NATIONAL NEWSLETTER

Royal Astronomical Society of Canada

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Warren Morrison of the Kingston Centre receives the Society's prestigious Chant Medal from outgoing National President, Dr. Roy Bishop, at the Winnipeg General Assembly.
Photo by Steven Spinney

NATIONAL NEWSLETTER

The *National Newsletter* is a publication of the Royal Astronomical Society of Canada and is distributed together with the Society's *Journal*. Inquiries about the Society should be directed to its National Office at 136 Dupont Street, Toronto, Ontario, Canada M5R 1V2.

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Deadline for April issue is February 15.

First Viewing from Saudi Arabia

by Eleanor Fanning
Toronto Centre

Editor: Eleanor and Bob Fanning are travelling in the Kingdom of Saudi Arabia. This report of their first viewing experience in Saudi Arabia shows there is more to observing in that country than just finding a dark site and setting up a telescope.

We were feeling a great deal of anticipation and a certain amount of anxiety as we packed up our 10-inch telescope, along with all its accessories, a 60 mm refractor and two pairs of binoculars for a night of star-watching on the Saudi Arabian desert. We had been invited to join some Saudi friends to drive down the Red Sea coast to their usual viewing site. This was a totally new experience for us and we were fortunate in having as our guides Soheil Alleyo, his brother, uncle and two cousins.

After meeting our friends, we proceeded to drive about 80km south of Jeddah, along a highway known as the Corniche Road, which follows the shore of the Red Sea. We passed several fishing hamlets where dhows of various sizes were either pulled up on the beach, or anchored just off the shore within wading distance. All along the shore were areas being developed for recreational and camping use. Cranes, gulls, and many other birds we were not familiar with stalked the shore edges, or flew skimming the water. The reef along the shore was plainly visible in many places, and there were several islands, some of which were large enough to have palm trees and low shrubs growing on them. There are areas of salt marsh which made a striking contract with their green colour against the browns of the sandy shoreline.

You probably are wondering why it was necessary to drive so far from Jeddah. As well as getting away from the city lights, it is very important to be sure you are quite distant from any military installation, power plan, or radio tower. The Saudi's are very security conscious. There are patrols which criss-cross the desert keeping track of the movement of herders and their camels, goats and sheep, to say nothing of anyone who might have inadvertently became what they would consider a

threat to security. In this respect, it is imperative to have a letter from the Ministry of the Interior authorizing the bearer to be out on the desert, and authorizing the use of telescopes and cameras for astronomical purposes. Soheil Alleyo is an honour student at the King Abdul-Aziz University in Jeddah, studying astrophysics. He therefore also has a letter from the university.

The requirement for this letter of permission cannot be stressed too strongly. We are aware of people who have had cameras, as well as films, confiscated, and whose telescopes have been seriously damaged by rough handling by military personnel. It would simply not be worth the suffering and expense to attempt to do without the letter of permission.

We reached the end of the paved highway, and struck out across the desert. At first we drove along a hard packed, well-used road in the sand, but then drove off across open unmarked desert. Our viewing site was three or four kilometres inland from the Red Sea, on a flat, fairly level sand and clay area dotted with myriads of sea shells. Here we began to set up camp while the sun was setting in a cloudless sky. The only problem was the evening off-shore wind which was now springing up and soon made the raising of the tent a project for the whole group.

It was getting dark and time to start the night's viewing. Hanging over the western horizon was a thin sliver of moon. We soon had the telescope trained on it and could see the craters or mountains which made the gaps along the terminator. The "earthshine" was sufficient to make a few prominent features of the moon's dark face just visible. Above the Moon, the planet Venus was clearly visible in the fading twilight. Our night of star-watching was getting off to a good start.

Between quick dashes out of the tent to take a look at the dazzling display unfolding overhead, supper was prepared. The Milky Way stretched from horizon to horizon, an almost solid-looking band of light. Orion was slipping out of sight in the west so we would not be able to get a look at the great Orion Nebula. The starlight was bright enough to enable us to walk around without using a flashlight.

While scanning the south-western sky with binoculars, I was quite pleased to locate what I thought was a globular star cluster. We trained the two telescopes on the find and tried to make an identification. Somehow, it did not seem to be where any clusters should be, and we still had not identified it when we decided to get a couple of hours of sleep before the "main event."

When we were awakened later to look at Comet Halley, I was surprised to learn that my "star cluster" was in fact Comet Halley! I had thought that the comet would have a noticeable tail. The fuzzy ball I had taken for a globular cluster was now identified. Even Soheil, our guide for the evening, had not expected to see the comet so early.

During the rest of the evening we saw not only a number of meteors but among the different members of the group, a total of fourteen satellites were spotted. We had also identified several constellations, including, to my great delight, Crux, the Southern Cross which we had not realized we would be far enough south to see it.

We were able to finish off the night's viewing in grand style with Jupiter, and just before dawn, Mercury was clearly visible. Of course, had we been reading our *Observer's Handbook* a little more carefully, we would also have been able to add Neptune and Uranus to our list of planets. Everyone felt we had a very full night of star-watching although we did feel a little disappointed in Comet Halley, for the promised "tail" was not visible, nor was the comet a clearly recognizable "naked eye" object. However, our friend Soheil was able to get some shots, a couple of which did show the tail.

We also learned a little bit about camping on the Arabian desert. In spite of a daytime temperature in the middle to upper thirties, it became cold at night. When we went into the tent for sleep, we found ourselves wishing for a couple of arctic sleeping bags. We had taken warm slacks, sweaters and fleeced jackets but in spite of wearing all of them, we still found ourselves shivering and unable to get warm.

Our only contact with the security patrol was very brief. They drove up to and around the viewing site, shone their high beams over us ruining our night vision, and then drove away. They had obviously recognized Soheil and realized that all we were concerned with was star-watching.

Would we go again? You bet we would. The dark sky, the absence of city lights, and the flat desert area are made for spectacular viewing. Next time we will be better prepared for observing, not just for scanning and random viewing but to take full advantage of the excellent conditions available.

We finished loading the cars to the songs of birds somewhere out beyond the range of sight on the desert, and drove home for breakfast, and a chance to catch up on some sleep.

The Spring General Assembly in Toronto

May 15–18, 1987
Victoria Day Long Weekend

An invitation to attend

It is now time to begin to make your plans to attend and participate in the 1987 General Assembly of the Society in Toronto. For four days, R.A.S.C. members will descend on Toronto from across Canada and beyond to take part in the many activities we all associate with this annual event of the Society.

In addition to the regular features of a G.A. (paper sessions, display competition, annual awards banquet), the Toronto G.A. planning group has several other activities scheduled. On the Friday evening, a reception will be held for everyone to renew friendships and make new contacts. Also continuing an idea started at the 1985 G.A. in Winnipeg, a Murphy Slide Show contest will be held. What is a "Murphy slide"? Well, it is that special astrophoto that demonstrates how "anything that can go wrong, will go wrong". Bring your best (worst?) Murphy slides and challenge the other members to figure out what happened. A song contest will also be held so start composing a suitable astronomical song. On Saturday night, a special boat cruise around Toronto Harbour and the Islands will be a highlight. On Sunday we will visit the McLaughlin Planetarium, see its latest show in the Star Theatre and tour the new astronomy gallery – the Astrocentre. On Monday we will visit the largest optical telescope in Canada – the 1 .88 m telescope at the David Dunlap Observatory in Richmond Hill.

We are also planning a special activity program for spouses and family members of the delegates to maximize their visit to Toronto. Visits to the CN Tower, the special space travel experience Tour of the Universe, and the Art Gallery of Ontario or downtown shopping if you wish at the gigantic Eaton Centre. Everyone in your group will be able to enjoy their weekend in Toronto.

Further details and registration information will appear in the *Newsletter* as well as in packages which will be sent to Centre Secretaries.

Call for papers

We invite members to present short papers on all aspects of astronomy and related sciences during the scheduled paper sessions. Prospective speakers are asked to supply the G.A. Planning Committee with written abstracts of their presentations, not to exceed 250 words in length. Each abstract should include the author's Centre affiliation or unattached status, title of paper, statement of purpose of paper, a brief description of methods and results, and audiovisual equipment required. Centre members should have approval from their Centre Council for their paper prior to submission to the Planning Committee. A statement of Centre approval from the Centre Secretary should accompany the abstract. Unattached members may submit their abstracts directly to the Committee for review. The Planning Committee reserves the right to select and schedule presentations.

Speakers will be allowed 10 minutes for presentation, with 5 minutes for discussion and questions. Deadline for submission of abstracts is 31 March 1987. Please send abstracts and requests for information on paper sessions to: Dr. B. Ralph Chou, 1 Wilket Road, North York, Ontario M2L 1N5.

Display competition

All R.A.S.C. members are invited to share the results of their astronomical projects and observations by entering their work in the display competition. Whether you are a beginner, or an experienced amateur, you can make a contribution to the G.A. by displaying astrophotos, observations, logbooks, homemade equipment, etc.

To recognise excellence, there will be awards for the best three entrants in each of the following categories:

1. Photography
2. Observational Work (visual, photometric, or radio)
3. Special Project (instrumentation, equipment construction, computer applications, etc.)
4. Youth (a special open category for youth members 18 years of age and younger)

With the General Assembly only a few months away, members should be planning their projects now

so that observations and construction can be completed in good time. We ask that Centre observing groups discuss themes for projects with their members.

Registration forms and Paper and Display entry forms will be sent to all Centre Secretaries and Presidents in early January. This information will also be available by writing to: 1987 R.A.S.C. General Assembly c/o Steven Spinney, 4 Jacob Fisher Drive, Scarborough, Ontario M1B 3K7.

There will be something for everyone at the General Assembly. We look forward to hosting one of the best GA.'s ever!

A High School Planetarium

by John Mrmak and Angelo Zeffiro
Stamford Collegiate, Niagara Falls

The existence of a planetarium in a relatively small city like Niagara Falls, Ontario is very rare. It is even more surprising to find it located at Stamford Collegiate Vocational Institute, a local high school. The cost of the planetarium projector makes such a luxury impossible. However, Stamford was fortunate in that Niagara College had no longer a need for their planetarium system and they were happy to donate it to us. The effort in moving a planetarium involved a large number of people including two Niagara South Board of Education consultants, two Stamford teachers, four members of the Royal Astronomical Society of Canada and a number of Stamford's Physics club, an organization which runs the planetarium shows, keeps up maintenance, and tries to produce shows for the planetarium. The Physics Club is also involved in rocketry, astronomy, computers and in a crusade to show that "Physics is fun".

The main use of the planetarium is giving shows to elementary and secondary schools in the Niagara area. The planetarium shows introduce most of the young students to astronomy for the first time. They have never been to a place so "scientific", their letters point out. The planetarium also provides a valuable opportunity to the high school students at Stamford. The students learn how to run the projector, and how to present the shows and themselves to their young audience. The knowledge of how to run the planetarium is passed down from senior to junior students, and next year for the first time there will be a course entitled *Space and Man*, in which the planetarium will be the focal point.

The Apollo projector in a 4-m dome gives the feeling of being in the Space Age. Aside from the projector, we have a VCR, a slide projector, a film strip projector, and two cassette players — all of which were purchased by the Physics Club. Our Board of Education was supportive of the project and this year they have assumed the responsibility of repairs.

With its capacity for an audience of about thirty, the planetarium has handled thousands of students, and has informed and entertained the public several times.

Reprinted from *North Star*

French Astronomy Directory

The first edition of the *Annuaire de l'Astronomie Française* (Directory of French Astronomy) was published this past summer by the Société Française des Specialistes d'Astronomie (S.F.S.A.). It gathers together information on more than 600 French astronomers including researchers, teachers or graduate students who filled out a widely circulated questionnaire about their functions, responsibilities and scientific activities.

The public price of the *Annuaire de l'Astronomie Française* is 100 French francs. Orders should be sent to: Dr. Daniel Kunth, Institut d'Astrophysique, 98bis boulevard Arago, F-75014, Paris, France. Orders should be accompanied by a cheque or international money order payable to "M. le Tresorier de la S.F.S.A.".

Individual membership in the S.F.S.A. is also 100 French francs and includes the directory free of charge as well as the *Journal des Astronomes Français* and the Lettres de la S.F.S.A. The society also organizes special programmes to which young astronomers present the results of their research, forums to discuss specific subjects, and schools centred on carefully selected themes.

C.A.F.T.A. 1986

par Marc A. Gelinas
La Société d'Astronomie de Montréal

Ce sont les 1, 2 et 3 août 1986 qu'a eu lieu le Concours Annuel de Fabricants de Telescopes Amateur (C.A.F.T.A.) à Lanoraie, Quebec. Pour la huitième année consécutive la Société d'Astronomie de Montréal (S.A.M.) a voulu récompenser les meilleures réalisations d'amateurs de l'année. Creer par M. Lucien Coallier à l'époque, M. Rolland Lacroix en était l'organisateur cette année. Une centaine de personnes ont défilé sur le site où une vingtaine d'exposants étaient réunis.

Le vendredi soir, il pleuvait, comme durant tout l'été quoi. Seulement une couple d'inscription se sont faites. Le samedi matin, au grand désespoir des organisateurs, c'était encore brumeux et nuageux. Vers l'heure du midi le Soleil a commencé à percer et les arrivants se firent plus nombreux. En plus dune bonne proportion de gens de la S.A.M. on a vu plusieurs membres du club de Verdun, de celui de Drummondville, de Sherbrooke et de Mirabel. Durant l'après midi les nuages se sont suffisammant fragmentes et de nombreux participants ont pu regarder le Soleil à l'aide du Celestron-8 de Marc Gélinas équipé du filtre Solarscreen. Le filtre en particulier avec son aspect "feuille d'aluminium" et son image bleutée du Soleil en a intrigue plus dun. Malgre une année de vaches maigres au point de vue taches solaires il y en avait quand même un beau couple en plein centre du Soleil. Une cible, parue dans le *Sky & Telescope* de juillet. A été posée a près de 500 m des telescopes ce qui a permis un petit concours de resolution. Malgré la turbulence il en ressort que plus le diamêtre était grand meilleure était la resolution ... on sen doutait! Par contre le Quantum 6 po, le Celestron-8, et le 10 po "maison" de Gilbert Ouellette avâient tous une belle image a offrir à moins de 1,0 seconde d'arc. Même la lunette de 4 po de la S.A.M. (vieille de 100 ans) avait, au dire de ceux qui l'essayerent, une superbe image de la cible. Il est vrai qu'elle était sur un terrain plus élévé que les autres. On a bien aussi essayé de repérer Vénus mais en vain, il y avait trop de nuages cirrus.

Un video a été tourné par Roger Lebrun et Rolland Lacroix oû tous les participants apparaissent avec leurs oeuvres. Puis en fin d'après-midi les juges ont fait leur devoir. Après compilation les gagnants furent M. Gilbert Ouellette pour son 10 po dans la section mécanique, M. Albert Côté pour son cadran solaire dans la section originalité et M. Michel Dionne pour une photographie couleur.

Aprés la remise des prix nous avons souligné Ia visite sur le site des trois stagiaires francais venus à Port-aux-Saumons et que nous avait amené Maurice Provencher, le directeur de l'A.G.A.A. (Association des Groupes d'Astronomes Amateurs). A ce moment la nuit était tombée et la ciel était lourd de nuages. Devant le feu d'artifice des éclaires a l'horizon nord, on a decide de plier bagages. Juste à temps car aussitôt les équipements et la tente démontés l'orage s'est déclenche, tout un dé luge.

Plus tard en soirée lorsque les derniers braves étaient encore atablés devant un café Gilles Smith vint annoncer, a la grande incrédulite de tous, que le ciel s'était dégagé. Les sceptiques furent confondus, et quand la preuve fUt faite que c'était vrai, les mordus du telescope se sont vite précipités dehors, ainsi prit fin le C.A.F.T.A. 86.

SARSAT to the Rescue

On September 17, the United States launched the NOAA-10 satellite into Earth orbit and six days later, the Canadian/French-built search and rescue equipment on board picked up a distress signal from a downed aircraft in northern Ontario which led to a quick rescue. The Search and Rescue Satellite Aided Tracking equipment (SARSAT) is used in an international cooperative program known as COSPAS/SARSAT involving Canada, France, the Soviet Union, and the United States. Five satellites are used in the program which started in 1982 and to date has saved more than 600 lives.

A Clock For All Occasions

by David M. Stokes
Kingston Centre

The amateur astronomer makes good use of the digital clock displaying solar time and may even have a wristwatch showing sidereal time. Many amateurs are also familiar with the personal computer for controlling equipment or reducing observations. Recently, there has appeared on the market a small electronic clock that combines a time piece and computer in an unusual way that will appeal in design and function. Enter the Prayer Times Clock.

This clock can be programmed very simply with the user's latitude and time zone. The date and local time are then entered and the clock runs conventionally showing current time, a.m. or p.m., in a clear liquid crystal display. There is a wake-up alarm arid provision for snooze control. So far all functions are homely and familiar. However, inset on the top of the flat clock case are six control buttons marked in Arabic and English with the words *Fajr* (Dawn), *Shuruq* (Sunrise), *Zuhr* (Noon), *Asr* (Afternoon), *Mahrib* (Sunset), and *'Isha* (Night). This is where the internal computer chip weaves its magic. Press the *Fajr* button and the word *FAJR* for a few seconds followed by the time of the beginning of astronomical twilight. Pressing *'Isha* produces the time astronomical twilight ends and night begins. The exact time of local noon appears at a touch of the button marked *Zuhr* while the other buttons will produce sunrise and sunset times in the display, and then revert to displaying standard time.

If you have not set the wake-up alarm, the clock will announce these significant moments in solar time during the course of the day by sounding a five second steady tone five minutes before the event. At the exact time of, say, dawn, the clock shows the word *FAJR* followed by the time and sounds five short tones. A similar performance is repeated during the day at the appropriate times. If you leave the wake-alarm set then these signals are skipped but the times can be reviewed by simply pressing the appropriate button and watching the time displayed.

The clock was designed primarily for the convenience of Muslims throughout the world who observe the five canonical daily prayers , but it is particularly useful to those who travel by air across several time zones. This clock also solves one further problem for the travelling Muslim viz. the direction of Mecca, in Saudi Arabia, the point to which Muslims turn at the times of prayer. This could have been solved easily in the on-board computer and the result displayed as the azimuthal angle measured from true north. However, true north is not easily ascertained by the traveller arriving in a strange city at night. Therefore the clock designers have embedded in the clock case a magnetic compass that is easily detached and set up on a flat surface away from magnetic materials. The outside ring on the compass dial is divided arbitrarily into 40 parts. To find the correct direction of Mecca the user has only to press twice quickly any one of the six buttons and the clock displays COMP nn. The compass is then turned until the needle tip points to sector numbered "nn". The compass is then turned until the needle tip points to the sector numbered nn on the outer case. The zero mark, extended as a long arrow on the compass base, then points in the direction of Mecca.

The Prayer Times clock is packaged in a hard ivory-coloured case about 10 by 14 cm and 3 cm thick with display windows 5 by 1.5 cm powered by three AA cells. The owner's manual is written in English, French and Arabic and a set of abbreviated instructions in English can be attached to the bottom of the clock. A gazetteer showing principle cities and their geographical coordinates is provided with zone numbers for use with the compass. The price is $30 to $45.00 CDN depending on your ability to bargain in Arabic.

So how well does it work? I programmed my computer to calculate the position of the Sun in Right Ascension and declination, and Greenwich Mean Sidereal Time using algorithms developed by Jean Meuus in *Astronomical Formulae for Computers'*,William Bell, Virginia. This allows an approximate time for sunrise to be calculated and then a more accurate position of the Sun is calculated for sunrise and sunset. From this data one can then calculate accurately the local times of rise and set, allowing 34 minutes for refraction and 16 minutes for semi-diameter, and local noon. Twilight is calculated for the sun 15 degrees below the horizon. The program was tested against tabulated data in the *Observer's Handbook* and results agreed within one minute.

The computed data for Kingston (latitude 44.25 North longitude 76.5 West) was then compared to

the clock output for October 1986. The clock appears to compute dawn 6 minutes late, consistently, but the time for evening astronomical twilight is accurate. The clock time for sunrise and sunset are accurate to within one minute. Writing the program gave an idea of the work that went into the programming the clock's chip. The clock performance was checked against time signals from Ottawa, Fort Collins, Colorado, and the BBC, London and found to be consistently accurate over the short term, even better than Ontario Hydro time. The compass indicates the correct direction to Makka, based on the shortest great circle route but it does require care to avoid hidden magnets including computer equipment. This clock for all occasions makes the ideal gift for the astronomer who has everything except time!

Slides, Books and Astronomy Aids

The 1987 catalog of the Astronomical Society of the Pacific came out in the late autumn. It contains information on slide sets, posters, astronomical software, calendars, T-shirts, observing aids, and books which can be ordered from the Society. Lots of interesting and useful materials. The A.S.P. is a non-profit international and scientific organization founded in 1889. For their catalogue write to: Astronomical Society of the Pacific 1290 24th Avenue San Francisco California 94122

Brasilian Amateurs Invite Canadian Contact

The Uniao de Amadores de Astronomia (U.A.A.) was founded in 1974 and has about 200 members in Sao Paulo, Brasil. They hold twice monthly meetings and have a monthly publication. In a recent letter from Eduardo Feijo of the U.A.A., they have expressed interest in establishing a possible information exchange relationship with R.A.S.C. or individual Centres or members and are especially interested in providing assistance on any specific southern hemisphere topics of interest. Write to: Eduardo A.V. Feijo, Rua Tupi, 634-Apto. 73, Pacaembu, Sao Paulo, Brasil CEP 01233.

Due$ Due

This is a last reminder that if you have not yet renewed your membership for the 1987 membership year which started last October 1, you may miss receiving some of the 1987 publications and your name will soon no longer be on the Society's mailing list. The national fees are as follows:

– Regular Membership	$25.00
– Youth Membership (under 18 years of age)	$15.00
– Life Membership	$500.00

For all foreign members outside Canada, these fees are quoted in U.S. funds. Several Centres also have surcharges in addition to the national fees. Check with your Centre to get the correct fee. Centre members should send their renewals to their Centre Treasurer. Unattached members send their renewals to the National Office. Late renewals cause extra work for the members responsible for handling the processing of memberships. Please help them by renewing promptly.

If you haven't renewed yet what's holding you back?

Across the R.A.S.C.

by Betty Robinson
Assistant Editor

CALGARY: The annual barbeque at the Wilson Coulee Observatory was a successs with beautiful weather, lots of food, games, and activities. Forty people attended. Their second attempt at a campout, this time at the Boulton Creek campground, was twarted by bad weather. The Calgary Centre is sponsoring its annual astrophoto contest, with a "worthwhile" prize. The winner will be announced at their annual Christmas banquet.

EDMONTON: Edmonton Centre had a public star night scheduled for September 13 and 14 at the Edmonton Space Sciences Centre. The Permanent Observing Site Committee has been investigating the Blackfoot Integrated Use Area, an area administered by the Alberta government, as a possible observing site. No good news yet. Mel Rankin, the Centre treasurer, has observed his 110th Messier object.

HALIFAX: At the invitation of the Friends of the Citadel, Halifax Centre was invited to do a public show on July 31 . Another annual public night was scheduled for August 22 at Shubie Park. But these events were cancelled due to inclement weather. After much deliberation, the executive of the Halifax Centre has finally decided on (and published) a set of rules for using their newly acquired Celestron-8 telescope.

HAMILTON: The 17½ inch telescope has been in operation in the completed Chilton building since August 1986, and delivers breathtaking views. The president, Ian Stuart, reported that the Centre's yard sale, held early in 1986, made $750.00 and went a long way to alleviating their financial difficulties. They also received a substantial donation ($2,500) towards the construction of washrooms at their observatory. Toni Quinn, Centre Secretary, reports that long-time Hamilton Centre member Derek Baker has moved to Arnprior, just west of Ottawa. He has recently been conducting an program of observing and drawing Jupiter which has involved several members. John Gauvreau, who has done an outstanding job with public education, has stepped down from his position and four members are now handling his duties. From October 3 to December 3, the Physics Department of McMaster University held a series of astronomy lunch-bag seminars.

KINGSTON: Mark Sorensen has been awarded the Messier certificate. Not only did he observe all 110 objects as stipulated by the requirements of the certificate, but he did so using 11 x 80 binoculars. Kingston Centre has been active with speakers' exchanges. In the autumn of 1986, they had two meetings with speakers from the Ottawa Centre.

LONDON: A new temporary location for the London Centre library has been found as Don Tremblay has offered to store it.

MONTREAL: Jimmy Letourneau, centre vice-president and publicity director, had organized by September the coming year's series of lectures at the planetarium. To keep in step with the national society fee increases this year, the Centre's fees have been increased to $33. for regular and $15. for youth members.

NIAGARA: A new observatory building committee has been established to raise funds, find a site, and eventually build an observatory to house a large-aperture telescope. The site will be named the Al Kindy Memorial Observatory.

OTTAWA: The Centre's annual dinner meeting was scheduled for November 14, 1986 at Algonquin College. There was also a deep sky weekend planned for early October. As a result of the Kingston-Ottawa speaker exchange, Leo Enright (Kingston) gave a talk on the Holleford Meteor Crater which is just outside Kingston.

SASKATOON: The annual public star nights scheduled for July 11 and 12 at Diefenbaker Park were rained out. The public has been invited to attend presentations, in September showing the films *The Road to Mauna Kea* and *An Arm in Space*, and in October, showing *Astronomy Around the World* at the University of Saskatchewan.

TORONTO: The Centre has been busy with public education activities. The August Astronomy Day was popular but partially clouded out while a series of talks and displays held at the Royal Ontario Museum on five Saturdays and Sundays to celebrate the opening of the McLaughlin Planetarium's new astronomy gallery were well-attended. A beautiful antique brass telescope was donated to the Centre by Gary Maybee, son of J. Edward Maybee, who was an active member. The annual picnic/open house at the David Dunlap Observatory in September was the best attended in years with about 140 people participating under totally clear skies. Jack Winzer is the new chairman of the Centre's Optical Workshop and he will be starting a telescope-making course in January. The Centre has built a new display through the efforts of Steven Spinney and the contributions of members. The display is attractive, useful, portable, and very professional looking. Professor Stillman Drake, the leading authority in North America on the life and work of Galileo, was the guest speaker at the Centre's Annual Awards Banquet in October.

VANCOUVER: The Centre participated in a "Celebration of Nature" with the Campbell Valley Park in October.

VICTORIA: Public "Summer Evenings with the Stars" were held throughout August. Congratulations to Leo Vander Byl, designer of the Centre's mobile telescope, who won two awards at last summer's Riverside Telescope Makers' conference in California for a 0.45 m Schmidt telescope he had built. Jack Newton spoke on his observations of Comet Halley from Peru at the annual dinner in November.

Across the R.A.S.C. is a regular feature of the *Newsletter*. Centre editors and/or secretaries should send their reports and newsletters to the Newsletter editor. Deadline for the April issue is February 15.

Nominations for 1987 R.A.S.C. Officers

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 officers of the Society.

In 1987, we must elect a new National Secretary. If any member wishes to make suggestions or nominations in this regard, they should contact the Committee Chairman, Dr. Roy L. Bishop c/o R.A.S.C. National Office, 136 Dupont Street, Toronto, Ontario M5R 1V2.

The By-Laws provide that "any five members of the Society, in good standing, may nominate 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 for the annual meeting."

As the Society's Annual Meeting will be held at the Toronto General Assembly on Sunday, May 17, 1987, nominations, together with a short resume should be submitted no later than March 1, 1987, to allow for the printing and mailing of ballots to be completed as required.

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

Perseid Shower 1986

by Peter Brown and Mark Zalcik
Edmonton Centre

With a favourable moon for meteor observing and a peak of activity well-timed for North American observers, the Perseid meteor shower put on a wonderful display in 1986. Maximum activity was predicted for 12 hours Universal Time on August 12 and thus observers in western North America were favoured over their eastern counterparts in the possibility of viewing a nice display of celestial fireworks.

The Perseids are well known for their reliable hourly rates from year to year and their relatively high average brightness. This year was no exception, and although not rivalling the 1980 return, the 1986 shower appears to have been a "normal" event with some observers reporting hourly rates in the 40's and 50's.

From Winnipeg, Manitoba, Todd Lohvinenko reported a fairly normal display with mention of two magnitude –3 fireballs, one of which appeared green in colour. His maximum hourly rate occurred on August 10/11 between 0330 UT and 0430 UT when he observed 10 Perseids This rate is quite high considering the early local time of the observation (1030 to 1130 CDT).

In Alberta, about half a dozen meteor enthusiasts observed the Perseids from July 30/31 to August 25/26. In all, nearly 1,300 meteors were recorded, 651 of which were Perseids. On the maximum night of August 12/13, the group witnessed a –2 or –3 magnitude Perseid fireball which left a train hanging in the sky for about 30 sec. Several other meteors with train durations of 10 to 20 sec were also noted on this night. The maximum integrated Zenithal Hourly Rate (ZHR) occurred on August 12/13 with a value of 48.2. The maximum individual ZHR was 90.8 on August 12/13 from 0636 to 0736 UT observed by Peter Brown. Other observers who took part in the Alberta effort included Mark Zalcik, Sid Klushin, and Bill Cochrane. There were several other observers as well who observed on a more casual basis. Based on 651 Perseids, the average magnitude was +2.00. The 1986 Perseid shower was obviously a big success with observers and it can certainly be seen why this is the most widely observed shower even though it is not the strongest shower of the year.

The distinction for the strongest shower goes to the Geminids of December which were predicted to peak this year on the morning of December 14. In 1985, Geminid rates as high as 150 per hour were seen in Europe but an unfavourable moon this year (Full Moon is on the 16th) will have made this year's rates much lower, although 20 to 40 per hour may still be seen even with the interfering moonlight. The authors would be pleased to receive observations of the Geminids, or any other correspondence on meteor observing. Write to: Peter Brown, 181 Sifton Avenue, Fort McMurray, Alberta, T9H 4V7, or Mark Zalcik, #2-14225 82 Street, Edmonton, Alberta T5E 2V7.

My Experiences in Teaching Astronomy

by Dennis Ryan
Montreal Centre

If there is one aspect of astronomy I have always enjoyed, it has been teaching astronomy to others, either on a one-to-one basis, or with small groups. It is one of the basic aims of our Society, and I believe it is a necessity, to inform people about what happens in the heavens. For example, some people still think they can look at the sun without any protection for their eyes while during the recent return of Comet Halley, the rampant misinformation being circulated made me, and I am sure many others, aware of how important it is try to increase public awareness of astronomy and its wonders.

There are many ways to teach astronomy but I teach astronomy whenever I can and preferably under actual observing conditions. In this way, I fulfill two objectives. First, if out with another observer we can compare notes. Second, if out with someone who has not observed before, it is definitely more exciting to teach, and learn, under the beauty and majesty of the night sky, and from my experience,

there are plenty of people who have not observed before. I offer two examples of the benefits of outdoor teaching.

In late August my wife and I took our vacation in New Brunswick. Using a camper gave me opportunities to observe but unfortunately, the weather did not cooperate and we only got two clear nights to observe. On the first night I got about an hour to renew old acquaintances with Jupiter, Saturn, Mars, and even Venus before it set. The moon was full and bright so I did not try for any deep sky objects.

A few nights later we camped by a beach and met an older American couple who were also camping there. We made friends, ate supper together, and had a campfire. Later that evening I brought out my telescope and began to observe. After a while, Duffy, the older gentleman, came over to me quite curious. I showed him the planets and even the Hercules star cluster and the Andromeda galaxy. He was astounded, and threw all sorts of compliments my way, which was ego boosting. But to be frank, I was surprised that he had never had the opportunity to look at even the planets – he had just discovered them. It was gratifying to know I had given him this opportunity.

My second example of the benefits of outdoor teaching came the following week on the night before we were to return to Montreal. We were visiting my in-laws on the Gaspe coast where a previous visit had made me aware of how good the skies were down there . I did show my father-in-law and my young nephew the planets. Again I was surprised, especially by my nephew, as he had never had the opportunity to look at the skies. He seemed ignorant about astronomy overall, and I wondered what they were teaching in high school. Once again, I was happy to be able to introduce them to the sky and, although I was not able to further my own personal observing schedule, I felt as though I had accomplished an important public service.

The history of astronomy is filled with stories of individuals, such as Galileo and Copernicus, who have tried to inform and correct misinformation. Their names have become legends while ours probably never will be. But every time I show someone some celestial wonder and talk to them about it, I feel as though I am following in the footsteps of those great individuals of the past.

The Observer's Cage

by David H. Levy
Assistant Editor

In 1939, Faber and Faber published an odd book of poems by T.S. Eliot, one of the great English writers of the 20th century. Called Old Possum's Book of Practical Cats, this delightful collection of light verse would be understood and enjoyed by generations of children and cat lovers. In a sense , it is strange that Eliot, whose reputation had been achieved through such complex works as *The Waste Land* wrote these words at all. In fact, only two years later, he would publish *Burnt Norton*, one of the most insightful poems ever composed. Like most of us, Eliot was able to put his great talent to the challenge of fun. For example, in "The Naming of Cats," the poet described a system of feline nomenclature that consisted of three types of names for each cat.

The idea is analogous to the naming of comets. If we allow a degree of anthropomorphism for both, cats and comets are related. We enjoy the antics, regality, and individuality of cats, and those of us who have observed many comets can imagine similar characteristics in them.

Out of tradition and science come our modem procedures for attaching names to comets. A newly-discovered comet is assigned the name of its discoverer and, although early rules allowed but one discoverer to a comet, during the nineteenth century, the current rules evolved which permit a maximum of three discover names. Thanks to the efforts of some persistent comet hunters, these comet names are not all unique. There are, for example, four comets named Meier (named after their discoverer, Rolf Meier of the Ottawa Centre).

Since a distinct name is needed, at discovery each comet is assigned a letter designation based on the order of discovery, or recovery, in a particular year. Thus, Comet 1982i was the 9th comet to be located in 1982. These designations are provisional, but important since they are used when most of the active

observations of the comet are being made. After some time has elapsed, the comets are assigned new permanent designations based on the order in which they passed closest to the sun in a particular year. Thus, 1984 XXIII was the 23rd comet to pass through its perihelion during 1984.

If comets were substituted for cats, the poem by T.S. Eliot may have read something like this:

"The naming of Comets is a difficult matter,
It isn't just one of your holiday games;
You may think at first I'm mad as a hatter
When I tell you, a comet has THREE DIFFERENT NAMES.
First of all, there's the name that the family use daily,
Such as Whipple, Wilk-Peltier, Wirtanen or Wolf,
Such as Hubble or Humason, Honda, P/Halley-
All of them sensible everyday names.
There are fancier names if you think they sound sweeter,
Some for the gentlemen, some for the dames:
Such as Grigg-Skjellerup, de Kock-Paraskevopoulos,
Schwassmann-Wachmann, Herschel-Rigollet, Tsuchinshan I,
Churyumov-Solodovnikov, Bappu-Bok-Newkirk-
But all of them sensible everyday names.
But I tell you, a comet needs a name that's particular,
A name that's peculiar, and more dignified,
Else how can he keep up his tail antisolar,
Or spread out emissions, or cherish his pride?
Of names of this kind I can give you a score
1910a, '84u, '86b and such,
Or '65f, '66b, '83d – there's more –
Names that never belong to more than one comet.
But above and beyond there's still one name left over,
And that is the name that at first you can't guess;
The name that no human can research can discover-
Until long after the comet's come and it's gone,
Like Nineteen hundred fifty-nine X-
But the COMET HIMSELF KNOWS, and won't now confess.
When you notice a comet in profound meditation,
The reason, I tell you, is always the same:
His mind is engaged in rapt contemplation
Of the thought, of the thought, of the thought of his name:
His rotational, orbital
Coma-morphological
Deep and inscrutable singular Name."

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