programs as lunar height measurement observations. George Wedge left Canada in 1966 and the work of the Lunar Section is now being carried on by Mme. J.-P. Jean and Howard Simkover.

Although a lunar eclipse does not have the scientific value of a solar eclipse, it has the advantage of being visible for a long period over a wide area. Many people can enjoy the phenomenon with little or no optical equipment. The Centre's files contain reports of organized observation of many eclipses of the Moon from 1945 to the present. The earlier program included observation for flashes that could be attributed to meteors landing on the Moon. This was later developed as a year-round program by the Association of Lunar and Planetary Observers, and members of the Montreal Centre reported to the A.L.P.O., first through Mary Mackenzie and then through Kenneth Chalk, from 1956 until 1965 when the program was discontinued. In recent years the timing of shadow contact with individual craters, which is considered to have some scientific value, has added to the interest of lunar eclipses.

Montreal observers shared the excitement of the rest of the world when the first artificial satellites were launched in 1957. The Centre considered, but decided against, forming a Moon Watch Team, for Montreal was not within the latitudes of proposed U. S. satellite orbits. Visual observations soon became of negligible value, but interest in the brighter satellites continued, especially Echo I, which the meteor team had observed from Montgomery, Vt., on its first visible passage on August 12, 1960. The Centre's most assiduous observer has been Vic Williams, who made 1017 observations of Echo I. His last observation of it was made on May 5, 1968, just a couple of weeks before it plunged to earth. Times of predicted passages of satellites over Montreal have been calculated for our observers by Jim Low, Boyd Ramsay and Bryan Rawlings.

Most observers who are exposed to variable stars become chronic cases, but for some reason not many of our members contracted the disease. DeLisle Garneau and John Duffie were regular observers for awhile. Variable star work has been Frances Morgan's main interest for many years. More recently George Fortier began to devote much of his observing time to this work and several other members have participated to a lesser degree. All such observations are reported to the American Association of Variable Star Observers.

Mr Frank DeKinder is undoubtedly the outstanding solar observer of the Montreal Centre. He has made daily observations at his own observatory over many years, qualifying as a "standard observer" for the AAVSO. At one time DeLisle Garneau and Frances Morgan made regular observations, and there was some group activity at the Centre's present observatory in the late fifties. Observations dropped off during sunspot minimum but with the new maximum there is renewed interest in solar work under a program being developed by Robert Ballantyne. Throughout the years, some members have made naked-eye solar observations under the direction of Robert Venor.

The Record Book shows that two lunar occultations were timed at the second observation meeting at Wilson Avenue. Rather crude methods were used in those days. One or more members watched the second hand of a timepiece and noted the time to the nearest second when the observer at the telescope called "Time!" As members acquired shortwave radios and stopwatches, greater accuracy was possible, and observers are now expected to time occultations to a tenth of a second. It is precision work that has many pitfalls, and to Charles Good goes the credit for perfecting the technique. For a Centennial Project in 1967, he set an objective of 100 successful timings, and his enthusiastic observers went over the top with a total of 131. Successful timings are reported to Greenwich Observatory through the AAVSO.

A pleasant program that had little to do with astronomy but required a telescope was the observation of high-flying migratory birds across the face of the moon. Under the direction of Mr G. Harper Hall, observations were made for the Department of Ornithology, Louisiana State University, during the migratory seasons from 1946 until Mr Hall's death in 1958 and were continued for another year or two under Claude Bedard.

In 1960, a radio transmitter and shortwave receiver were purchased and an amateur radio licence obtained for the Montreal Centre under call letters VE2RAM. Although the equipment was used with some success to maintain contact with field stations during lunar eclipses, plans to establish a communication network with other Centres of the Society eventually came to naught. A solar flare indicator was in operation for some time, but the Radio and Electronics Section failed to develop along the lines anticipated.

More and more members have become interested in astrophotography, and short courses have been conducted for beginners. With their knowledge of optics, Constantine Papacosmas and Alfred Capper have been particularly helpful in this respect.

The observer's story over the past fifty years is one of success and failure, accomplishment and frustration. At the beginning, he had little equipment but dark skies. At Wilson Avenue the telescopes were in constant use. At one meeting, for instance, it is recorded that 26 objects were viewed, which gives some indication of seeing conditions. In the early years at the present observatory much observing was done. Now only the brighter objects can be observed from this site. Some decision must soon be made. Once again the Centre stands at the crossroads.

- Isabel K. Williamson

*** CHAPTER 9 ***

METEOR TRAILS AND TRIALS

Although it may be properly assumed that Meteor Observations represented a significant portion of the observational program of the Montreal Centre prior to 1940, no permanent record exists of observations before that year. It is for this reason that the following account of the Centre's activities in this field originates in this, the second year of the Second World War.

Throughout the four year period from 1940-1944, active meteor observers recorded all observations on Star Maps obtained from the Department of Astronomy, University of Toronto, as well as on record sheets soliciting such data as the time, magnitude, colour and duration. Most of these early observations were executed within the confines of the then clean city air, either on the lawns of members' homes or at the old Ville Marie Observatory. It was in this background that such veterans as DeLisle Garneau, Charles Good, J. W. Duffie, Frank DeKinder, Frank Morgan and Isabel Williamson recorded much of their early meteor work.

Following this era there appeared a one year gap in recorded observations, succeeded by the momentous events of 1946 which were climaxed by the great Giacobinid Shower of October 9/10. There on the grounds of Lower Canada College twenty-five observers and recorders were astonished and awed by what was to be remembered as one of the most majestic showers since the Leonids of 1833. The team included many of those previously mentioned with such notable additions as Dr D. Douglas, Henry F. Hall and Frank Henshaw. They observed through specially constructed frames which allowed them to see only a small portion of the sky. Under these limitations, as many as 30 meteors per frame were sighted in five minutes at the height of the shower, creating a total of 2888 recorded observations between 21:00 and 24:00 hours.

During the remaining four years of that decade, enthusiasm in the meteor program was amplified by the success of the Giacobinid Shower. It was during this period that such active observers as Tom Noseworthy, Bill Cullinan and Robert Venor started observing meteors, and with an improvement in plotting maps and report forms, so ended the first decade of recorded observations.

During the next decade, observations took a refreshing and somewhat novel move to mobility. Necessitated by the worsening condition of the transparency of local metropolitan air, meteor teams took to the hills, relying on the kind hospitality of members who either lived or had homes in the country. Teams were organized in town, all the necessary equipment such as star charts, report forms, deck chairs, tables, radio, etc. were loaded into observers' cars, and everyone then proceeded to the observing site for an evening of serious observation and social entertainment which manifested itself over coffee and sandwiches during periodic breaks in observations. At the end of the evening's watch which, weather permitting, could be anywhere from 3 to 5 a.m., all

gathered around for a final word with friends and a cup of coffee before the distressing ordeal of having to drive back to town at that hour! It was in this manner that expeditions were organized to members' homes at Hemmingford, Que., Montgomery Center, Vermont, and more recently, Rosemere, Weir, Otterburn Park and Ste. Marguerite, Que. Here we would place on record our appreciation of the hospitality of Alex MacLennan, Sidney Sundell, Klaus Brasch, Geoffrey Gaherty, Pat Cardella and Granger Robertson. It should be noted that on many occasions when the weather rained havoc and disappointment into a long-planned meteor excursion, the coincidental social gathering that followed often saved the evening from complete frustration.

Just as the 40's were made memorable by the Giacobinids, the 50's will long be remembered as the decade of the I.G.Y. Under this program in which recorded observations were made on scheduled nights between October 1, 1958 and September 30, 1959, a total of 29 observers, under the joint chairmanship of Mr E. Bridgen, Mr S. Sundell and Miss I. K. Williamson, observed a total of 768 meteors in 52 hours and 40 minutes of observation on 23 nights between the said dates. Under the International Geophysical Year program, although a very definite procedure was adhered to, only statistical counts of the meteors were made, disregarding plottings of their trails which had little significance in the nature of such an international program. For the first time the now familiar I.G.Y. Visual Meteor Report Forms were issued, and for those who preferred to plot trails, the present plotting maps created at the Dominion Observatory were available. All reports from the Montreal Centre were sent to the National Research Council in Ottawa, care of Dr Peter M. Millman who has long been a friend of the Montreal Centre and who for a long time has acted as liaison between the amateur activities of our Centre and those under the direction of the National Research Council.

As the I.G.Y. came to a close, a new air of professionalism followed the meteor teams throughout the early 60's. A skillful routine had finally become inherent to the meteor program. Practically all observations were now made away from the urban-industrial centers. Report forms and plotting maps had now become nationally standardized, removing much of the confusion from meteor observing, not only in our own Centre but in other Centres of the Society where meteor observations are part of the local observing program.

It is at this point that we stand today. Through the experience gained from many years of meteor observing since times preceding the Second World War, the Centre has attained a professional polish not often seen in amateur groups. In the final analysis, this must be attributed to the enthusiasm and dedication of the observer himself. He is a rare breed of person to whom meteor observing represents only a small expression of his desire to advance and explore science through his wonder of the heavens.

- Si Brown

*** CHAPTER 10 ***

THE MESSIER CLUB

The reason why we think the Messier Club of the Montreal Centre is entitled to a special feature is that we believe it to be the prototype of the many Messier Clubs on the North American continent to-day. Our Messier Club came into being on Wilson Avenue in the early 1940's. Its main purpose was to stimulate members into becoming active observers instead of being content to look through the telescope at objects that others had located.

Messier's Catalogue with its 103 objects was an excellent basis for a competition. There were a few rules, of course. The member had to find and identify each object himself. The beginner who had never operated a telescope was given a little help with the first few objects and then he was on his own. The objects had to be observed through a telescope. (Those viewed only through binoculars did not count.) Setting circles were ruled out. (That was too much like shooting a sitting duck.) The purist would not even view an object that someone else had located until he had found it for himself. (It is much easier to find an object if you know what it looks like.) And so, through the Messier Club, members became familiar with the sky, learned to operate telescopes and find objects invisible to the unaided eye, and trained their eyes to detect fine detail.

Much of the early Messier hunting was done with the Centre's 6-inch refractor mounted in Mr Garneau's observatory on Wilson Avenue. The skies in Notre Dame de Grace were darker then and the area around the observatory was not entirely built up so that there was a fairly good horizon. However, Tom Noseworthy, the Messier Club's first graduate, climbed up on the roof of the observatory with a 3-inch Skyscope tucked under his arm to observe his last two objects which were low on the southern horizon. Many of us remember those nights of observing when we experienced the thrill of discovery. Brian Cockhill recalls a memorable night when he had the observatory to himself and added the whole group of Messier objects in Virgo to his score.

Originally the emphasis was on locating and identifying the objects, the members competing for position on the Messier Club ladder. Even after the Centre left Wilson Avenue and established its observatory on the upper McGill campus, many of the observation meetings were devoted to Messier hunting, with several telescopes in operation. As seeing conditions in the city deteriorated, though, until only the brighter objects could be observed, the members were forced to do most of their hunting outside the city area. Those who did not possess telescopes were at a disadvantage. The functions of the Messier Club were then broadened. The rules regarding binoculars and setting circles were relaxed. Observers were requested to report details of their observations, and at the Centre's observation meetings the emphasis was on sketching the brighter objects.

From the need to get away from the city lights arose, in recent years, the pleasant custom of an annual Deep Sky Wonder Night at Montgomery, Vermont, on the invitation of Sidney Sundell and Aathar Anderson. There members gather with their telescopes for a night of observing and Walter Scott Houston is

usually the guest of honour. More recently still, Messier Club members have motored up to Pine Top Observatory, Alfred Capper's observatory at Lac Marois in the Laurentians, to do some hunting.

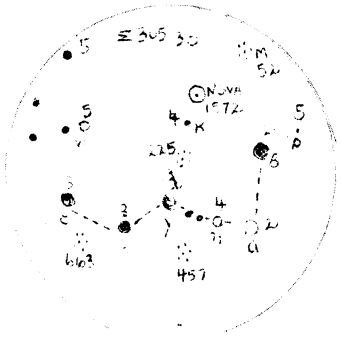
The Messier Club now maintains several sets of records. In its Record Book are listed the names of members and the objects that each has located, and there is a corresponding wallchart. The Notebook is an accumulation, in numerical order, of all observers' notes on each object, showing date, seeing conditions, equipment used, and comments on the appearance of the object. In the Sketchbook are filed numerically the sketches, drawings and diagrams made by our observers. There is also an Album of Messier Photographs taken by our members.

Our records show that over the years 149 persons have been members of our Messier Club. Many of these are no longer with us. Some are deceased, some have moved away from Montreal, and some have turned to other interests, but of the Centre's present membership 42 are Messier Club members.

Ten members have observed all the objects in Messier's Catalogue. The graduates, listed in the order in which they attained this status, are Tom Noseworthy, Professor T. F. Morris, Constantine Papacosmas, Geoffrey Gaherty, Dr H. E. Lehmann, Charles Giffin, Larry Anthenien, Alfred H. Capper, Dr George Fortier and David Levy.

Ultimately, the Messier Club hopes to produce a volume containing a comprehensive description of each object in Messier's Catalogue as viewed through telescopes of different aperture and under varying seeing conditions, based entirely on the observations of our own members, and including drawings, sketches and photographs made by our members. In the meantime, the Messier Club continues to serve its original purpose of training our observers, and the Messier objects hold the same fascination for each new group of members that discovers them.

- Isabel K. Williamson

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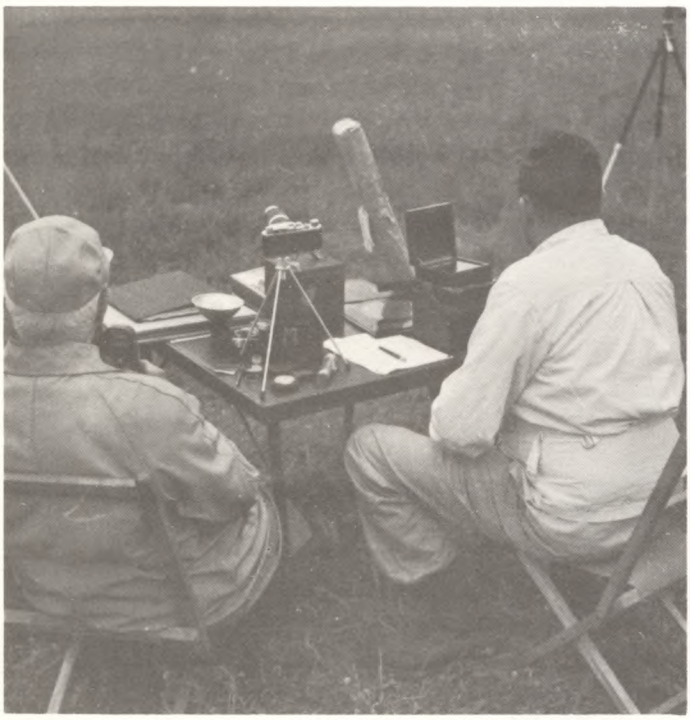


*** CHAPTER 11 ***

WHEN THE SUN IS ECLIPSED

With the ease and speed of modern transportation, more people now have the opportunity of viewing a total eclipse of the sun, but just three or four decades ago it was a rare phenomenon that few could hope to see unless the narrow path of totality passed close to one's home. During the past fifty years there were two eclipses where the path of totality did pass close to Montreal. On two other occasions organized groups of members from the Montreal Centre travelled considerable distances to be within the path, and there were instances of individual members going even farther afield.

In Chapter 2, Mr Bridgen mentions that he and other members of the Centre went to Hamilton, Ontario, for the total eclipse of January 24, 1925, but because of clouds saw only the closing partial phase. Mr D.R.P.Coats (a founding member of the Montreal Centre and now a member of Calgary Centre) was interested in radio which was then in its formative years and he recalls viewing this eclipse from an aircraft, using radio to communicate with those on the ground. According to the Society's Journal, conditions in Ontario were generally poor but residents of New York and Connecticut enjoyed a good view, and a fresh fall of snow provided a fine background for observation of the shadow bands.

Mgr. Choquette went all the way to Norway for the eclipse of June 29, 1927 and gave a talk on his trip at a subsequent meeting of the Centre. Col. Lyman and his family also travelled to Norway to view this eclipse.

For the eclipse of August 31,1932, Montreal was on the very fringe of totality, with the western part of the city just within the path. This eclipse aroused tremendous excitement and was the subject of many talks. The Centre's meeting of April 21,1932 passed a resolution petitioning the Hon. Mr Taschereau, Prime Minister of Quebec, to issue a proclamation to the effect that all employees in offices, factories and stores in the path of totality be given an opportunity "to witness this impressive and remarkable phenomenon" and that all lights be put out five minutes before totality so that "the full effect of the onrush of darkness and the bursting forth of the pale Solar Corona be experienced". Dr A. Vibert Douglas wrote an article for The Teachers Magazine which was reprinted in the R.A.S.C.Journal, giving specific information about the eclipse and observation programs in which amateurs could participate; Dr Douglas and Dr A. Norman Shaw had a similar article printed in booklet form and made available to the public.

When the day came, the Montreal area was overcast. Mgr. Choquette had his group of observers stationed on the college grounds at Ste. Hyacinthe but intervening clouds covered the sun at the critical time. Mr Bridgen, who was at Sorel, was fortunate on this occasion and had a fine view. Mr G.Harper Hall observed with a group at Maskinonge. A full account of his observations was printed in the Journal, and the Centre has an album of his many photographs of the eclipse. Mr DeKinder, who was not then a member of the Centre, learned later that he had observed within a stone's throw of Mr Hall's group. Many other members saw the eclipse and reported on their observations at a meeting of the Centre in October.

In 1954 an enthusiastic group of observers organized the Centre's most ambitious project to date, an 800-mile trip by train to the small community of Mattice in northern Ontario to view the eclipse of June 30th. The travel arrangements were in the hands of Brian Cockhill and the observation program was directed by Isabel Williamson. The sixteen members of the Montreal Centre were joined in Montreal by Mr Percy Witherell of the AAVSO and Miss Katharine Pearce of Princeton University, and at Ottawa by four members of the Ottawa Centre. The train left Montreal on the Sunday evening and twenty-four hours later arrived at Mattice where the Pullman sleeper was put off on a siding to serve as hotel. The next morning Mr and Mrs DeKinder arrived by car, and later in the day Warren Creighton and Frank Matthews came in from Port Arthur. Tuesday was a beautiful day, warm and clear. After a dry run of the observing program, the group enjoyed a picnic lunch and a swim. That evening they gave a star party for the local residents, and everyone had high hopes for clear weather on the morrow. During the night clouds moved in and it was a silent group that transported equipment at dawn to the observing site. Everything was in readiness but conditions worsened and it was actually raining during totality. Not only the Montreal observers were frustrated, for many others had gathered at Mattice, including a team from the David Dunlap Observatory. Early Thursday morning, the sleeper was hitched on to the eastbound train. Although disappointment was keen, the five-day trip had been most enjoyable, and the many amusing incidents are still vividly remembered. Before the train was back in Montreal, everyone was talking about the next eclipse. "Remember Le Gentil. See you in '63!"

The path of the July 20, 1963 eclipse crossed thickly populated areas of Quebec and the main concern of the Montreal Centre was to find locations where they could observe undisturbed. It was decided to establish two observing posts, one at Grand'mère under the direction of Frank DeKinder and the other at Plessisville under the direction of Isabel Williamson. Transportation was not a problem on this occasion since the two sites were within easy driving distance of Montreal. However, when it was found that no excursions from the city had been planned for the general public, the Montreal Centre, with some trepidation, decided to sponsor a train. This project was placed in the hands of Karl McNamara. The response was overwhelming. The Eclipse Special left Montreal with over three hundred persons aboard, bound for Grand'mère. There the train was met by two brass bands and majorettes who escorted the group to the recreation grounds which had been reserved for their use. Through the co-operation of Hydro-Quebec, the Centre's observing posts at both Grand'mère and Plessisville were set up in enclosed areas on their property. As luck would have it, the Eclipse Special people had a perfect view of the eclipse, the Centre's observing post at Grand'mère had considerable cloud interference, and the group at Plessisville fared rather poorly. A third observing post had been established at Almaville by Terence Ivey of the Montreal Centre and this area was clouded out completely. At all three stations members of the Montreal Centre were joined by members of other Centres and other astronomical groups from across the country. It would be difficult to make any estimate of the number of members who observed this eclipse, for many arranged their own small observing parties. It was an exciting time for everyone, with plenty of newspaper, radio and television coverage of the event and the Centre's participation in it.

- Isabel K. Williamson

*** C H A P T E R 12 ***

STAR NIGHTS

I am aware
Of the splendour that ties
All the things of the earth
With the things of the skies.
- 'Kinship' by Angela Morgan

For many years a feature of the program distributed at Star Night was a short quotation that seemed pertinent to the occasion. I have chosen my favourite to head this article.

In the early spring of 1945 the possibility of the Montreal Centre holding a public Star Night was discussed by a group consisting of D. Garneau, F. Matthews, I. K. Williamson, P. Scott and C. Good. The idea originated from an article in "Sky and Telescope" describing such an undertaking by an American astronomy club and sponsored annually by a local newspaper. The decision was made to go ahead, with or without newspaper sponsorship, something that even to-day our local news media seem reluctant to consider.

The Centre's first public Star Night was held on Wednesday, May 16,1945 on the playing field of Lower Canada College in Notre Dame de Grace. In retrospect, this first Star Night seems the most memorable. With clear skies and warm weather, everyone was bubbling over with excitement. The program included talks by Frank DeKinder, Henry F. Hall and E. Russell Paterson on the spring constellations, and telescopic observations of Jupiter, Saturn, double stars and globular clusters. Voluntary contributions were accepted at the entrance to the grounds and amounted to $26.00, a real bonanza in those days. (This practice was later discontinued.)

Of course, our first venture being such a success encouraged us to continue Star Nights as an annual event whenever possible. Because of the greater area and the facilities available, future Star Nights were held in Westmount Park. Up until 1951 the announcements for Star Night stated that "if weather conditions prove unfavourable on (Wednesday) the event will be postponed until (Thursday) evening. Announcements to this effect will be made over radio stations CFCF and CJAD between 6 p.m. and 7 p.m." The weight of decision rested heavily on the Committee. Members transporting equipment had to know well in advance of the general public. So the die had to be cast by mid-afternoon. Sometimes the Committee guessed wrong. We remember one occasion when telescope operators and committee huddled together on the bandstand while the rains fell.

From 1951 on Star Night was held on the date selected, rain or shine. The wonderful cooperation of the City of Westmount in this respect was appreciated. Not only did they assist with arrangements for an outdoor show but also placed at our disposal the nearby enclosed hockey rink to which we could transfer our activities in case of rain. The program included motion pictures, with projector and operator courtesy of the Cinephotography Service of the Province of Que. There were Question and Answer periods, and the variety of telescopes, many of them constructed by their owners, added to the interest.

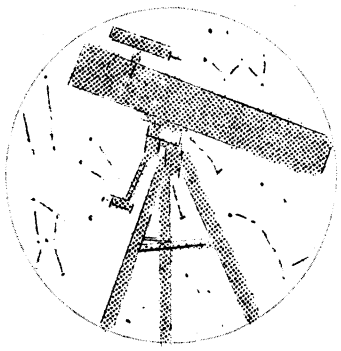
A great deal of effort went into publicizing early Star Nights. Details of the program were sent to all local newspapers and radio stations. Posters were printed and distributed throughout the city. Hydro-Quebec, the Montreal Star and Simpson's had window displays of telescopes and astronomical material. (The transparencies at our Observatory were made for Simpson's window.) The Montreal Book Room and Burton's had displays of astronomical books. So did the Mechanics Institute and Westmount Library. The Gazette printed reviews by our members of astronomical books. Committee members were interviewed on radio and television. Attendance at Star Night has fluctuated from a few hundred on a wet night to over two thousand when skies are clear.

With thirty or so telescopes on the field, Star Nights have been among the Centre's most ambitious projects, enabling a high percentage of the membership to participate in its operation, thus contributing in no small measure to a paragraph in the Massey Report on the Arts whereby the Montreal Centre was singled out for positive activities as opposed to passive.

In addition to the main event in Westmount Park, the Centre has, on invitation, organized Star Nights, on a much smaller scale but with the same enthusiastic reception, in many areas, including Roxboro, Greenfield Park, St. Lambert and Macdonald College.

Selecting the date for Star Night some months in advance continues to be a problem. The Committee is expected to have extraordinary weather forecasting abilities and, just as an official forecaster is remembered only for his forecasts that do not conform, nobody remembers those that were excellent. In this connection, here is a true story. In discussing our problem with a professional forecaster (one of those that makes a business of long range forecasting), I asked him how he would select a date six months in advance. After much deliberation, he made this profound statement. For a date in the fall, he would choose the week of the World Baseball Series. It never rains then!

- Charles H. Good



*** CHAPTER 13 ***

YOU SAW IT FIRST IN 'SKYWARD'

As the Centre's observation program expanded, we naturally wanted some means of keeping the membership informed of activities. We had no way of duplicating a bulletin, though, and for a while we just posted a summary of "Observatory Activities" on the noticeboard at Wilson Avenue. Then our good friends at the Boy Scouts Association offered to run off a sheet on their Gestetner, and in March 1948 "Skyward" made its appearance. It was printed on green paper simply because that was the colour the Scouts used for their bulletins and it was easier for them to use their regular stock and bill us for the quantity used. The name "Skyward" was the inspiration of DeLisle Garneau.

Shortly after the Centre moved to its present observatory on the upper McGill campus, we acquired our own Gestetner machine. It had had at least two former owners and was, we believe, the second model that Gestetner put on the market - a real museum piece and temperamental, of course. During that first winter when the Observatory had only a small space-heater, there was the added problem of getting the temperature up to the point where the ink would flow!

In June 1959, "Skyward" was increased from two to eight pages, with Geoffrey Gaherty and George Wedge assuming responsibility for regular feature articles on planetary and lunar observations. Prior to that time there had been an occasional gap in the publication of our newsletter, but with others to share the load, it was now issued regularly each month.

The masthead, depicting the Observatory building, appeared first on the June 1959 issue, and was drawn by hand each month, usually by George Wedge who enjoyed making minor appropriate changes - snow on the dome in winter, an antenna on the roof when VE2RAM went on the air, etc. The printed masthead, based on the original drawings and designed by Harry Bunker, made its appearance in December 1960.

In January 1962 our prima donna Gestetner was replaced by a newer model which lacked its personality but had other admirable qualities. Green paper was retained for the front page of the newsletter. Not an appropriate colour for the sky, perhaps, but distinctive and easily identified by our readers. (A golden yellow page replaced the green one for the Centre's 50th Anniversary Year.)

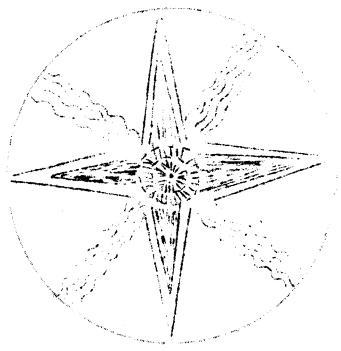
The writer of this chapter has been editor of "Skyward" since its inception, and the editorial policy has remained unchanged. Its slogan, "You saw it first in SKYWARD" is meaningful, for it has always been just a newsletter. The members receive the R.A.S.C. Journal and the Observer's Handbook. The Centre has an excellent library and subscribes to a number of periodicals. "Skyward" therefore confines itself to reporting on the activities of its members and to articles that cover or relate to observational work done by its members. Over the past nine years several members have been responsible for regular features and many more have contributed articles.

The staff of "Skyward" has resisted the temptation to adopt a more elaborate format for the newsletter. Photographic reduction to booklet size and the inclusion of photographs would certainly enhance it, and no doubt outside help could be obtained in this respect. We are reluctant, though, to place ourselves in the position where we are dependent on non-members. At present the newsletter is produced entirely on our own premises and with our own equipment. This, perhaps, is why there have been no gaps in publication over the last nine years. From fall through spring there are deadlines to be met, for the newsletter is mailed with the notice of the monthly lecture meeting. It can get a little frantic but a group of willing members rallies round to help with the collating, stapling and stuffing into envelopes. (This help is always acknowledged in the next issue of the newsletter.)

Since the beginning, the newsletter has been mailed to all members of the Montreal Centre. Copies are also sent to each Centre of our Society and on an exchange basis to a number of astronomical groups in Canada, the United States and elsewhere. Our mailbag often contains interesting letters from these outside contacts. The local newspapers and radio stations are on our mailing list. The newsletter is also sent to certain individuals, including some professional astronomers, who over the years have shown an interest in our activities. Extra copies are placed in the literature rack at our observatory where visitors may help themselves.

An out-of-town reader once made the comment that if he could drop in at the Observatory of a Saturday evening he was sure he would feel perfectly at home. That, of course, is what "Skyward" wants to accomplish - not only to keep members informed and to stimulate interest in activities, but to give all members the feeling of belonging.

- Isabel K. Williamson



*** CHAPTER 14 ***

THE HOBBY OF TELESCOPE MAKING

My interest in telescopes dates back to the year 1934 when I had the good fortune to gaze through the eyepiece of a telescope and see the planet Saturn for the first time. I was amazed and tremendously excited. It was like gazing at a rare jewel floating past a black velvet curtain. I was thrilled to such an extent that I secretly vowed to own a telescope. I asked the owner of the telescope all kinds of questions and found that it was possible to make an instrument for a modest sum by grinding the mirror for a reflecting telescope by hand. My informant suggested that I acquire a book called "Amateur Telescope Making", written by Albert G. Ingalls, Editor, and published by the Scientific American Publishing Co. This book, which is still considered an authority, explained what materials had to be purchased and also supplied the instructions, and away I "went". A friend of mine, Douglas Tarlton, during a visit found me working on a 6-inch mirror and suggested that I join the Royal Astronomical Society of Canada, and soon after that I became a member of the Montreal Centre.

It was at a meeting of the Centre on October 31, 1935 that I first met Alfred Donnelly. He delivered a very interesting talk on "Making Your Own Telescope". The essence of the lecture was an outline of the book "Amateur Telescope Making". He showed slides of some of the drawings demonstrating the procedures of grinding and testing of telescope mirrors. He brought to the meeting the top section of a new beer barrel and showed how to fasten a disk of glass to it. It was very fascinating. At that time Alfred had finished two telescopes, one a 6-inch and the other a 9-inch. During this meeting the Secretary, Miss A. Vibert Douglas, proposed that a telescope making section be formed, with Frank DeKinder as the chairman. By a show of hands the following members indicated interest - Alfred Donnelly, A. L. Roberts, A. Stanger, Dr Pirrie, Robert Venor and nine others.

Anyone can make an almost perfect mirror, providing he has considerable patience and follows a few simple rules. After finishing his mirror, instead of following slavishly someone else's specifications, the resourceful worker will wish to concoct his own mounting, and then it will be uniquely his, expressing his own individuality. This adventure affords more than half the fun and satisfaction of the game.

In 1935 Alfred Donnelly brought his 9-inch reflecting telescope to the Sun Life Building for the use of the members at their observation meetings. In 1946 he built a Hindle type grinding and polishing machine on which he made a 12-inch pyrex mirror.

During the early years on Wilson Avenue, although there were no facilities for class instruction, there was a great deal of interest in telescope making, much of it generated by Alfred Donnelly. Then Frank Henshaw and Frank Matthews became members and a little later Saul Herscovitch joined the Centre. All these members were very good about helping the less experienced members who needed guidance. They also gave talks on telescope making, either at the monthly lecture meetings or the weekly observation meetings.

Saul Herscovitch was a most prolific telescope maker. His largest instrument was a 12-inch Cassegrainian. And it was at this time that several of the women members decided to make telescopes - Mrs Gwenda Hall, Mrs Suzanna Wright, Mrs Katherine Zorgo, Miss I. Williamson and Miss M. Worden. All were observers and eager to get their instruments into use as quickly as possible, and so they made the simplest of mountings, the wooden "sawhorse" with declination and polar axes constructed of pipe fittings.

The first organized telescope making class of the Montreal Centre took place on October 26, 1950. Mr and Mrs Eugene Charters were very kind to allow our members to use the basement of their home on Western Avenue as an optical workshop. Members who enrolled in the first class included Eugene Charters, W. A. Warren, William H. Birtles, A. J. Gallagher, Earl Milton. Among those who joined later were J. P. Standfast, C. L. Reeve, Tom Topham, Don Frappier, Dr Charles Fox, Mel Pyne, Sidney Sundell and Max Rosenthal. These classes, conducted by the writer, were held over the next three years.

There was then a gap of several years when no organized telescope making classes were held. The Centre moved to its present observatory in the fall of 1954 but unfortunately there is no running water on the premises and this is one of the essentials for the almost surgical cleanliness required to avoid contamination and scratching of the mirrors.

The next organized classes started in 1961 and were again instructed by the writer. Through the kindness of Percy Posternak, these classes were held at his plant on Jeanne Mance not far from Jean Talon. Among those attending were Dr T. F. Morris, Percy Posternak, W. J. Cullinan, Louis Duchow, Walter Leggett, E. E. Danson, Paul Ransom and Boyd Ramsay. There were also countless members who had not enrolled in a class but who nevertheless received advice on how to solve their grinding, polishing and other telescope making problems.

It would be impossible to estimate the number of members who have made their own telescopes. Every year at Star Night a few new instruments appear in the line-up. A telescope of unusual design that won an award at Stellafane in 1948 was a 6-inch reflector made by A. V. Whipple. Kenneth Chalk made ingenious use of a windup phonograph motor for the drive of the 6-inch reflector he constructed. Some members grind and polish a mirror and then buy a mounting. Others buy a polished mirror and construct the mounting. A particularly fine piece of workmanship was the instrument made by Constantine Papacosmas for an 8-inch mirror.

The hobby of telescope making helps to engender a more widespread interest in astronomy. Many amateurs do work equal to that of the professional. The writer firmly believes that telescope systems are still in their infancy, that more sophisticated systems will be discovered in the near future, and that the former inexperienced amateur could well be the contributor to an advanced type of telescope.

- Robert Venor

Editor's Note: The author has refrained from mentioning the many instruments that he himself has made, including some interesting experiments.

*** CHAPTER 15 ***

HERE, THERE AND EVERYWHERE

There is the occasional lone wolf, of course, but most people find that when they share their enthusiasm with others their returns are not halved but doubled, and their interest soon reaches out well beyond the confines of their local group. This feeling has probably been prevalent in the Montreal Centre since its very beginning but, with the newsletter to supplement the Minute Book, there is more evidence of it during the past twenty years.

When the Stellafane Telescope Makers Conventions, which were interrupted by the Second World War, were resumed in 1946, Alfred Donnelly had no difficulty in persuading a group of our members to attend. Five cars with "Montreal to Stellafane" banners made the trip to Springfield, Vermont, that summer. In 1948 another group of 25 members and friends attended. That was the year that Mr A. V. Whipple's 6" reflector won the award for "originality and ingenuity". Since then the Montreal Centre has been represented at each annual convention by at least two or three members. Alfred Donnelly rarely, if ever, misses. He has acted as one of the judges on a number of occasions. Donald Frappier, Robert Venor and Constantine Papacosmas are others that attend often. These gatherings afford a wonderful opportunity for the exchange of ideas.

The Stellafane trips seemed to have sparked many others. On a Sunday in April 1948, the members of the Council and the Observation Committee motored to Ottawa to the Dominion Observatory, where Dr C. S. Beals, Dr Peter Millman and Miss Miriam Burland had planned a full program for our group. In June 1949 three members - E. Russell Paterson, Charles Good and Isabel Williamson - had an intellectual treat at the four-day meeting of the American Astronomical Society which was held in Ottawa. On three other occasions groups of members of the Montreal Centre have travelled to Ottawa. In May 1961, when the Ottawa Centre was host to the AAVSO, the Montreal contingent numbered thirteen, Over forty of our members attended the R.A.S.C. General Assembly held there in May 1964. In April 1965 thirty-five members travelled by car and chartered bus to a joint meeting of the Ottawa and Montreal Centres at which Dr Donald MacRae was the speaker.

In July 1950 five members of our Centre attended the meetings of the American Astronomical League at Wellesley College, Massachusetts. The highlight of that weekend was a trip to Oak Ridge Station of Harvard Observatory where Dr Harlow Shapley was host and where we rode on the platform to the eyepiece of the 61" reflector. From that time on, our Centre was represented at many meetings of the American Astronomical League in all parts of the country. These meetings had an added interest for us when combined with meetings of the Association of Lunar and Planetary Observers (A.L.P.O.), for several of our members, namely, Geoffrey Gaherty, Klaus Brasch, George Wedge, Kenneth Chalk, became active members of the latter organization.

February 1956 was before the days of the R.A.S.C.Annual General Assembly. There was just the Annual Meeting on the Friday evening, followed by the At-Home, but six members of the Montreal Centre travelled to Toronto to be there when Mr Frank DeKinder was presented with the Chant Medal.

The May 1956 meeting of the AAVSO was held at Cornell University in Ithaca, N.Y. and therefore had a special attraction for our Centre, for that was the territory of Dr Carl W. Gartlein to whom we had reported aurora for many years. And so a group of nine members attended. This meeting, too, was the first of many for our members. The spring meetings of the AAVSO might be some distance away, (only Mr and Mrs DeKinder went to Long Beach, Calif., and Jim Low and Isabel Williamson were the only Canadians at St. Louis, Mo.) but the annual meetings held in the fall are always in Massachusetts and one can expect to see a group of Montrealers. Among those attending most regularly are Frank DeKinder, Charles Good, Frank Morgan and Isabel Williamson who are active members of the AAVSO.

In 1958 our National Society for the first time held its Annual Meeting outside of Toronto. The Hamilton Centre was host on that occasion and five of our members attended. The Montreal Centre was delighted when the Society instituted the two-day Annual General Assembly to be held in the early summer separate from its Annual Meeting and outside of Toronto every alternate year on invitation from the Centres. Naturally, more of our members can attend when the General Assembly is close to Montreal. As has already been mentioned, a very large group went to Ottawa in 1964, and at Toronto, too, our Centre is always well represented. For more distant meetings - Edmonton, Winnipeg and Calgary - several Montrealers have managed to make the trip. Through these gatherings we now know members of our Society from coast to coast.

Not only have groups of members attended astronomical conventions but individual members on vacation seem to gravitate towards observatories and astronomical societies. We would venture to say that there are few professional observatories on the North American continent that have not been visited by one or another of our members. Tom Noseworthy, Dot Yane and A. V. Madge are among those who have visited Mount Palomar. Many have seen the Dominion Astrophysical Observatory at Victoria. Jim Low and Constantine Papacosmas have covered many miles visiting astronomical groups in Canada and the United States. And the peregrinations of our members have not been limited to North America. On his frequent trips to England, Geoffrey Gaherty became acquainted with members of the British Astronomical Association. Dr Jean-Pierre Jean and Jacques Dumas were royally entertained by amateur astronomers in Mexico. On a vacation in Bermuda, Alfred Capper spent some time with Dr Morley Nash of the local astronomical society.

On their return, the travellers always had much tell, and the lines of communication continued to grow. It has been an enriching experience for all of us. As one of our members puts it, astronomy knows no frontiers.

- Isabel K. Williamson

*** CHAPTER 16 ***

THE MONTREAL CENTRE IS HOST

Having enjoyed the hospitality of so many groups, the Montreal Centre was only too glad to return the invitations, and on three occasions in little over a decade the Centre has been host to astronomical conventions.

The first occasion was in 1957 when the Montreal Centre and Sir George Williams College were joint hosts for the spring meeting of the AAVSO, held on May 31st to June 2nd. The members on the Committee of Arrangements really appreciated then all the work that had gone into the gatherings that they had attended. Sir George Williams provided the facilities for the meetings; the executive of the AAVSO, which included Richard Hamilton as President, Mrs. Margaret Mayall as Director and Clinton Ford as Secretary, was responsible for the meetings and paper sessions; the Montreal Centre looked after registration and planned the special events. For these special events, since there is no professional observatory in Montreal, we concentrated on the cognate subject of the weather. Dr J. S. Marshall of the McGill Stormy Weather Group gave the Friday evening address, his subject being "Storm Studies by Radar". On Sunday the group was taken on a tour of the Dominion Weather Bureau at Dorval, which included the radar reception office and the airport control tower. We were then fortunate in being able to offer our guests a courtesy flight over the city and the St. Lawrence Seaway Project which was then under construction. A reception followed the Friday evening lecture, and a dinner at the Laurentien on the Saturday was followed by Open House at our Centre's little observatory. The organizational work for all these events was in the capable hands of Bill Warren and Marjorie Clark and their Committee.

In April 1960 the Montreal Centre was host for the R. A. S. C. General Assembly. The Executive of the National Society was naturally responsible for the meetings and business periods but, because it was our own Society, we were more involved than we had been for the AAVSO meeting in 1957. This was the Society's second two-day Assembly, and for the first time there was an exhibit of the Centres' observational work and activities. The Edmonton Centre display included a six-foot model of the Queen Elizabeth Planetarium, which was the forerunner of the many planetariums in Canada to-day. Over two hundred people gathered in the auditorium of McGill's new McConnell Engineering Building on the opening night and heard Dr Andrew McKellar's Presidential Address. (We had reason to remember this address quite vividly for it was less than a month later that we learned of Dr McKellar's sudden death.) We were pleased and proud when the Chant Medal was presented to Earl Milton of the Edmonton Centre, for Earl was first a member of the Montreal Centre and retained his membership here when he joined the Edmonton Centre. It was at this Assembly that the first Service Awards were made and Charles Good was one of the recipients. Four members of the Montreal Centre - John Ruiz, Geoffrey Gaherty, Frank Morgan and Fred Lunn - presented papers at the paper session on Saturday. Luncheon at the Berkeley Hotel, a tour of the city for our guests, with afternoon tea at the Helène de Champlain Restaurant through arrangements made by le Centre Français, and Open House that evening at our Centre's observatory completed the program. It was a busy time, with over forty of our members serving on one or more of the sub-committees.

Over Labour Day weekend in 1962, the Montreal Centre was host to the 10th Convention of the Association of Lunar and Planetary Observers. This was the first time the A.L.P.O. had met outside of the United States. As numbers go, it was a small convention with less than a hundred persons registered, but thirteen States, including such far away places as California, New Mexico and Texas, were represented as well as Ontario and Quebec. Once again Bill Warren was chairman of the Convention Committee, assisted by Bill Cullinan, Geoffrey Gaherty and George Wedge, while other members served on sub-committees. The Director of the A.L.P.O., Walter Haas, had planned a real down-to-business convention with three paper sessions - Saturday afternoon, Sunday afternoon and Monday morning - and the third session was as well attended as the other two. The members of the Montreal Centre who were also members of the A.L.P.O. made a substantial contribution to these meetings. Geoffrey Gaherty chaired the second paper session, and the following papers were presented by our members:- "Some Observations of the Lunar Features Heraclitus and Licetus" by George Wedge; "Theoretical Aspects of the Lunar Meteor" by Kenneth Chalk; "Calculations of Mercury Transit 1960" by David Zackon; "Lunar Meteor Search" by Mme. Jean-Pierre Jean, and "Resolution, Contrast and Seeing in Observing the Planets" by Charles Giffin who, although not a Montrealer, was a member of our Centre at that time. The business meetings were held at Sir George Williams College. At a dinner in La Salle Canadienne of Windsor Station on Sunday evening, Dr Joel Goodman gave an illustrated talk on amateur astronomers of the British Astronomical Association whom he had met during a year's sojourn in England. According to the program, there was Open House at our Centre's Observatory but actually the building was open on all three evenings and several bull sessions took place there.

It was good to be "at home" to our friends on these occasions and it is hoped that the Montreal Centre thereby contributed to the spirit of friendly co-operation that exists between the organizations. The Centre has also had the pleasure of welcoming at its Observatory individual visitors from all parts of the country - we could say, the world, for the list includes people from Great Britain, Switzerland, Australia and Argentina. The welcome mat is always out.

- Isabel K. Williamson

*** CHAPTER 17 ***

R.A.S.C. AWARDS TO MEMBERS OF MONTREAL CENTRE

THE CHANT MEDAL

At the National Council meeting of March 29, 1940, the Chant Medal was established, marking the fiftieth anniversary of the incorporation of the National Society. The following motion was proposed by Andrew Thomson and Peter M. Millman and carried:

"That
in recognition of the long and outstanding service of Professor C. A. Chant to the Royal Astronomical Society of Canada there be established by the Society a silver medal to be known as the Chant Medal,

"that
this medal be awarded, not oftener than once a year, to an amateur astronomer resident in Canada; the award to be made on the basis of the value of the work which he has carried out in astronomy and closely allied fields of original investigation,

"that
a Chant Medal committee of at least three members be appointed by the Council of the Society. This Committee to consider nominations of candidates believed eligible for the award and to make a selection."

Three members of this Centre have been awarded Chant Medals.

Miss I. K. Williamson received this medal for 1948. From the document submitted by the executive of the Centre, it was stated that she planned and directed Star Nights to give the public an opportunity for observation. Among other things, she organized group observational programs, and received praise for the quality of Aurora and Meteor Observations made by her groups.

Mr Frank J. DeKinder was awarded this medal for 1955. The citation referred to his contributions as lecturer, translator, organizer and observer, as well as his efforts in connection with the Centre's new observatory.

Mr DeLisle Garneau was awarded the Chant Medal for 1951. Although nominated by le Centre Français, Mr Garneau was also a member of long standing in this Centre. He had done much systematic observing, and did much to interest others in astronomy.

THE SERVICE AWARD

In 1959, the Service Award was established, and "is a small bronze plaque which may, upon the recommendation of a special Committee of the National Society, be awarded to members of the Society who have performed outstanding services to a Centre or to the National Society. Centres are requested to limit nominations for this Award to one every three years on the average." On a national basis, several awards are made each year, and in the nine years this Award has existed, three members of the Montreal Centre have received it.

Charles M. Good was the first member of this Centre to receive the award, in 1960. From the June 1960 Journal: "... Mr Good has served the Montreal Centre continuously since 1943 in such varied offices as Councillor, Librarian, Vice-President, President and Representative to National Council. He was in a large measure responsible for the establishment of the Centre's Observatory, and has participated in observations, particularly occultations, of which he is Chairman. For many years he has ably directed the very effective public relations of the Montreal Centre."

E. E. Bridgen received this award in 1963. The following is from the citation published in the June 1963 Journal: "... Mr Bridgen has been a member of this Centre for more than thirty years and during the last fifteen has capably served in various executive offices. During all this time, without exception, new members have received from him a most cordial welcome to the Centre and helpful instruction in the basic elements of constellation and stellar identification. He has been a leader in interpreting astronomy to the Boy Scouts, Wolf Cubs, Girl Guides and church groups throughout the city of Montreal. Conscientious in his duties, meticulous in his manner and humble in his work, he has earned the highest esteem of his associates as evidenced by this award."

William A. Warren was awarded this award in 1966. In the June issue of the Journal for that year, the following was published: "... Mr Warren served as Council member and Vice-President immediately prior to his three years as President 1963-4-5. Mr Warren has given generously of his time and talents to the advancement of the Montreal Centre and to the R.A.S.C. as a National Society. Mr Warren has devoted many hours to instructing Boy Scouts and Girl Guides in preparation for their astronomical badges. He has participated in various phases of the Centre's observational programme, including lunar and planetary work; he is chairman of the fireball and meteor section."

THE MEMBERSHIP CERTIFICATES

This award was established at the National Council meeting of January 6, 1961. From the minutes of that meeting, the following resolution was passed, establishing the Membership Certificates:

"that
the Certificate be awarded only to members of not less than five consecutive years standing,

"that
it be treated as a minor service award and that recommendations of members to whom it was to be awarded be made through the Executive of a Centre for the approval of the National Council and that the National Council may award it to "unattached" members who had rendered singular service to the Society. ..."

Many members of this Centre have received Membership Certificates, and their names are listed at the end of this book.

- James Low

*** C H A P T E R 18 ***

POTPOURRI

We come to the final chapter of our little history and there is still much to tell, many aspects of the Centre's activities that have not yet been mentioned.

In one slim volume we could not include all the amusing incidents. Each member has his own store of recollections, but do you remember -

- when our highly respected, and respectable, Dean Hall was on his way home from an all-night meteor watch, carrying his own deckchairs, and was stopped by the police? "Where are you going with those chairs?"

- DeLisle Garneau's remark when he saw his first high-flying migratory bird cross the sun's disk? "I knew it wasn't a sunspot when I saw it flap its wings.

- when Charles Good and Constantine Papacosmas, looking very smart in their navy blue blazers with the Society's crest, were mistaken for bellboys in a Philadelphia Hotel? "Boy, would you take my bags?"

Some of the Centre's activities have been in the nature of public services, the most important, perhaps, being the work of our members among young people. The boys who were fortunate enough to come under the influence of Mr E. Russell Paterson in the Boy Scout Association soon became aware of his interest in astronomy. The Centre's Minute Book contains several references to organized observations carried out by his Scouts. Our records also show that over thirty members have taken the time to prepare groups of Boy Scouts and Girl Guides for their badges in astronomy. Those who have done so for prolonged periods include Mrs Gwenda Hall, Mrs Katherine Zorgo, Frank Henshaw, Mrs Dorothy Yane, Alex MacLennan, Tom Topham, W. A. Warren, Frank DeKinder, W. E. Leeson, Mr and Mrs E. E. Bridgen, Charles Good and Isabel Williamson. It has recently been the custom, whenever possible, to make an occasion of the final examination by holding it at the Centre's observatory.

In the summer of 1958, Geoffrey Gaherty, Klaus Brasch and Constantine Papacosmas conducted a series of talks and demonstrations at the YM/YWHA urban camp in Montreal. Other young members have given instruction in astronomy while serving as counsellors at summer camps.

There is no complete record of the members who have given talks to classes of students and to various church and community groups. Their number is legion and the names of many would not be familiar to members to-day. We are reminded of Mr Frank S. McKergow who was an older man when he joined the Centre. Sunday after Sunday a group of about sixty young children sat spellbound while he told them about the sun, moon and stars. He was so eager to share his delight in astronomy that while standing on a corner waiting for a bus he would invite people to look through his small scope!

For over three years - from January 1944 to March 1947 - the Montreal Centre ran a weekly column in the N.D.G. "Monitor", covering the activities on Wilson Avenue and current astronomical phenomena. In the autumn of 1949, a series of short radio talks was given by our members on Thursday evenings over CFCF-FM. These were 'live' talks, and Mr E. Russell Paterson, who had arranged and edited the series, was always on hand with a paper up his sleeve in case something happened to the scheduled speaker. On the Thursdays of the Centre's lecture meetings, an FM-receiver was brought to the lecture hall so that everyone could listen in to the talk prior to the meeting. Members of the Centre have been featured in newspaper articles and interviewed on radio and television from time to time. In 1963 members appeared several times as panelists on the junior science television series, "Let's Find Out".

The Centre has supplied the newspapers with data on astronomical phenomena such as eclipses, meteor showers and artificial satellites. In the absence of a professional observatory and before the opening of the Dow Planetarium, the Montreal Centre was regarded as the source of astronomical information by the English-speaking public, numerous enquiries being referred to the Centre. Some requests came from organizations that required information for very specific purposes. Among our regular customers, for instance, were the printers of calendars who needed the dates of phases of the moon.

The Centre has had the opportunity of participating in hobby shows and similar events. In November 1951, Charles Good and Robert Venor arranged an astronomical display which was on exhibit for two weeks at the YM/YWHA with members of the Centre in attendance. In April 1953 Alex MacLennan and Tom Topham were responsible for a display at the hobby show of the St. Lambert Home and School Association. In the fall of that year, Robert Venor and Mel Pyne demonstrated mirror grinding at the hobby show of Queen Mary Road United Church. Alex MacLennan and Isabel Williamson arranged an exhibit for one of the Sun Life hobby shows. Karl McNamara and Alfred Capper were in charge of a display at the Natural Science class of Sir George Williams.

For the past fourteen years, members of the Montreal Centre have been responsible for certain routine calculations required annually for the R.A.S.C. Observer's Handbook. Among those making this contribution were Mrs Dorothy Yane, Mrs Maude Towne, Geoffrey Gaherty and Miss Isabel Williamson.

Regarding the members of the Montreal Centre who also belong to other astronomical organizations, it has often been the Royal Astronomical Society that fostered their initial interest in astronomy. Serious amateurs eventually gravitate towards some particular field of observation and they then naturally reach out to others engaged in the same work. Thus, as their interest in lunar and planetary work developed, Geoffrey Gaherty, Klaus Brasch, Kenneth Chalk and George Wedge joined the Association of Lunar and Planetary Observers, and the first three named accepted the office of Recorder for the A.L.P.O. Similarly, of the members of the Montreal Centre who subsequently joined the AAVSO, Frank Morgan, Frank DeKinder, Charles Good and I. Williamson have served on the Council of the AAVSO, and Charles Good is presently Chairman of the Occultation Division and Frank DeKinder is the President of that organization.

Several enterprising members have designed and built their own observatories. Each building is unique and serves the particular purposes of its owner.

It was the time lost in setting up his telescope each day for his lunch-hour observation of the sun that spurred Mr DeKinder on to build an observatory in the garden of his home. Now his 4-inch refractor, permanently mounted and with motor drive, is always in readiness.

Fred Lunn's interest centered on astrophotography. The observatory he built to merge into the architectural style of his home and the sophisticated equipment it contained were described in the paper he presented at the 1960 R.A.S.C. General Assembly.

As Jim Low had no facilities for observing in Montreal, he kept his 8-inch reflector at his parents' home in Ottawa. There he built an inexpensive but effective structure to house the instrument so that it would be ready to use whenever he went home.

When in Montreal, Lucienne Bridgen observed from the roof of her house, and she designed an ingenious sentry-box cover for her 4-inch refractor. It was on castors so that it could be rolled away and was much less trouble than setting up the telescope each time.

Jacques Dumas felt that he needed an observatory most in the winter and so he designed a sectional building that could be disassembled quite easily in the summertime and either stored or transported to another location. When in position, it has an appearance of permanency, with equatorial mounting and a clock drive for his 6-inch reflector.

Harry Boshouwers built his own home and therefore it was just another step to add an observatory on the roof of the garage with an entrance through the house. He successfully coped with a number of problems when constructing the dome. His observatory houses a 6-inch reflector.

Dr Leonard Orr wanted protection from the cold when observing lunar occultations, and so he, too, built a small transportable observatory. (When he left for the West Coast, he turned this little observatory over to one of the Centre's younger members.)

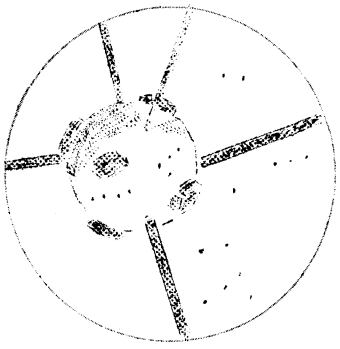
The most ambitious project was that of Alfred Capper. High on a hilltop in the Laurentians, he built Pine Top Observatory, having first made a road and cleared the land. His observatory houses a whole battery of instruments, and since it is some distance from his summer home, he included sleeping accommodation in his plans.

At his home in Greenfield Park, Frank Morgan built a small wooden observatory to house his 6-inch reflector. His main interest is variable star work and with the observatory he can make more effective use of his observing time.

Some of these observatories are described in detail in articles that have appeared in the Centre's newsletter "Skyward". It would seem that if ever the Centre builds an observatory, the pooling of all this initiative and ingenuity could produce some outstanding results.

The Montreal Centre has not had the close association with a professional observatory that the Centres at Ottawa, Toronto and Victoria have enjoyed, but the warm and cordial relationship that has existed between the Montreal Centre and the professional astronomers within our Society has been a source of great encouragement. During the expansion of its observational program, the Centre has owed much to Dr John Heard, Dr Helen Hogg and Miss Ruth Northcott of the David Dunlap Observatory, Miss Miriam Burland and Mr Malcolm Thomson of the Dominion Observatory, Dr Peter Millman of the National Research Council, and Dr Robert Petrie and Dr K. O. Wright of the Dominion Astrophysical Observatory.

As the Montreal Centre completes its fiftieth journey around the sun, there are among its members many alert young people who have joined within the last year or two and whose names do not appear on these pages. That is as it should be, for this is a history. To them belongs the future, not the past!



APPENDIX I

OFFICERS OF THE MONTREAL CENTRE
For Years 1918 to 1968

Honorary Presidents

1922-47	Mgr. C. P. Choquette
1947-58	G. Harper Hall
1958-64	Dr A. Norman Shaw
1965-68	Dr Henry F. Hall

Honorary Vice-Presidents

1947-58	Dr A. Norman Shaw
1961-63	E. Russell Paterson
1961-65	Dr Henry F. Hall
1965-68	Dr Robert Hardie

Presidents

1918-20	Mgr. C. P. Choquette
1920-22	H. E. S. Asbury
1922-25	Justice E. E. Howard, K.C.
1925-27	Lt.Col. W. E. Lyman
1928-30	Dr A. H. McCordick
1930-32	Dr L. V. King
1932-34	G. Harper Hall
1934-36	George.R. Lighthall
1936-38	Dr Henry F. Hall
1938-39	E. Russell Paterson
1939-41	Frank J. DeKinder
1941-45	Daniel P. Gillmor, K.C.
1945-47	Dr Henry F. Hall
1947-50	John W. Duffie
1950-52	Miss Isabel K. Williamson
1952-54	Dr Donald E. Douglas
1954-57	Charles M. Good
1957-60	Alex R. MacLennan
1960-62	E. E. Bridgen
1962-65	William A. Warren
1965-66	Charles M. Good
1966-68	Dr Jean-Pierre Jean

Vice-Presidents

1918-20	H. E. S. Asbury
1920-22	Justice E. E. Howard, K.C.
1922-23	Dr A. S. Eve
1923-24	H. E. S. Asbury
1924-25	Dr A. S. Eve
1925-27	Rev. W.T.B. Crombie
1927-29	H. E. S. Asbury
1929-30	Dr J. B. McConnell
1930-32	G. Harper Hall
1932-34	D. A. Murray
1934-37	Dr Julian C. Smith
1937-39	Frank J. DeKinder
1939-40	Prof. A. H. S. Gillson
1940-44	G. Harper Hall
1944-45	Dr Henry F. Hall
1945-49	Frank J. DeKinder
1949-52	Dr Donald E. Douglas
1952-54	Charles M. Good
1954-56	Dr Henry F. Hall
1956-57	E. E. Bridgen
1957-59	Dr T. F. Morris
1959-62	William A. Warren
1962-63	William H. Gilbert
1964-65	Dr T. F. Morris
1965-66	Dr Jean-Pierre Jean
1966-68	Bryan H. Rawlings

Vice-Presidents

2nd Vice-Presidents

1921-22	Dr A. S. Eve
1922-23	H. E. S. Asbury
1923-25	Prof. A. H. S. Gillson
1925-27	H. E. S. Asbury
1927-28	Justice E. E. Howard, K.C.
1928-29	Lt.Col. W. E. Lyman
1929-34	Dr Julian C. Smith
1934-35	O. A. Ferrier
1935-37	Frank J. DeKinder
1937-39	Dr Julian C. Smith
1946-47	Dr W. Bruce Ross

OFFICERS OF THE MONTREAL CENTRE (continued)
For Years 1918 to 1968

Secretary-Treasurer

1918-22	Rev. W.T.B.Crombie
1922-24	A. W. Strong
1929-34	Dr A. Vibert Douglas
1935-39	Dr A. Vibert Douglas
1939-41	Dr Henry F. Hall

Secretary

1924-29	Dr A. Vibert Douglas
1934-35	J. W. Speight
1941-45	Dr Henry F. Hall
1945-47	John W. Duffie
1947-54	Dr Henry F. Hall
1954-57	Dr Charles Fox
1957-60	E. E. Bridgen
1960-63	W. J. Cullinan
1963-66	Miss Ella Dack
1966-68	Walter Jutting

Assistant Secretary

1928-29	Miss V. Johnston

Recording Secretary

1920-22	H. E. Markham
1922-23	L. E. Sessenwein
1923-24	Rev. W.T.B. Crombie
1942-50	Miss I. K. Williamson
1950-58	E. E. Bridgen
1958-60	Miss M. Clark
1960-63	Miss J.Musgrave (Mrs Hulley)
1963-68	W. J. Cullinan

Asst. Recording Secretary

1923-24	Dr A. Vibert Douglas

Treasurer

1924-29	A. J. Kelly
1934-35	Dr A. Vibert Douglas
1941-45	Frank J. DeKinder
1945-47	Alex R. MacLennan
1947-56	C. N. S. Yarnell
1956-58	Frank W. Baker
1958-62	John MacDonald
1962-63	E. E. Bridgen
1963-65	T. T. Topham
1965-68	Alfred H. Capper

Librarian

1935-43	Frank J. DeKinder
1943-45	John W. Duffie
1945-54	Charles M. Good
1954-57	Miss I. K. Williamson
1957-65	Charles M. Good
1965-66	Alex R. MacLennan
1966-68	Donald Frappier

Chairman of Telescope Committee (1945- Director of Observations)

1934-42	G. Harper Hall
1942-50	DeLisle Garneau
1950-64	Frank J. DeKinder
1964-68	Miss I. K. Williamson

Asst.Director of Observations

1957-64	Miss I.K.Williamson

Director of Observatory

1964-68	Louis R. Duchow

OFFICERS OF THE MONTREAL CENTRE (continued)
For Years 1918 to 1968

Council Members

1918-19	Lt.Col. R. Wilson
1918-21	Lt.Col. W. E. Lyman
1918-23	J. Corway
1918-23	James Weir
1918-29	George Sample
1919-24	Miss M. Ellicott
1920-22	Mgr. C. P. Choquette
1920-23	F. R. Robert
1921-23	Dr L. V. King
1922-23	Prof. A. H. S. Gillson
1923-24	Dr A. S. Eve
1923-24	E. W. Pask
1923-27	Dr Julian C. Smith
1924-25	Lt.Col. W. E. Lyman
1924-25	J. L. Clarke
1924-25	H. E. S. Asbury
1925-27	Prof. A. H. S. Gillson
1925-27	E. E. Howard, K.C.
1925-27	H. W. Jesmer
1925-35	Dr A. S. Eve
1926-30	J. T. Armand
1926-31	Jos. Lutrell
1927-28	Lt.Col. W. E. Lyman
1927-29	Dr J. B. McConnell
1927-29	P. A. Waterman
1927-30	Miss J. Fleet
1928-34	E. E. Howard, K.C.
1929-30	A. Browning
1929-33	H. E. S. Asbury
1929-41	Lt.Col. W. E. Lyman
1930-31	Dr Bell Dawson
1930-32	Dr F. R. England
1930-32	Miss Thibeaudeau
1930-32	Dr C. C. Birchard
1930-34	Dr A. H. McCordick
1932-34	O. A. Ferrier
1932-34	Dr W. D. Lighthall
1932-38	Dr L. V. King
1934-35	Frank J. DeKinder
1934-36	Dr Henry F. Hall
1934-38	E. Russell Paterson
1934-40	G. Harper Hall
1934-41	Dr C. C. Birchard
1935-43	O. A. Ferrier
1935-47	Dr A. Norman Shaw
1935-41	J. Addison Reid
1936-43	George R. Lighthall
1938-39	Dr Henry F. Hall
1939-41	E. Russell Paterson
1939-43	Alfred M. Donnelly
1939-50	Francis P. Morgan
1941-43	DeLisle Garneau
1941-46	Dr W. Bruce Ross
1942-43	John W. Duffie
1942-45	J. E. Guimont
1942-49	E. Russell Paterson
1943-45	Charles M. Good
1943-49	Dr Donald E. Douglas
1944-45	Dr David A. Keys
1944-47	G. Harper Hall
1945-46	Prof. A. H. S. Gillson
1945-46	Frank T. Matthews
1945-48	Frank W. Henshaw
1946-49	Ross Ford
1946-49	Arthur Kneeland
1946-49	W. H. C. Morton
1946-50	Daniel P. Gillmor, Q. C.
1946-51	Alfred M. Donnelly
1947-48	Alex R. MacLennan
1947-50	Dr W. Bruce Ross
1948-50	E. E. Bridgen
1949-50	Frank J. DeKinder
1949-51	T. Archibald
1949-52	T. O. Plant
1949-52	Paul S. Scott
1949-52	Robert Venor
1950-51	DeLisle Garneau
1950-52	John W. Duffie
1950-53	W. H. Birtles
1950-53	Alex R. MacLennan
1950-53	R. O. Stevenson
1950-54	Dr A. I. McPherson
1951-54	W. E. Leeson
1951-54	Mrs Katherine Zorgo
1951-54	W. J. Yorgan
1952-54	Miss I. K. Williamson
1952-55	J. P. Standfast
1952-55	Eugene B. Charters
1952-56	Brian Cockhill
1953-56	E. Russell Paterson
1953-56	A. L. Burran
1954-56	Alfred M. Donnelly

OFFICERS OF THE MONTREAL CENTRE (continued)
For Years 1918 to 1968

Council Members

1954-56	S. B. Lindsay	1961-64	Mrs Rita Prezament
1954-57	Donald Frappier	1962-64	Louis R. Duchow
1954-57	T. T. Topham	1962-65	Dr Jean-Pierre Jean
1954-60	Dr Donald E. Douglas	1962-65	M. Ferraris
1955-58	W. H. Birtles	1963-65	Klaus R. Brasch
1955-58	William A. Warren	1963-65	Alfred H. Capper
1956-57	A. E. Edwards	1963-66	G. Corby
1956-57	Dr T. F. Morris	1964-66	M. R. Pyne
1956-57	Miss Rosemary Jamieson	1964-66	Bryan Rawlings
1956-59	George B. Moxon	1964-67	Karl McNamara
1956-59	Miss C. Scott (Mrs Jeffery)	1964-67	Constantine Papacosmas
1957-59	G. C. Baron	1965-66*	William A. Warren
1957-60	Dr Charles Fox	1965-67	Dr George Fortier
1957-60	Gordon M. Pender, Q.C.	1965-68	Dr T. F. Morris
1957-60	George Wedge	1965-68	Kenneth T. Chalk
1958-60	Sidney M. Sundell	1965-68	Manual Lazar
1958-61	H. Vickerson	1966-67	James Low
1959-62	Dr T. F. Morris	1966-67	R. A. Moore
1959-62	H. Bunker	1966-68	Heinz B. Berrys
1959-62	William H. Gilbert	1966-68*	Charles M. Good
1960-63	Dr H. E. Lehmann	1967-68	Donald Davis
1960-63	T. T. Topham	1967-68	J. A. Dumas
1960-63	F. Lunn	1967-68	Howard Simkover
1960-65*	Alex R. MacLennan	1967-68	Sidney S. Sundell
1961-64	Geoffrey Gaherty	1967-68	Mrs Rita Prezament

* As Immediate Past President

A P P E N D I X II

R.A.S.C. AWARDS TO MEMBERS OF MONTREAL CENTRE
(With Year in which Award was made)

THE CHANT MEDAL

1948 Miss Isabel K. Williamson
1951 DeLisle Garneau
1955 Frank J. DeKinder

THE SERVICE AWARD

1960 Charles M. Good
1963 E. E. Bridgen
1966 William A. Warren

MEMBERSHIP CERTIFICATES

1962 R. T. Gaunt
E. Russell Paterson
Dr A. Norman Shaw
S. B. Lindsay
Dr Henry F. Hall
Francis P. Morgan
Alfred Donnelly
Miss Mary Stalker
W. J. Yorgan
Mrs Katherine Zorgo

1963 Dr Donald E. Douglas
John W. Duffie
A. Fyfe
Alex R. MacLennan
George B. Moxon
T. O. Plant
J. P. Standfast
Georges Emond
Frank W. Baker
Robert Venor

MEMBERSHIP CERTIFICATES

1964 Dr David A. Keys
William A. Warren
Thomas T. Topham
Brian Cockhill
David Zackon
Donald Frappier
Sidney M. Sundell
Mrs Dorothy Yane
M. R. Pyne
Dr T. F. Morris

1965 Miss Elizabeth Robertson
Dr Robert Hardie
Dr Charles Fox
Joe Blitt
Constantine Papacosmas
Victor Williams
Mrs Wilma Clark
Mario Ferraris
George Wedge
Mrs Rita Prezament

1966 Judge Gordon M. Pender
Klaus R. Brasch
William J. Cullinan
Geoffrey Gaherty
Bryan Rawlings
James Low
Louis R. Duchow

1967 Frank J. DeKinder
O. (Pat) Cardella
Dr Jean-Pierre Jean
Kenneth Chalk
Miss Ella Dack
Robert Hawkins

A P P E N D I X III

CHRONOLOGICAL TABLE OF MEMORABLE EVENTS

May 28, 1918	Organizational meeting called
Sept. 12, 1918	First regular meeting of Montreal Centre
Jan. 24, 1925	Total eclipse of sun. Members travelled to Hamilton
Aug. 31, 1932	Total eclipse of sun in vicinity of Montreal
November 1932	6-inch refractor purchased by Centre
May 26, 1934	First observation meeting at Sun Life Buildibg
Mar. 26, 1935	Formation of library approved by Council
Sept. 12, 1935	Accident to objective of 6-inch refractor
June 5, 1942	First observation meeting at Wilson Avenue
May 16, 1945	Centre's first Star Night
Oct. 9, 1946	Giacobinid Meteor Shower
March 1948	First issue of "Skyward"
August 1948	A.V.Whipple telescope wins award at Stellafane
January 1949	Chant Medal presented to I. K. Williamson
Oct. 26, 1950	First organized telescope making class
January 1951	Chant Medal presented to DeLisle Garneau
June 30, 1954	Total eclipse of sun. Members travelled to Mattice
Nov. 20, 1954	First meeting at present observatory
Sept. 7, 1955	G. Horsley Townsend Bequest received by Centre
February 1956	First Townsend Memorial Lecture - Dr Harlow Shapley
February 1956	Chant Medal presented to Frank J. DeKinder
Aug. 20, 1956	Equatorial mounting installed in Observatory
May 1957	Montreal Centre host to AAVSO
April 1960	Montreal Centre host to R.A.S.C. General Assembly
April 1960	Service Award to Charles Good
Aug. 12, 1960	First passage of Echo I observed
September 1962	Montreal Centre host to A.L.P.O.
March 1963	Service Award to E. E. Bridgen
July 20, 1963	Total eclipse of sun visible through Quebec
April 1964	Montreal Centre incorporated under Provincial Charter
March 1966	Service Award to W. A. Warren

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