NATIONAL NEWSLETTER

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Please submit all material and send all communications to the address below:
The Editor, Newsletter, McLaughlin Planetarium, 100 Queen's Park, Toronto, Ontario

Stop-Press Note!

There were many who attended the recent General Assembly in Ottawa but who did not receive the group photograph. Will all Centre secretaries please check with the delegates and send in a request for the number of photographs required to:

MR. L. R. MCNARRY
National Research Council
Montreal Road
Ottawa
K1A 0R8

Note that photographs are available only for those who were delegates to the General Assembly!

A Special Request

Issues of the *Journal* have run out for August 1972. If anyone has copies which might be returned, please send as soon as possible to the National Office, 252 College St., Toronto 2B, Ontario. Thank you.

History of the Winnipeg Centre

We plan to write a history of the Winnipeg Centre RASC to celebrate our 65th birthday next year. If you know of anyone who may have belonged to the Centre in its early days, i.e. 1909 and onward, or know of old telescopes, will you please send the information on to the Editor at 505–24 Carlton St., Winnipeg, R3C 1P1, or phone at 943–3173. Thank you.

From the "WinniCENtrics"
of the Winnipeg Centre

Where Have the Solar Observers Gone?

In reducing the 1972 Solar Data for the Toronto Centre, it came to my attention that there were only ten out of the close to eight hundred members of this centre who did any type of constant Solar Observations. This is very poor, and in any case a meaningful Solar Program cannot be just a centre activity. It must be done on a national basis involving all centres because observations might be hampered by clouds in one area of the country while it is clear in another.

Solar Observing is very simple; it takes a maximum of twenty minutes and any telescope will suffice. These observations only have value when daily observations have been made. What one sees in these daily observations is the growth and decay of sunspots and their motions.

For those who are new members of the R.A.S.C., this program can become an interesting subject, and for all other members this can be a worth while addition to an observing program.

It would be greatly appreciated if any solar observers, or observational co-ordinators for centres with active solar groups, would contact me at the address below for further information and report sheets.

PAUL MORTFIELD
43 Sunnycrest Road
Willowdale, Ontario
M2R 1V4
(633–1857)
Toronto Centre

Sketching the Planets

If you have drawing ability and want to keep a pictorial record of your observations, why not try sketching the planets?

Here are a few pointers that might get you off to a good start:

The regular method of line drawings is usually quite inaccurate. I feel the best method is to shade in the area to be sketched, and then use an eraser to bring out the lighter areas.

First, draw a circle on the paper the size you wish the finished sketch to be. This will work well for all the planets with the exception of Jupiter because of its elliptical shape. It is very hard to draw a perfect ellipse free hand, but it can be produced in the following manner. Make a loop of thread that is exactly 1.35 inches long when stretched into a double strand. Now stick two pins ¾ of an inch apart, in a heavy piece of cardboard. Place the loop of thread over the pins. Using a sharp pencil and keeping the string taut at all times, draw a line around the pins. The result will be an ellipse that duplicates the shape of Jupiter. If you cut out this shape, it can be used as a pattern to inscribe ovals on your drawing paper.

To darken in the area use sandpaper and an HB pencil, grinding off some graphite from the tip. Then, using a piece of cotton, rub the shavings into the paper until you obtain an even grey shade.

When sketching at the telescope with this type of prepared paper, use several types of erasers to produce the lighter belts and zones of the planets. They should be varied in size and shape, some sharpened and some blunt. If there are any areas darker than the shading of the paper, use a soft pencil (2B) to darken in the sketch. This also would apply to any coloured areas that should be filled in with pencil crayons.

I hope these hints will help you to find enjoyment in a very interesting aspect of astronomy. By the way, these techniques may also be used for sketching the Moon.

TONY PUERZER
Burnaby, B.C.

Activities in Montreal

Last December the Montreal Centre acquired a fine 8″ Celestron telescope as a replacement for the lost 6″ refractor. This has made a great deal of difference to us in rejuvenating our observation programs, which suffered much due to the lack of permanent fixed instrumentation.

In addition to the former occultation program, now in the hands of David Brown, we are undertaking a detailed effort in what we call our Minor Planet Project. This is an effort to make something more than your usual, “Yes – There it is,” observation; i.e. just *WHERE* is it?

We have set up elementary equipment; a microscope and vernier equipped mechanical stage to measure plates, and a visual aspect as described in Roth’s “System of Minor Planets” using cross-bar micrometer, stop watches, etc. The Smithsonian Astro-

physical Observatory Atlas and Catalogue is a great help in this work, but we shall have to get something showing fainter stars than just 9th–10th magnitude.

You may or may not have read the series "With the Planets" by Gerald Cecil. He has made great efforts to bring in new observers to this difficult endeavour. In this regard, a good deal of work has been done in the field of planetary photography. The Computing Section, using facilities of the two nearby universities, has given great help in calculating planetary exposures, so that this is not much of a problem. The state of the atmosphere surely is. During most of the winter, the seeing in this locality has been far from helpful. With better days now here, we hope that we are in for somewhat more clement conditions.

The big news of course, is that the optical work on the 20″ reflector will be underway by the time you read this. There have of course been many holdups of various kinds. These having mostly been overcome, the Telescope Committee is about to undertake the initial roughing out of the Ohara blank. It is greatly to be hoped that the Montreal Centre will be as successful as the Ottawa Centre and their 16″ scope.

The April issue of "Skyward" contains yet another attempt at bringing to the members, and all others too, a greater participation via the photograph. This has not been an easy task, for most processes are of higher expense than would be justified for a monthly newsletter, such as ours.

We decided this year to suspend the customary "Townsend" Memorial Lecture in view of the financial commitment. We felt that with the drain on our resources of the telescope, field station, etc., that the best thing would be to devote ourselves as wholeheartedly as possible to bring these important projects to fruition.

JOHN ALLCOCK
Editor of "Skyward"
Montreal Centre
R.A.S.C.

A Few Words About Eastend, Saskatchewan

Some of Saskatchewan's mildest climate and best year round viewing conditions can be found in the southwest corner of the province. If you are travelling through Saskatchewan this summer, a detour to Eastend would be quite worthwhile.

Besides the telescope, the High School enjoys a well-stocked Natural History Museum with such features as dinosaur bones collected by amateur paleontologist "Corky" Jones in the hills surrounding Eastend.

In addition to the museum there are meteor craters in the vicinity of Val Marie. And if history is your interest, a one-hour drive to the west gets you into the Cyprus hills and historical Fort Walsh.

For the rock collector the hills are rich with petrified wood, fossilized seashells, petrified bones and countless other minerals. All you have to do is ask and a Rock Club member will tell you where to look.

A good book to buy before going down into this region is Edward McCourt's Saskatchewan.

So don't judge Saskatchewan from the countryside on the Trans-Canada highway, go south on a detour and give yourself the chance to see another side of this province.

From the Newsletter of the Saskatoon Centre

Notes from Newfoundland

"College of Fisheries, Navigation, Marine Engineering and Electronics" is the imposing title (one can hardly call it a name) inscribed in impossibly large letters on this building.

This is where our 24-seat planetarium is situated, installed as a navigational teaching aid. This is where we meet.

Each spring the college holds an Open House, in which we take a small part. This year we expanded our usual display of posters, photographs, books, et al, to include the showing of slides and films.

The hoped-for menu for Skylab could not possibly be more palatable than the talk we had on the mission from John Hale, from the NASA satellite tracking station near Pouch Cove, just outside St. John's. We were shown films, and given a talk that should be the envy of many other centres. The question and answer period was no less interesting. This satellite station is one of the few in the world to track the mission.

We have placed a suitable memorial plaque on the telescope used by Ruth Northcott, which came into our possession through the combined efforts of Marie Litchinsky and Ken Chilton.

Our newsletter continues to expand, and we are now sending copies to all centres. Our last issue carried an article on the Amateur Studies of Barnard's Star and its Planetary Companion(s) by members of the Irish Astronomical Society of Dublin Centre, to which one of our members belongs. Our editorial committee works hard to put out this bulletin (our last one contained 14 pages) and they are to be congratulated on their interest and persistent efforts.

DORA RUSSELL
St. John's Centre

Progress at Saskatoon Centre

When the attendance figures for the Observatory, located on the University of Saskatchewan campus at Saskatoon, were examined recently, a marked upward trend was noted for the years 1970–1972.

These findings reflect a growing interest by the local populace in astronomical matters. This in turn can be attributed largely to the combined efforts of a number of individuals who have devoted much time to acquiring publicity through the local media and acting as instructors for visitors and group activities.

The numbers have been compiled from several guest books available for the different categories of persons who had some reason to use or visit the Observatory. Because signatures are not always obtained from all of these individuals, the totals are minimal rather than actual.

OPEN HOUSE ACTIVITIES	1970	1971	1972
Wednesday Evenings	908	1085	1765
Sunday Afternoons & Evenings	1092	2629	
Special Events			
Lunar Eclipse (February)		53	
Mars Opposition (August 10)		93	
Lunar Eclipse (January 29)			139
Planetary Configuration (April 16)			323
Solar Eclipse (July 10)			442
Lunar Eclipse (July 25: cloudy)			14
TOTAL OPEN HOUSE ATTENDANCE	908	2323	5312
Group Tours (Friday Evenings)			
Total Attendance	830	959	763
R.A.S.C. Functions	227	774	998
Astronomy 110 Class Students		40	33
TOTAL SIGNATURES (from all functions)	1965	4096	7106

The large increase in the total number of signatures can be attributed to the following:

1. The extension of Sunday afternoon and evening Open House activities during the summer to 26 Sundays.
2. The opening of the Observatory for four special events in Astronomy, and the excellent publicity provided by radio stations CKOM, CFQC, CFMC-FM, CFNS, CFQC Television, and the Saskatoon Star Phoenix.
3. The introduction of three new membership activities within the Saskatoon Centre.

RON WALDRON, President
Observatory Assistant

A Very Active Programme at Saskatoon

We are pleased to report that many members of the Saskatoon Centre are now actively involved in the new program of activities. Thirty-three members signed up for the Fundamentals of Astronomy Class, and while attendance dropped over the Christmas-New Year period, most of those have been attending the Tuesday night classes regularly. So far this class has covered the topic of Orbital Motion with the application of Kepler's Laws and Newton's Laws to orbiting bodies. Most members of the class can now handle the calculations for the elements (such as the period, distance from sun, eccentricity of orbit, etc.) of any planet. The next portion of the class dealt with the electromagnetic spectrum, and the properties of light. At present the class is dealing with the reflection and refraction of light, with particular application to the use of lenses and mirrors. Other topics covered by the class includes a discussion of the consellation of Andromeda, and the Universal Gravitational Constant.

About ten people have been attending the Saturday night class on Astrophotography. This class has so far dealt with the topics of darkroom procedures, film and developing, cameras, techniques of mounting cameras to telescopes, focusing, and filters. In the future the class will discuss the printing of pictures and hopes to do more practical work on the telescope. During the February 3rd class, photographs of Saturn were taken, but unfortunately all efforts were ruined because of contaminated developer. It would seem that someone has not yet perfected his darkroom techniques!

The Monday classes in Telescope Construction have been attended by about six members. The classes dealt with the grinding and polishing of mirrors, and with the actual construction of a reflecting telescope. One member is now in the polishing stages with his 8-inch mirror, another has started grinding his 6-inch mirror while two other members are now waiting for their 6-inch mirror blanks to arrive. At present plans are being drawn up for the construction of several grinding stands. Any contributions of ideas or materials would be appreciated and ambitious members are welcome to join the group.

The Observation Group (formerly called the Messier Club and Variable Star Observing Group) has not officially started meeting. However several members have spent some time at the Observatory during the recent clear nights to observe nebulae, Saturn and the Moon. The first meeting of this group will take place on Saturday evening, March 3rd, half an hour before the Astrophotography class. This should be a good year for observations since Mars will be in opposition, there will be several occultations of Saturn, a transit of Mercury and a Partial Eclipse of the Moon.

MURRAY STRANKAY
Activities Coordinator
653–5618

A New Society

Indian astronomers have recently formed the Astronomical Society of India and we have already registered more than 130 members in India and abroad. The establishment of the A.S.I. fulfils a long felt need of the astronomical community in India. It is the only organised association of Indian astronomers and thus enjoys a national status.

The object of the A.S.I. is the promotion of Astronomy and related branches of science in India. Some of its important functions include: Encouragement of all aspects of astronomy and astrophysics; issuing a quarterly news bulletin; holding of scientific meetings; instituting lectures, prizes and fellowships in Astronomy; collection of astronomical material; etc. The Society has ordinary, associate, student, institutional and donor membership. Further particulars about the constitution of the Society, membership requirements and dues, etc. can be obtained from the Secretary whose address is given below:

K. D. ABHYANKAR
Astronomy Department
Osmania University
Hyderabad–500007
India

About the New Telescope

The Honourable C.M. Drury, President of the Treasury Board and Minister responsible for the National Research Council of Canada, have announced that the Government has approved participation by Canada with France in the construction and operation of a large optical telescope to be built on Mauna Kea, Hawaii. The Project still requires formal approval by the French government before implementation.

Agreements have been reached among the NRC of Canada, the Centre National de la Recherche Scientifique (CNRS) of France and the University of Hawaii providing for Canada and France to share equally in the costs of providing the telescope while the University of Hawaii will provide the site, access roads and local support facilities. After construction is complete in 1977 or early 1978, the three agencies will share operating costs and observing time, the University of Hawaii taking 15%, and NRC and CNRS taking 42.5% each.

The total cost of the telescope and its associated buildings is currently estimated at $18,000,000 of which Canada will pay half. Canadian industry will participate actively in the construction and fabrication of the telescope, particularly in the telescope controls and in the main observatory structures, while the mechanical parts of the telescope will be made in France. The polishing of the main mirror, 144 inches in diameter, and made of special low-expansion glass known as Cervit, will be done in the NRC's Dominion Astrophysical Observatory in Victoria, B.C.

A novel arrangement to take care of construction and operation of the telescope is a non-profit corporation expected to be established under enabling legislation in Hawaii. The three agencies will be the partners in the corporation and provision will be made for a Board of Directors and a Scientific Advisory Council which will advise on technical details during design and construction and serve the function of a user's committee dealing with allocation of observation time and continuing development of instrumentation. This organizational structure is particularly advantageous from the Canadian standpoint as it will provide NRC with the opportunity to involve Canadian universities and the scientific community in general in direct participation and cooperation.

A telescope in Hawaii will be able to observe the whole sky except for about 30°

near the South Pole. The site on Mauna Kea, a 13,800 foot mountain on the "Big Island" of Hawaii, is expected to offer astronomers 2800 clear viewing hours annually. Because the atmosphere above the site is so dry and so thin, an added bonus in this choice is a near ideal location for infra-red observation.

The optical system contemplated will be the classical one which provides a prime-focus that can be used directly, i.e. without corrections, so that the expected high optical quality of the primary mirror and the excellence of the site can be fully utilized. In addition provision will be made for bringing light down through various mirrors to large modern spectrographs and other instruments to be located underneath the telescope structure.

Canadian astronomers in Universities and in NRC have been closely involved in preliminary planning for this project through NRC's Associate Committee on Astronomy and, particularly due to world-wide recognition of Canadian expertise in astronomical instrumentation, will play a large part in its realization. This telescope will help to meet a long-standing need of Canadian astronomers to have access to a major telescope on one of the world's best observing sites.

The 1973 Astronomical League—A.L.P.O. National Convention

This is the first notice concerning the national convention for all the amater societies. The convention will be held August 1–5 at Creighton University in Omaha, Nebraska. The Astronomical League and the Association of Lunar and Planetary Observers will conduct their annual business meetings at this time. The American Association of Variable Star Observers, the Western Amateur Astronomers and the American Meteor Society will contribute speakers to the program. Concurrently we will conduct the third annual Mid-States Conference on astrophysics and planetarium education.

The convention committee is working to get professional astronomers to contribute to the program. At present we have commitments from Dr. Donald Taylor, associate professor of astronomy at the University of Nebraska and co-discoverer of the first optical pulsar; Dr. Gunter Swartz, director of the midwest meteor patrol network; and Dr. Karel Hujer, F.R.A.S., Guerry professor of physics and astronomy at the University of Tennessee (Chattanooga) – Dr. Hujer is one of the world's foremost authorities on the history of astronomy. N.A.S.A. will contribute a speaker but we are now negotiating the exact nature of their participation. We can guarantee it will not be the usual "canned" presentation.

For this convention we have tried to keep the desires of the speaker foremost in our planning. Speakers will have complete control of all projection equipment and television-microphone equipment will be used. Light traps on all entrances will allow delegates to come and go without disturbing the speaker or audience.

We have arranged for a full evening's use of the University of Nebraska's new 30″ Cassegrain. This will be no mere "parade-by" but will view objects selected by the delegates. A restricted field trip will be conducted for those with a legitimate interest in planetarium education. Other field trips will be announced later.

Your committee has tried hard to keep cost to the individual down with considerabel success. The total cost breakdown is as follows:

Rooms: $4.50 per person per night with linen included.
Meals: $10.00 (includes 8 meals for Thur., Fri., & Sat.)
Banquet: $5.00
Proceedings: $3.00
Group Photo: $1.00
Registration: $4.00 per individual or $5.00 per family (advance registration price; $1.00 higher at convention time).
TOTAL COST $40.00

The figures quoted will be held to the best of our ability BUT, as you know, the inflationary trend as of this writing is alarming. We promise that any increase (this should concern food cost only) will reflect the inflation only and will not be an actual price increase.

The modern dormitory has two person rooms that are fully provided with bedding and linen. The dormitory adjoins the cafeteria and both are located just across the street from the auditorium. Delegates bringing their families should let us know ahead of time and we will try to arrange adjoining rooms.

The cafeteria will be open at regular hours and delegates not using the meal ticket can buy meals there at theft own convenience.

Any amateur is most welcome to submit a paper before the convention. Those wishing to give a paper should contact Robert D. Allen, 910 Avenue "E", Council Bluffs, Ia. 51501 as soon as possible; please include an abstract of your talk. Since we are going to attempt to publish the "Proceedings" *before* the convention (and hand it to you when you register in), those wishing to have their papers included must submit a finished copy to Mr. Allen before July 10th. Contact Mr. Allen as soon as you can to insure a place on the program.

Space has been provided for both commercial displays and amateur exhibits. If you plan to have an exhibit please let us know ahead of time so that we can reserve a spot for you, and while you're at it please include the amount of space you think you will need. Along with the exhibits we will have an astronomical "flea-market" so bring those eyepieces, etc. and let's trade.

For those wishing to conduct special seminars, symposiums or business meetings, several classrooms have been set aside for your use.

You will receive a second notice (to be mailed late in May) which will include the final structure of the program, maps of the approach to Creighton University and maps of the campus. This mailing will be conducted by Creighton and will be in *THEIR* envelope so don't mistake it for an ad and throw it away. For those clubs of the Astronomical League and others who receive the ASTRONOMICAL LEAGUE REFLECTOR, please pay careful attention to the May issue as it will have more convention information.

We ask, at this time, that you send only the advance registration fee listed above ($4.00 per individual or $5.00 per family). Cheques should be made payable to the "*1973 NATIONAL ASTRONOMERS CONVENTION*" and mailed to Jerry M. Sherlin, 6117 Hillsdale Avenue, Omaha, Nebr. 68117. Also we would appreciate knowing how many will be in your party, do you plan to exhibit, if you are going to present a paper and if so what projection equipment you will need and what date you will arrive. Those who arrive before Wednesday, August 1st, may get up-to-the-minute information or assistance by calling either 571–7244 or 333–4208.

PLEASE forward this information to interested students, astronomy club members, or any other interested parties. Hope to see you in Omaha this August.

A New Address

The Secretary of the Kingston Centre has informed me of his change of address which will be as follows to September 22nd, 1973:

GEOFFREY J. R. WYGHT
50 Donvegan Road
Ottawa K1K 3G3
Ontario