

NATIONAL NEWSLETTER

February, 1977



—Courtesy Canadian National Railways

Toronto! Site of the 1977 General Assembly, scheduled to begin Thursday, June 30, 1977. Participants in the Assembly will be able to view the city from the CN Tower, the world's tallest public viewing gallery. Further details are contained elsewhere in this issue.

NATIONAL NEWSLETTER

February, 1977

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THE NATIONAL NEWSLETTER

c/o Norman Green

McLaughlin Planetarium

100 Queen's Park

Toronto, Ontario

M5S 2C6

Deadline is two months prior to the month of issue.

Welcome!

Members will notice some changes in the masthead of this issue. We welcome Ralph Chou, Dr. J. D. Fernie, Nick Fraser, and Richard McDonald to the editorial staff. Mr. Chou will assist with the editing of copy and Dr. Fernie succeeds Dr. J. F. Heard as our scientific advisor. Mr. Fraser will assist with the layout and Mr. McDonald will assume the duties of our photographer.

Our thanks to retiring editors Marie Fidler and Celeste Peters for their help.

The editorial staff looks forward to serving you in the coming year.

1976 Centre Reports Due

Centres are reminded that reports of their activities and financial affairs during 1976 are now due and should reach the National Office no later than *March 1, 1977*. The reports will be included in the Society's *Annual Report*, which will be published as a *Supplement* to the *JOURNAL*.

The national by-laws require that the Secretary of each Centre must submit to the annual meeting of the Centre a report of the membership, meetings, and other activities of the Centre for the preceding fiscal year. After approval at the Centre's annual meeting, the report is to be submitted to the National Secretary.

Similarly, the by-laws require that each Centre's Treasurer must submit to the Centre's annual meeting of members an audited financial statement for the preceding fiscal year, including a statement of revenue and expenses, and a statement of assets and liabilities. After approval at the Centre's annual meeting, these statements are to be mailed to the National Treasurer.

For full details, please refer to Article 8 of By-law 1 and amendments thereto of the by-laws of the Society.

The co-operation of all centres in providing the above reports on or before *March 1, 1977* will be greatly appreciated.

Delays in Publications

Many members have enquired about the late arrival of the *JOURNAL* and *NATIONAL NEWSLETTER* during the past year.

A major cause stems from our dependence on the postal service. Moreover, since both publications do not usually have a backlog of material for publication, the need for fast, reliable mail service is particularly great.

For instance, when a *JOURNAL* article is received from an author, it is then mailed to referees, who then mail the article back to the editor with their comments. The article and referees' comments are then returned to the author who subsequently mails his revised copy to the editor. After printing, proofs must be mailed to the Assistant to the Editor in Calgary and to the authors. Corrected proofs must be mailed ... and so on.

The process for a *NATIONAL NEWSLETTER* article is somewhat simpler, but is still dependent on the mails.

The editorial staffs and the University of Toronto Press make every reasonable effort to keep our normal production schedule. Miss Freeman at the National Office mails the publications as soon as they come off the presses. However, when delays do occur, we would appreciate your patience and indulgence.

Nominations for RASC Executive and Council 1977–1978

The By-Laws of the Society provide for a Nominating Committee composed of the three surviving immediate past presidents, whose duty it is to prepare a slate of candidates for the offices of the Society.

During the General Assembly next summer, we must elect the following officer: Secretary. If any member wishes to make suggestions in this regard, he should contact the committee chairman, Dr. J. D. Fernie, c/o The National Office, 124 Merton Street, Toronto, Ontario, M4S 2Z2.

As well, the By-Laws provide that "any five members of the Society, in good standing, may nominate additional candidates for any office, provided that such nomination, accompanied by a letter of acceptance from the nominee shall be received by the Secretary of the Society, not less than sixty days before the date of the annual meeting."

It would be appreciated if any nominations and/or suggestions were submitted no later than April 1, 1977 to allow for the printing and mailing of ballots.

Full details pertaining to nominations are outlined in By-Law 1, Article 11(a), as published in the June, 1969 *JOURNAL*, pages 155–168.

Southwest Regional Convention

All amateur astronomers are welcomed to the 1977 Southwest Regional Convention in New Orleans on June 10–12, 1977. The Pontchartrain Astronomy Society of New Orleans has the distinct pleasure of hosting this event to give fellow astronomers the opportunity for comparing notes, discussing club and individual projects, meeting astronomers from different areas and having an interesting, enjoyable weekend in New Orleans.

The convention will be held at St. Mary's Dominican College located on St. Charles Avenue at Broadway in the historic Garden District.

The convention site offers complete facilities including dormitory (under \$30 for both nights), cafeteria, large auditorium complete with all audio-visual aids, meeting rooms and a fine planetarium, all situated on beautifully landscaped grounds.

We are inviting all amateur astronomers to attend and submit papers on your various individual projects and interests.

Registration and dormitory forms and applications for paper presentations are now available. Plan NOW to attend this unique event June 10–12 in New Orleans.

For further information, contact Steve Goldberg, Convention Chairman, 3500-284 Division Street, Metairie, La., 70002. Telephone (504) 889-0906.

IUAA 4th World General Assembly

The fourth World General Assembly of the International Union of Amateur Astronomers will be held during the last two weeks of August, 1978. For further information please write: The Secretary, Organizing Committee, IUAA 4th World General Assembly, 26 Cedarwood Park, Ballymun, Dublin 11, Ireland.

The U of A Campus Observatory

by **Dr. Doug Hube**
Edmonton Centre

The observatory was opened to the general public on September 17, and has been open every Friday evening since then to individuals and small groups. As of the time of this writing (December 6), we have had a total of 576 Friday night visitors. An additional 434 visitors have come on other days of the week with Cub, Scout and school groups. This attendance of over one thousand in less than three months has been very gratifying.

The academic staff members of the Astrophysics Group at the University could not operate this program alone. The apparent success of the program is largely due to the voluntary efforts of Mark Leenders, Stewart Krysko, Darrell Cross, Karen Finstad, John and Marilyn Woolley, Ivan Rogers, Kathy Simms, Nadine Sawyer, Keith Krause and Jim McElgunn. We have received invaluable assistance from the Planetarium in the form of display materials, brochures and monthly sky calendars.

While attendance at the Friday night sessions has fallen-off in recent weeks, presumably due to cold weather, interest remains high among Cub, Scout and school groups. We have already made several bookings for the month of January.

Our plans for the future largely involve an upgrading of our present facilities. We have applied for funds to remodel the 7th floor of the Physics building to give it more the appearance of a science museum than a warehouse. We hope to include models of various astronomical systems and phenomena, visitor-activated demonstrations of astronomically significant physical processes (e.g. in spectroscopy), and, perhaps, displays related to non-astronomical research in the Department of Physics.

Until further notice, visitors will be welcomed on Friday evenings (except holidays) beginning at 7 p.m. Reservations may be made by telephoning the PR office at 432-4201, although individuals without reservations are equally welcome. In the event of inclement weather which prevents use of the telescope, a modern astronomical film will be shown.

Reprinted from *Stardust*, Edmonton Centre

On Variable Stars

by **Steve O'Connor**
Montreal Centre

Valuable observations of variable stars are made every night throughout the world by serious amateur astronomers equipped with optics that range from binoculars to large, permanently mounted telescopes.

A good knowledge of the constellations and the use of different types and scales of charts are two important aspects of amateur astronomy with which the novice to variable star observing should be familiar before attempting to make any observations.

Variable star observing can be frustrating on occasion. A full moon staring you in the face while you're trying to pinpoint a faint variable, or clouds rolling in just before you're due to observe your most variable star of the night, can truly try your patience. The observer must master the trick of keeping calm at the eyepiece in spite of any distractions or problems.

International organizations such as the American Association of Variable Star Observers (AAVSO) publish chart catalogues for variable stars, which list hundreds of charts for many types of variable suitable for observation in many sizes of instrument. Long period variables seem to be the type best suited to the beginning variable star observer and predictions of times

of minima and maxima for several hundreds of these stars are available from AAVSO and other groups.

Binoculars can be very useful in variable star observing, for there are dozens of variables of all types which are too bright to be observed usefully with a telescope. Telescopes of increasing aperture will reveal many more variables.

Regardless of the size of your optics, the method of estimating the magnitude of the star is the same. On the chart is a list of field stars surrounding the variable, with their magnitudes. These are the comparison stars. By carefully choosing one comparison star which is slightly brighter than the variable, and one slightly fainter, a magnitude estimate is made in terms of these known brightnesses.

Times of observations are recorded to the nearest tenth of a day on the AAVSO report forms. These forms are provided to members of the AAVSO.

As the observer becomes more familiar with the observing technique, the rate of observations can increase greatly. Several observers known to this writer are able to make many hundreds of estimates each month.

All in all, variable star observing is a very rewarding field of study for the dedicated amateur astronomer.

From *Skyward*, Montreal Centre

The Stars of Mauna Kea

A New Presentation at Vancouver's MacMillan Planetarium
by David A. Rodger
Vancouver Centre

About a year ago, a patron came up to the lecturer following a show at the MacMillan Planetarium and asked about the fate of the Queen Elizabeth II telescope which was to have been built on Mount Kobau in British Columbia's southern Okanagan region. The patron was assured that although the Queen Elizabeth II telescope had been cancelled, Canada was involved in the development of a fine new major telescope to be located on Mauna Kea in Hawaii. The patron looked stunned by this news and asked the essential question, "Why is Canada building an observatory in Hawaii?" That question prompted the development of a new planetarium production entitled *The Stars of Mauna Kea* which opened December 3, 1976 at the Vancouver planetarium.

The Stars of Mauna Kea is designed not only to answer the question about Canada's participation in an observatory project over two thousand miles away from her shores, but to give an insight into modern astronomical methods and into the whole question of instrumentation and site selection. It begins, appropriately enough, on the beach at Waikiki, for this is the Hawaii well-known to countless thousands of North American tourists. Then the scene changes to the summit of Mauna Kea, where the Canada-France-Hawaii telescope may be seen under construction. The question about Canada's involvement is posed at this point, and this leads into a brief, fascinating discussion of Canada's contribution to astronomical knowledge in the past and the problems faced by the large Canadian observatories due to the spread of the cities nearby. During the subsequent scenes, the search for a site for a new major Canadian observatory is outlined, with the advantages and disadvantages of various Canadian locations being explained. The choice of Mount Kobau and the reasons for its ultimate demise are discussed, as are the terms of the subsequent agreement with France for the development of the Mauna Kea project. During the last scenes of the show, the locale is again Mauna Kea, as the nature of the site, its appeal and its challenges are outlined.

The Stars of Mauna Kea features a number of breathtaking panoramic scenes of Mauna Kea in the daytime and at twilight, as well as scenes of Honolulu, the Dominion Astrophysical Observatory in Victoria, and Mount Kobau. These scenes were photographed through a unique 360 degree actual-scene panorama system developed by the staff of the H. R. MacMillan Planetarium. When the slides of Mauna Kea obtained through the camera system are projected on the 20-meter planetarium dome/screen, the audience can almost feel the northeast trade winds blowing through the theatre! One panorama was even taken inside the big dome, which had just been structurally completed when Visual Design Technician Mike Koziniak and Planetarium Director David A. Rodger visited Mauna Kea in mid-October.

The National Museums of Canada awarded the Planetarium a \$22,000 grant to assist in the preparation of the show. Some of that money will be spent on the development of a narrated slide show to be made available to schools, museums, observatories, and clubs. The remainder will help in the development of a small exhibition, also capable of travelling, telling the story of the development of astronomical observation in Canada. Members with information relating to historical instruments and sites in Canada are urged to get in touch with Mr. Rodger as soon as possible. It is hoped that the exhibit can be ready to travel by the summer of 1977. Plans are also being made to prepare the planetarium show itself for travel to other major planetariums in Canada. The show will run in Vancouver until March 20, 1977.

(From *Cassiopeia*, the newsletter of the Canadian Astronomical Society. The author is the Director of the MacMillan Planetarium and a member of the Vancouver Centre.

Reprinted with permission.)

Ed. Note: Mr. Rodger may be reached at the H. R. MacMillan Planetarium, 1100 Chestnut Street, Vancouver, B.C. V6J 3J9.

Astronomy Update

Recent Results of Research in Astronomy

by Dr. Doug Hube
Edmonton Centre

The concentration of interstellar dust to the plane of the Galaxy prevents observation of the galactic centre at optical wavelengths. At infrared and radio wavelengths, however, observations of the centre are possible and they reveal the presence of a dense, complex concentration of luminous sources; whether ordinary stars or more exotic objects, is not clear. At a wavelength of 2.2 microns most of the radiation does appear to be coming from a very cool, luminous supergiant star. This object has a radial velocity of approximately -170 km/sec and is, presumably, in orbit about the galactic nucleus.

[*Astrophysical Journal* **209**, L115, 1 November 1976]

A number of observers have noted that the brightness of Saturn's A ring (the fainter part of the ring exterior to Cassini's division) is not uniform, in the sense that the two quadrants which have just passed through the Earth-Saturn line are fainter than the two quadrants approaching this line. An explanation for this behaviour has been given in a theory in which the ring particles are elongated and aligned in the direction of their orbital motion, which is a situation that would seem to arise naturally from particle collisions and differential motions across the ring. An alternative explanation is that a spiral wave exists in the ring in analogy with the density wave pattern which is believed responsible for the spiral structure in galaxies.

[*Nature* **264**, 344, 25 November 1976]

The first evidence for the existence of the molecule acetylene, C_2H_2 , outside the solar system has been found in the infrared spectrum of the peculiar object IRC+ 10°216.

[*Nature* **264**, 345, 25 November 1976]

Just beyond the limb of the visible hemisphere of the Moon at 30°N, 103°E lies the apparently very young crater Giordano Bruno, named after that unfortunate contemporary of Galileo who was burned at the stake for promoting the concept of an heliocentric universe in defiance of the Church of Rome. Of all lunar craters, Bruno has the largest ray length to crater diameter ratio. This fact, plus the very sharp and completely uneroded crater rim attests to its small age. Evidence has been found which suggests that Bruno is not only very young but, perhaps, the *youngest* major feature on the Moon's surface. In sworn, written testimony, five men in southeastern England claimed that on July 18, 1178, they observed an event near the limb of the Moon which is most easily interpreted as an impact. Confirmation is still to be found in contemporary written records from other areas of Europe where the Moon was also above the horizon after sunset at the time of the observed event.

[*Nature* **264**, 212, 18 November 1976]

A New Amateur Observatory

by Jack Newton
Toronto Centre



The author, Jack Newton, stands beside the partially completed dome of his new observatory.

When I was transferred from Winnipeg to Toronto in 1973, I had to leave behind my 10-foot backyard observatory. I soon discovered that Toronto was no paradise for an observational astronomer. And so I added a new factor to my list of criteria for the selection of my new home: light pollution. I finally decided on a house in Newmarket, about thirty miles north of Toronto. Newmarket was not too far from work or from a reasonably clear sky.

By mounting my 12.5-inch telescope on a trailer, I could easily transport it to darker skies just a few miles north of Newmarket. However, there were two obvious disadvantages to this arrangement: long set-up time and poor wind resistance for photography. Hence, I was continuously searching for a site on which to construct a new observatory. Nonetheless, my portable system was successful enough that I was able to begin photographing material for my new book, *Deep Sky Objects – A Photographic Guide*. The book will contain most of the Messier objects as well as some of the more interesting N. G. C. objects, all photographed to the same scale with the 12.5-inch telescope.

Last summer, I was introduced to Mr. Heinz Lorenz, who is setting up the Canadian Astronomical Research Group's (CARG) Innisfil Observatory on a 100-acre site twenty miles north of Newmarket. Mr. Lorenz was very sympathetic to my needs and agreed to allow me to construct on his property a 10-foot domed observatory for my 12.5-inch telescope.

Plans were quickly drafted and approved by all parties. The observatory would be located on a hill at the south end of the CARG site, 100 yards from their three storey building, which will house a 24-inch telescope presently under construction by Mr. Lorenz. This location permitted clear access to the entire sky, except for about ten degrees in the south-west.

The side of the hill was levelled and a 10-foot circle staked out on the ground. The hole for the pier was dug and a Sona tube was then filled with concrete. Bolts were sunk into the top of the pier to support the mount, which had been previously aligned to the celestial pole.

The dome was prefabricated in two sections in my garage. Arches were cut from 4-foot by 8-foot sheets of ½-inch plywood. These 4-foot struts were then laminated three thick and



Jack Newton used a 25-minute exposure on Tri-X film to obtain this view of the Pleiades. The photograph was taken on October 26, 1976 from his new observatory, using his 12.5-inch telescope.

glued to form the arches and the circle for the dome and the top of the wall. A 10-foot circle was chalked out on the driveway to aid in the construction. Masonite was used to cover the two halves of the dome. The floor was made of hand-mixed concrete four inches thick. Twelve bolts were sunk around the edge of the wet concrete floor. Later, the walls were attached to these bolts.

Once the wall was up, the two halves of the dome were trucked up to the site and assembled. Two days later, the observatory was finished.

The first photographs taken from the observatory showed little or no sky fog in 25 minutes of exposure on Tri-X at F/4.6. I am looking forward to many nights of excellent observing.

The Roosevelt of Astronomy. I.

by Dr. J. D. Fernie
Past President, R.A.S.C.

Astronomy, if we are to be honest, is not a subject that sustains any profound grip on the public mind. It has its place, of course, somewhere between bird-watching and home photography, about a light-year behind such issues as National Hockey League scores or the latest misdemeanors of the Federal Government. We have our eight-day wonders, the Comet Kohouteks and all that, but very rarely can it be said that an astronomical subject has held public attention year upon year. Meet, then, a man who singlehandedly achieved that distinction in the early years of this century: Percival Lowell.

Percival Lowell was born in Boston in 1855 with a very distinct silver spoon in his mouth. His family was immensely rich and carried all the social prestige of a long line of lawyers, diplomats, Congressmen, and the like, who could look back to the first Lowell's arrival in the New England of 1639. Talent abounded, particularly in Percival's generation: his brother would become President of Harvard; his sister, Amy, a literary star; and a cousin, James Russell Lowell, the foremost American man of letters of his day. None would attain more public recognition than Percival.

He received the very best of educations, both in the United States and Europe, and in 1876, aged 21, graduated from Harvard with distinction in mathematics, a prizewinner in history, and election to Phi Beta Kappa. His mathematics professor at Harvard had been Benjamin Peirce, who no doubt drew Lowell's attention to a good deal of astronomy, but it was in quite another direction that the young Percival first set out.

Throughout the 1880s he lived and travelled very extensively in Japan and other remote parts of the Orient, achieving such an intimate knowledge and understanding of those countries that he was later used as a consultant by various American agencies. Japan at that time had not long been opened up to Westerners, and was still much of a mystery to the Occidental mind, so that when Lowell began writing books about the East he found a ready readership. This was helped by his undoubted talents as a writer; he wrote in strong, direct, colourful language under titles such as *Choson – the Land of the Morning Calm* and *The Sound of the Far East*. His writing ability, not to mention his brilliance as a lecturer, would play no small role in his later astronomical affairs.

Returned to the United States in the early 1890s, Lowell, only approaching middle-age, was already a man of experience and renown, backed up, of course, by his great wealth and social prestige. His character and personality were strongly formed: a man of action and aggressive opinions, used to getting his own way, not easily dissuaded by criticism, interested in a great variety of subjects. The very traits, in fact, that would later lead an inspired journalist to hail him as "the [Theodore] Roosevelt of Astronomy." If only wisdom could have been part of his makeup.

Lowell read on a great diversity of topics, and with his Eastern experience of matters foreign to Western intellectuals, he was always on the look-out for the off-beat and unusual. And in astronomy he found just such a topic, one to which he would devote the rest of his life, and which would make his name a household word even beyond his death. The canals of Mars.

At the opposition of Mars in 1877 Giovanni Schiaparelli had thought he could discern faint lines on the disk of the planet, to which he gave the name 'canali'. This is actually the Italian word for 'channels', but not unnaturally it was translated into English as 'canals' – a semantic misfortune, for while canal connotes an artificial origin, channel does not. The interest generated by this observation had been recently further stirred up by the wild claims of William Pickering in Peru that he had seen lakes at certain points on Mars. Lowell, learning that another opposition of Mars was due in 1894, decided this to be a problem after his own heart, and with characteristic enthusiasm threw himself and his considerable resources into its investigation.

Never one for half-measures, he decided that searching for the canals of Mars called for the establishment of a major new observatory. At first an alliance was struck up with the Harvard astronomers, and William Pickering, freshly returned from his triumphs in Peru, along with his assistant Andrew Douglass, became part of Lowell's team. (The alliance was rather short-lived; cooperation between two such dogmatic and opinionated men as Lowell and Pickering could hardly last, and Lowell was further angered by a *Boston Herald* report that the whole thing was a Harvard scheme to be led by Pickering, with Lowell merely "going along".)

New England being no place for an observatory dedicated to searching for fine detail on a planet's face, it was decided to investigate sites in the Arizona Territory. And here we must accord Lowell one of his really important contributions to astronomy: he became the vociferous champion of the idea (first suggested to him by Pickering, mind you) that in choosing an astronomical site it is just as important that it have good seeing as that it have clear skies. This was a novel idea then, for previously astronomers had been content with any site that offered merely good transparency, and even that was usually waived in the interests of expediency, an attitude which Lowell castigated as "scientifically criminal neglect." Later, when most of his peers declared themselves unable to see Martian canals, Lowell would return again and again to the matter of seeing, using it as a stick with which to joyfully beat his enemies. If they couldn't see canals (or similar markings on Venus), whatever their instruments and abilities, it was because they always had inferior seeing:

How hard it is to break away from this facile prejudice [of putting observatories near university campuses] has just been shown by the location of the new Yerkes Observatory which has just buried its glass in Wisconsin and from which Dr. Barnard writes me that he has been unable to make out the markings on Venus. ... The same innocence was shown by a critic at the Lick who with more polemic zeal than optical knowledge actually imputed impossible effects to the flagstaff glass in his anxiety to explain his own inability to see the new discoveries, ignoring what he had himself stated some years ago, that the day-air at the Lick is wholly impossible.

So it was that Douglass was packed off to Arizona with instructions to find a site having good seeing as well as transparency. He began his testing in Tombstone, surely a novelty even for that notorious town of the Wild West, and in little more than a month had ranged widely across the Territory. The results were telegraphed back to Lowell in Boston, who, in his decisive way, quickly settled on a site just outside the town of Flagstaff (population 800). That was April 21, 1894; within two days Douglass was wiring "Ground broken. Town gives land and builds road." The Lowell Observatory had been founded.

By June Lowell and Pickering had arrived with 12- and 18-inch telescopes to begin the siege of Mars. It would take only months for them to have both the astronomical and public communities in an uproar.

Reprinted from the *David Dunlap Doings*, by kind permission of the author. Copyright University of Toronto, 1977.

Royal Astronomical Society of Canada General Assembly '77

The General Assembly of the Royal Astronomical Society of Canada will commence in Toronto at noon on Thursday, June 30, 1977 at the University of Toronto and McLaughlin Planetarium.

This will be the second General Assembly hosted by the Toronto Centre in recent years. Those who visited us in 1969 will discover Toronto has a new look. Its skyline is dominated by the CN Tower, the world's highest public viewing gallery. The *Trillium*, Canada's last sidewheel ferry, is operating in Toronto harbour. Ontario Place and Toronto Island are close to downtown, and the Ontario Science Centre is a short distance away!

The forthcoming General Assembly starts with a National Council meeting on June 30, and continues through to the evening of Sunday, July 3, with activities spanning the Dominion Day weekend. Plans include a dinner at David Dunlap Observatory, paper sessions, exhibitions of things astronomical, the annual meeting of members, a planetarium presentation, as well as outings in Toronto and locale.

Members interested in presenting papers should submit an outline to Dr. John Percy, Department of Astronomy, University of Toronto, Toronto, M5S 1A7. Papers should be no longer than ten minutes.

Bill Peters and Robert Pike will be organizing the astronomical exhibitions. More information can be obtained by writing to Bill Peters, c/o McLaughlin Planetarium, 100 Queens Park, Toronto, M5S 2C6. Details will be outlined in a future issue of the *NEWSLETTER*.

General information can be obtained by writing: General Assembly '77, c/o Mrs. Ann Scott, 63 Donlea Dr., Toronto, Ont., M4G 2M3.

Accommodation is available at the University of Toronto, although participants may make other arrangements. Please indicate your preference on the registration form below.

ROYAL ASTRONOMICAL SOCIETY OF CANADA

GENERAL ASSEMBLY '77

Name

Address

.....

.....

Number in your party _____

Will you and your party require university accommodation? Yes _____ No _____

Assemblée Générale de la S.R.A.C. 1977

L'assemblée générale de la Société Royale d'Astronomie au Canada débuttera dans la ville de Toronto à midi, jeudi, le 30 juin, 1977, à l'Université de Toronto et au planétarium McLaughlin. Le centre d'astronomie de Toronto sera hôte de l'assemblée générale pour le deuxième fois dans les années récentes. Les membres de la société qui nous ont visités en 1969 trouveront que la ville de Toronto a beaucoup changée. Le centre-ville est dominé par la tour CN, sa galerie d'observation étant la plus élevée au monde. Le dernier bateau à roues latérales au Canada, le *Trillium*, prend des tournées du port de Toronto. La Place Ontario et les Iles de Toronto sont immédiatement accessible du centre-ville, tandis que le Centre des Sciences d'Ontario n'est pas plus loin que vingt minutes en voiture.

Cette prochaine assemblée générale commencera avec une réunion du conseil national, le 30 juin, et continuera jusqu'à la soirée du dimanche, le 3 juillet, les activités occupant ainsi la fin de semaine du Jour du Canada. Parmi les activités au programme sont un dîner à l'observatoire David Dunlap, des sessions scientifiques, des expositions astronomiques, la réunion annuelle des membres, une visite au planétarium, ainsi que des sorties dans la ville de Toronto et les environs.

Les membres désirant présenter des mémoires à l'assemblée générale sont priés de soumettre leurs articles pour approbation au Dr. J. Percy, Département d'Astronomie, Université de Toronto, Toronto, Ontario, M5S 1A7. Une limite de dix minutes sera imposée sur la présentation des mémoires. Les expositions astronomiques seront organisées par Bill Peters et Robert Pike. Pour de l'information supplémentaire, communiquez avec Bill Peters, Planetarium McLaughlin, 100 Queen's Park, Toronto, Ont. M5S 2C6. Un aperçu apparaîtra dans la prochaine édition du *NEWSLETTER*.

Pour des renseignements généraux, écrivez nous à l'adresse suivante: Assemblée Générale 1977, Mme. Ann Scott, 63 Donlea Dr., Toronto, Ontario M4G 2M3. Les membres voulant hébergement à l'université de Toronto doivent l'indiquer sur la formule ici bas. Nous vous prions de nous envoyer ce formulaire aussitôt que possible.

SOCIETE ROYALE D'ASTRONOMIE AU CANADA

ASSEMBLEE GENERALE 1977

Nom

Adresse

.....

.....

Nombre de Personnes _____

Votre group a-t-il besoin de logement à l'université? Oui _____ Non _____