

## NATIONAL NEWSLETTER

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### **Flash—General Assembly, 1973**

We are pleased to announce that the Ottawa Centre has invited the Society to hold the next General Assembly in The Capital City from May 25th through May 27th, 1973. This invitation has been heartily endorsed by the Executive Committee.

Note that this week-end is *not* the usual holiday week-end in May. Circumstances prevented holding the Assembly on the earlier date, but we trust that this change will affect no one adversely.

Be sure to mark the date on your calendar now – General Assembly May 25th to May 27th, 1973.

### **A Fantastic Total Eclipse**

Mr. John Findlay of the Calgary Centre was the organizer of a most successful charter flight to the north country to view this eclipse, and the 91 persons participating had a most thrilling experience. On this flight were 6 members of the Calgary Centre, 2 from Vancouver, 2 from Edmonton and 1 from Saskatoon; they were joined by 80 individuals from various states in the U.S.A.

The Lockheed Electra took off from Calgary at 5:00 p.m. on a direct flight to Inuvik, N.W.T., arriving about 9:00 p.m. on Sunday, July 9 – only to learn that the observational site of Tuktoyaktuk was completely fogged in and the forecast for Monday anything but favourable. We sat up the whole night in the airport, talking desultorily or grabbing a nap. About 8:00 a.m. a small blue patch appeared in the sky – a most welcome sight! We rushed outside and gazed hopefully in all directions as the sky slowly opened up. In a remarkably short time enough cloud had disappeared that the ferrying of passengers was begun. Four trips had to be made as the landing strip at “Tuk” would not accommodate a plane larger than a D.C.3. We felt like Santa Claus as we were fortunate enough to travel by “Reindeer”! Half way there, the sky socked in again and our hopes plummeted, but on landing we noticed the clouds were thinning. A brisk wind was our ally and by eclipse time had blown away the last vestige of cloud and a perfect sky awaited the breathtaking event.

As “Tuk” is about sea level with no hills other than a few “pengos”, it was possible to see the horizon in every direction. The beautiful corona with the thrilling “diamond ring”, Baily’s Beads and prominences was accompanied by the most beautiful “sunset” effect in soft glowing light the colour of ripe apricots. The temperature zoomed down to 46 degrees at totality; stars and two of the planets were shining brilliantly – Venus and Saturn.

It was impossible to estimate the value of all the equipment toted to “Tuk” but many photographs and observations were secured as well as the shadow band phenomenon. It was an exciting trip, not only to visit Inuvik but to see the far north country with its bustling communities, taking advantage of the short summer. Helicopters were rushing back and forth at “Tuk” with men and supplies for the DEW Line installation and for the oil companies there. It was our first glimpse of the Arctic Ocean and everyone agreed it was a marvellous experience from an educational as well as a scientific viewpoint.

A view of the midnight sun was an added bonus – it really *does* shine all night long! To find the sun directly north and above the horizon is enough to make you doubt the accuracy of your compass!

MARIE LITCHINSKY  
Calgary

### **The Toronto Centre Eclipse Expedition 8 to 11 July, 1972**

On the afternoon of 8 July, 1972, thirty-nine persons boarded a chartered bus at the McLaughlin Planetarium, bound for Bonaventure, P.Q., to observe the total solar eclipse. Dr. René Racine acted as the leader of the expedition, which listed among its participants members of the Toronto Centre of the Society, and members of the staffs of the McLaughlin Planetarium, the Ontario Science Centre, and the David Dunlap Observatory of the University of Toronto.

A number of experiments had been planned during the past year. Dr. Racine and John Morris constructed a telescope which used a lens of five-inch aperture and forty-foot focal length with which they hoped to photograph the totally eclipsed sun and its corona on an 11 by 14-inch sheet of film. Dr. R. F. Garrison and Dr. Racine also planned to photograph the flash spectrum using an objective prism mounted on a Questar telescope. Under the direction of the author, several student members of the Toronto Centre were to perform experiments using equipment provided by the Science Centre; these included contact timings, direct colour and infrared photography, and photographing flash spectra with a grating spectograph. Denis Halley of the McLaughlin Planetarium devised a photoelectric photometer system to record shadow bands before and after totality.

A practice session for these experiments was held at the Ontario Science Centre during the 1 July holiday weekend under bright sunny skies. The experiments ran smoothly, and much public interest in the eclipse was generated by the sight of so many telescopes pointed at the sun.

So it was that the Toronto Centre Eclipse Expedition went on its way, well fortified with the ministrations of Penny McCabe. The trip from Toronto to Montreal was uneventful. However, when the bus arrived in Quebec City, no relief driver was to be found at the terminus. After over an hour of waiting and frantic telephoning, everyone

was shepherded back on the bus to pick up the driver at his hotel. Somewhere in Quebec City, a young Quebecker is probably still trying to figure out where that bus which stopped him on a lonely side street at 1:30 a.m., 9 July came from!

Having found the driver, the expedition proceeded to the Gaspé. Near Rimouski, growling stomachs, among other things, demanded a stop for breakfast. However, finding a restaurant open at 5 a.m. on a Sunday morning in rural Quebec proved to be beyond the resources of the driver.

The staff at a diner near Matapédia was astounded when forty people trooped in off a bus. Ordering breakfast was the linguistic baptismal-by-fire for the members, most of whom had never before carried on a conversation in French. Needless to say, it was an interesting experience, especially when the waitresses charged different prices for the same items.

After following a path of potholes, construction sites and roadways crossed not less than 23 times by railway tracks, the expedition arrived at the Motel de la Plage, 23 hours out of Toronto, to be met by the Garrison and Ray Thompson families.

Sunday night was one of the most spectacular observing nights ever for many of the expedition members. The Milky Way was clearly visible to the naked eye. Several meteors and a satellite were seen. Across the Baie de Chaleur, two waterspouts were observed.

Monday morning dawned sunny and warm. Telescopes sprouted on the lawns and parking lot as some sixty members of the Toronto Centre (some had arrived by train or car) gleefully prepared for the Great Event. However, by 2:00 p.m. cloud had begun to move in from the west, partly obscuring the sun. At first contact, rain fell, and telescopes were frantically packed away or draped with tarpaulins and raincoats, while amused citizens of Bonaventure looked on.

Jim Low resolutely carried on with his meteorological observations, snug and dry at his table beneath an umbrella and bright orange tarpaulin. Everyone watched glumly (courtesy of the CBC French television network) as totality began under heavy cloud cover – except for Jim McKenzie who *slept* through it. The day ended with a sumptuous “celebration” banquet at a local restaurant with the somewhat ominous (to the English ear) name of ‘La Piouke’ (pronounced “puke”). Our driver, Bob Lajeunesse, regaled the group at the head table with tales of his career, while our ostracised weatherman languished in a corner of the far table.

The next morning at six o’clock, everyone boarded the bus for the long bone-jolting journey home. Once again the waitresses in Matapédia were visited upon by the crazy English. On the way into Quebec City later that afternoon, René Racine treated all the members to a most enjoyable tour — all that is, except for our ‘Sleeping Beauty of Bonaventure’. At Montreal, the scheduled one-hour maintenance stop stretched out to ninety minutes; there was a rush for the telephones to warn families to come for the weary travellers about two hours later than planned.

Finally, with the thought that NOTHING could possibly happen now, the bus pulled out of Montreal. Just outside of Kingston, the Ontario Provincial Police flagged down the bus, looking for fourteen escapees from the Millhaven Penitentiary!

The bus pulled in at the Planetarium at 3:00 a.m., greeted by several anxious parents.

As everyone headed for the waiting cars, the mumbled comment: "The Sahara or bust!" could be heard.

B. R. CHOU  
Toronto Centre

### **Eclipse-72 over the Northwest Territories**

Members of the Winnipeg Centre chartered a DC-3 Transair aircraft to visit Baker Lake, an Eskimo settlement with a population of about 700. Baker Lake is situated on latitude 64, and it was fairly close to the central line of the eclipse path. There were twenty-four people aboard, including the film crew of CBC's National News. Initially there was some concern as to whether we would be able to land, because of poor weather conditions, and heavy cloud hung overhead as we awaited further weather reports at Churchill. We landed on a foggy runway at Baker Lake after completing eight circuits in the attempt! It was a brisk morning typical of other spring mornings when a parka and gloves were so welcome. Ice was receding from the edge of the lake, and some of us went after fish. Others roamed the tundra, amazed by the beauty of the arctic flora of many colours. Some rode into "town" to visit the sights. The fog gradually cleared, but the thinly overcast sky seemed to hang motionless overhead as if it would never change.

The first sign of contact brought waves of excitement, and ground cameras were busy. The cloud cover was thinning, and some shadow was visible. However, it never really cleared sufficiently well for serious experimentation. As time rolled on, it became quite clear that we would have to take to the aircraft for any serious photography. With this in mind, we had set up our headquarters within a few feet of the aircraft. Some climbed aboard, others elected to remain. All of us saw the eclipse in one form or other. Those on the ground were spellbound by the magnificent spectral colour changes associated with the landscape phenomenon, with the pre-eclipse wind, with the silenced bird life, with the fairy-like street lighting of the settlement which was automatically touched off by the darkening lunar shadow, with the reflection of these lights in the lake water and ice, and with the glory of the inner corona as it penetrated the haze.

Those of us who climbed aboard were taken aloft by two excited pilots, who described the scene as "flying into an entirely new world". And so it was. As soon as we penetrated the cloud cover, we were overtaken by the shadow. There were black clouds below and the horizon glowed with an orange hue. Overhead were stars, but orientation was difficult. The pilots maneuvered the plane through 180 degrees in order that all could see the event. Totality was a breathtaking sight with two northern streamers like horns on a bull. Venus and Sirius were both seen. Shadow band flickering was noticed by one member "ahead of the plane's wing and away from the propeller". Shadow bands were successfully photographed on high speed ectachrome by Jack Newton against the aluminum covering of the wing. Perhaps the highly reflecting property of aluminum is necessary to photograph sufficient light between the bands to the extent necessary to show bands. This was a major achievement. Several good colour photographs of the corona

were taken, as well as others in black and white. No aurora was seen. This brief account will require further elaboration in due course. A full assessment of our observations is yet to come.

One thing is quite clear. We had on board three of the finest crew members one could ever hope to meet. The gracious way in which they showed their fullest cooperation was indeed a credit to Transair. They were magnificent.

JOHN SCATLIFF  
Winnipeg Centre

### **Solar Eclipse July 10 from Prince Edward Island**

All Prince Edward Island was under high-running cirro stratus cloud in the afternoons of July 8th, 9th and 10th. Rain developed on the 9th, but the 10th was dry and sunny, if hazy. Tom Cairns and Jim Roy observed and photographed from near the north shore. I have not heard from Tom since the eclipse. Florence and I elected a position five miles south-west of centreline, near the south-east end of P.E.I. facing out over Orwell Bay and the Northumberland Strait. Permission was obtained to use the lawn on the farm of Mrs. Marie Rooney where equipment was set up. All systems were functional. A minute before second contact a fracto cumulus cloud obscured the sun completely, but cleared about three seconds before totality began, so that the inner corona was easily seen, though the cirrostratus layer scattered enough light to prevent any stars or planets being seen. I did not think totality was as dark as at Wivenhoe in 1963. Florence M. Shinn reported the orange glow around the horizon. As this was my first visible eclipse I could not compare the corona with any other except remembered photographs, and would hesitate to describe any special features. Photos were taken but have not yet been processed. The shadow band equipment recorded the drop in light intensity, but no bands were visible or as far as I know detected.

Some 100 members of the A.A.V.S.O. were on the Island, and gathered for a comparing of notes in the evening of the 10th. Mrs. Mayall and Newton Mayall reported cleared skies near Cavendish where they observed. They had a Questar, and Margaret Mayall reported spectacular prominences during totality. There were conflicting reports of their colour, Margaret reporting them as colourless while Newton insisted they were "*RED, RED*"! Maybe they were watching two different eclipses. This observer, knowing the corona would be largely outside the field of his own 4" "Poor Man's Questar" (to quote John Mohler) forgot to look for prominences! The telescope showed the partial phases and Diamond Ring very nicely, though the silvered solar filter was rather too dense for the best sunspot detection.

No reports from any observer so far contacted gave any report of visible shadow bands; everyone assures that the haze overcast prevented them from developing. A large group from the Detroit Astronomical Association was observing about a mile from the Shinn's location, and the fracto-cumulus obscured second contact but cleared before third contact. Again, no shadow bands were observed.

No one I have spoken to on P.E.I. was totally clouded out, so one could say this was a satisfactory location.

B. F. SHINN  
Winnipeg Centre

### **“A Glimpse Down the Road to Heaven”**

The 1963 eclipse in Quebec was a glorious sight. My nephew and I joined with hundreds of other people at Grand Mere. About 20 minutes before the eclipse began a few clouds were gathering. We quickly packed our gear, including a 2.5 inch reflector and drove southeast to St. Stanislas. Our viewing spot was a nice hill, about 100 feet above the village. Not a cloud in the sky. Just the two of us on top of the world! A perfect view of that enthralling sight with the corona and the streamers. Then the chill, the sudden breeze, the bells on the cattle ringing as they ran for home, the birds suddenly singing their evening songs, the ethereal light (gigantic indirect lighting) all around us. And after the eclipse, the Angelus rang from the church in the valley. I think the whole experience I would liken to a glimpse down the road to heaven.

MARY C. WYNES  
Unattached Member, Niagara Falls, N.Y.

### **Goondiwindi Recalls 1922**

The Department of Astronomy at the University of Toronto recently received a letter from Mr. Graham F. Todd, President of the Goondiwindi Historical Society, saying that they proposed to commemorate on September 21, 1972, the 50th anniversary of the testing of the deflection of starlight near the sun's limb as predicted by Einstein's relativity theory.

The theory, in 1915, had predicted a deflection which, though small (only 1.75 seconds of arc right at the sun's limb), was twice the amount predicted by Newton's law. The first adequate tests, made by British astronomers at the May 29, 1919 eclipse in Brazil and in the Gulf of Guinea, West Africa, had been encouraging, but inconclusive. For the 1922 eclipse further observations were planned, including those by Sydney Observatory at Goondiwindi and those of the Lick Observatory and the University of Toronto at Wallal in Western Australia.

To supplement their historical material concerning the Goondiwindi observations, the Historical Society asked us for literature concerning the University of Toronto expedition to Wallal. We sent them 27 pages from the unpublished autobiography of Dr. C. A. Chant describing in detail the problems of the Toronto party at Wallal and a copy of the Publications of the Dominion Astrophysical Observatory by Dr. Chant and Dr. R. K. Young (then at Victoria but soon to move to Toronto as Dr. Chant's assistant and later his successor) which reported the outcome of these observations. Their

results and those of others at the 1922 eclipse are generally regarded as conclusive verification of the Einstein prediction.

J. F. HEARD  
David Dunlap Observatory

### **A New Home for Winnipeg Centre**

While we have enjoyed the use of our present premises, unfortunately their cost has risen to a point where our meagre funds cannot meet the required rent of \$45.00 per month. Building our own observatory is, of course, out of the question, so a new home had to be found.

Through the good offices of Mr. Richard Bochenko, a member of our Centre and lecturer at the University of Manitoba, we were able to secure excellent accommodation at the University. We shall enjoy the use of (1) a large lecture room (Room 100) in the Fletcher-Argue Building, (2) the Planetarium, (3) the observing roof and (4) five or six 3" to 6" telescopes. In addition, we may use the Common Room for coffee and doughnuts. There will also be ample parking space at our disposal in Lot B. All this without charge! Our first meeting for the 1972–1973 season will be held here on September 8.

ELLA DACK  
Editor, Winnicentrics

### **Victoria Centre Telescope Making**

It has long been considered that accommodation for telescope making – particularly for the making of mirrors – was a necessity if interest in astronomy has to be fostered, and new members obtained. Until very recently it has been impossible to find suitable places for this activity.

With the co-operation of the University of Victoria very well equipped space for mirror grinding has been made available, and a group of six persons is active under the supervision of Mr. George Ball. I believe that several others will join as space become available.

Some facility is also available at the University for observing with the University's instruments, but the weather has so far mitigated against it. The weather is now showing definite improvement.

Regular meetings of the Centre are suspended until October, and only the "Booth" at the D.A.O., other than as mentioned above, is active. The D.A.O. Booth is open only on Saturday evenings during the months of July and August as an additional attraction, and to relieve somewhat the pressure of large attendances on the Astronomer on duty. Astronomical literature is sold, and questions – Astronomical – answered. My wife and I, with one or two other members, have conducted this scheme since its inception.

E. E. BRIDGEN  
Victoria Centre

## Sunglasses to See the Stars

I have noticed that if you wear sunglasses when you are out in the bright sun, you have better night vision!

One day I left the house without my sunglasses, it happened to be cloudy. About noon the sky cleared and I was downtown all day without sunglasses. Later that night I tried to find Neptune in 7 × 50 binoculars, it seemed very dim.

The next night, after wearing my sunglasses all day, I found Neptune very easily (the sky condition was the same).

TONY PUERZER,  
Burnaby, B.C.

## Toronto Centre News

Toronto Centre's summer meeting on August 10 was well attended with nearly 150 members present, including National President, Dr. Jack Locke, and his family, to see the Bell telephone film, "About Time." Unfortunately, poor weather prevailed at the time of the Centre's Annual Picnic, although 75 members did turn up at the Albion Hills Conservation Area north of Toronto. The weather also interfered with our Public Star Night programme, with two of the four events being rained out.

At a meeting of the Centre's Council on August 31, we accepted regretfully the resignation of Councillor Robin Macfarlane, who intends to enter university in September. Mr. Denis Halley, an active member and on the staff of the McLaughlin Planetarium was elected to complete Mr. Macfarlane's term.

The fall programme will begin with a meeting on September 8 at which reports from members concerning the July 10 eclipse will be featured. Thereafter, the Centre will meet every second Friday at 8:15 p.m. in the Lecture Hall of the McLaughlin Planetarium, except for October 6, when we will pay our annual visit to the David Dunlap Observatory. If you happen to be in Toronto on a meeting night, why not drop in and say hello?

HARLAN CREIGHTON,  
Toronto Centre

PROFESSOR E. S. KEEPING of Edmonton Centre gave the Convocation Address at the University of Alberta in June. On that occasion an honorary LL.D. degree was conferred upon him and the congratulations of the membership go out to him. Professor Keeping has been a member of the Society for 40 years and is a Past President of his Centre.

MR. CYRUS FERNALD, Fernwold Observatory, P.O. Box 461, Wilton, Maine. 04294. U.S.A., would like to dispose of a complete file of the Journal going back to July 1933. Anyone interested in obtaining these, please contact Mr. Fernald.