



NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC

VOLUME 2002 ISSUE 6

NOVEMBER/DECEMBER 2002

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Looking Ahead

Remember, you are always welcome to attend meetings of Council, held on the first Tuesday of every month at 7:30pm in the G.S.O.

Nov. 12: John Nemy of The Pacific Observatory presents his talk, "The Spiral Nebulae Story," showing how the mystery of the spiral nebula was solved, from Mount Wilson to Hubble.

Dec. 10: AGM; Lee Johnson also presents an *In Transit* talk.

Next Issue Deadline

Material for the January Nova should be submitted by Monday, Jan. 6, 2003. Please send submissions to:

Gordon Farrell
(gfarrell@shaw.ca)

Report of the 2003 General Assembly Committee by Craig Breckenridge

November 6, 2002

Arrangements for the 2003 General Assembly are progressing rather well.

Our two main Guest Speakers, The Ruth Northcott Speaker (Dr. Gordon Walker) and the Banquet Speaker (Mr. Alan Dyer) have both been confirmed. Our dinner Speaker for the Saturday night cruise, Mr. David Levy, has also been contacted and has accepted provided all the details can be worked out satisfactorily. We don't foresee any problems here. Additional Speakers for Saturday have also been contacted and have tentatively accepted. We will confirm they will speak before the end of the year.

Invites for participants in workshops for Friday and Sunday have been invited. One workshop will be on photography and a comparison of digital and traditional film techniques will be compared. A second workshop showcasing some of the software available to modern astronomers will be presented. A third

workshop has not had the content decided yet, but something on observing techniques would probably be appropriate.

The Call for Papers has been sent to the Journal Editor by William Fearon. Paper presentations will take place Friday in order to accommodate schedule planning for Saturday's Speakers. We have tried to arrange things so all delegates are able to enjoy our Speaker line up.

The rooms for all events have been reserved. Reduced rates were obtained by the kind sponsorship of the Department of Physics and Astronomy at the University of British Columbia. All dormitory and hotel rooms have been blocked out as per comments raised at previous National Meetings. President Rajiv Gupta has been invited to attend GA Committee meetings as he sees fit and minutes of all meetings are sent to him.

A revised flyer will be printed for distribution to all Centres. On-line registration will be set up

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Important Matters

by Marc Verschueren

When I stand there with my small telescope looking at that immense universe, I always try to be very well aware of what I see. There are always the distances. This is not just some light I look at, that are stars, galaxies, and nebulae. This is the heart of observing; it makes it so fascinating together with the pleasure of finding one's way through the charts of the heavens. My humble telescope only sees a small part of this magnificent space. But looking through the scope leads me back to my desk: books and journals, the literature, that other window on the universe. There is such an enormous variety of material available that it can get just overwhelming. It is not wise to pay close attention to all of it. That leads only to complete confusion. I like to choose what I think is really important.

From where I usually observe, somewhere too close to the big city, I can practically never see galaxies, except the most prominent ones like the Andromeda. Spirals I see mostly in the beautiful photographs from the large telescopes. The spiral shape is, apart from being beautiful, fascinating. It reminds us of some circular movements on earth such as low-pressure areas on a weather map, but is actually very different. I have always wanted to know a little bit more about what causes these spirals, not necessarily a thorough theory,

but a good basic idea. Articles that mention spirals are always very cryptic on where that shape comes from. One usually refers to some 20 year old article and mumbles something about pressure waves. Not very informing. A few months ago, *Sky and Telescope* finally published an article on the subject. I was really looking forward to find some answers. But now it became clear why all references to the theory of spirals are so cryptic. This is still very much an unsolved problem. There are suggestions and some computer simulations that seem to make some sense, but there is not a real, more or less definitive answer. Most remarkable. Spiral galaxies can be seen in relatively small telescopes at a dark site. Some of them are in our neighbourhood in the universe. Another example that one does not always has to look very, very far to find important unsolved mysteries.

But some of the most basic questions about the universe do require very special observation techniques. My small telescope will not do. The size and the geometry of the universe is what I am most interested in. This is no doubt related to my very early interest in astronomy when I was first introduced to the magic of planetary orbits. Kepler and Newton will always be my intellectual friends. Now we have the opportunity of looking at a much larger scale. The most promising tool to find out a lot

about the geometry of the universe is the study of the Cosmic Microwave Background. I have heard about this, of course, since its discovery in the 60's., but it is only more recently that I appreciate better its fundamental importance, especially how the detailed structure of the CMB in space and time can really let us see what the geometry of the universe is like. It is amazing that we can look today at some events that actually happened not too long after the birth of our universe. The structure of the CMB was created very early in the history of our universe. The results of the Map satellite, in which UBC is involved, are awaited with great interest. We may eventually find out what large scale curvature the universe really has, how it curves, or if it curves at all.

Another favourite of mine are distances in the universe, much better known now thanks to the parallaxes measured by the Hipparcos satellite. Hipparcos will have a successor: GAIA from the European Space Agency. These satellites measure relatively short distances but they are essential to calibrate the much less accurate large-scale distance measurement methods. For the very large distances, we need bright lights that can be seen at very large distances. In the last few years, gamma ray bursts, type Ia supernovae and x-rays have become most important. They are

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President's Message

As this is my final message to the membership through the wonderful production of NOVA, I thought it might be a good place to thank the people who have helped me throughout my two-year term. While I am not going to name them all, the Council lists for the past two years is a good place to look for their names. The support and dedication to Vancouver Centre that these volunteers have given is what has made this job so enjoyable and possible to accomplish. While the years have had their difficult times, I feel the progress we have made and the changes we have implemented will serve the Centre well in the years to come. My thanks go to these hard-working members.

Another group within the club that deserves recognition is the small bunch of observers who bring their equipment out to the many events we attend each year. We hold, on average, more than one event each month and some of our dedicated members have come out to almost every one. The public at large gets their impression of the Society, both Centre and nation wide, from the demeanour and enthusiasm of the individuals. My thanks for the excellent representation they have made on our behalf.

Thanks should also go to the members who have made their way to the auditorium of the Pacific

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About RASC

The Vancouver Centre, RASC meets at 7:30 PM in the auditorium of the H.R. MacMillan Space Centre at 1100 Chestnut St., Vancouver, on the second Tuesday of every month. Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently \$51.00 per year (\$26.00 for persons under 21 years of age) and can be obtained by writing to the Treasurer at the address below. Annual membership includes the invaluable Observer's Handbook, six issues of the RASC Journal, and, of course, access to all of the club events and projects.

For more information regarding the Centre and its activities, please contact our P.R. Director.

NOVA, the newsletter of the Vancouver Centre, RASC, is published on odd numbered months. Opinions expressed herein are not necessarily those of the Vancouver Centre.

Material on any aspect of astronomy should be e-mailed to the editor, mailed to the address on page 5, or uploaded to SpaceBase™ at 604-473-9358, 59.

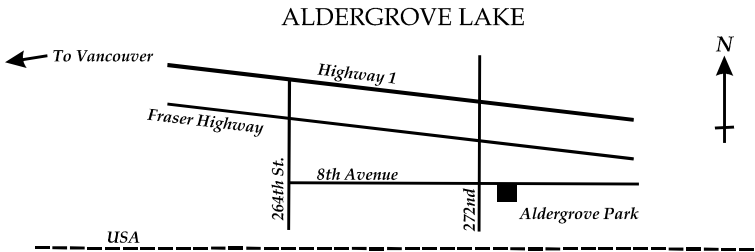
Advertising

Nova encourages free use of its classified ads for members with items for sale or swap. Notify the editor if you wish your ad to run in more than one issue.

Commerical Rates

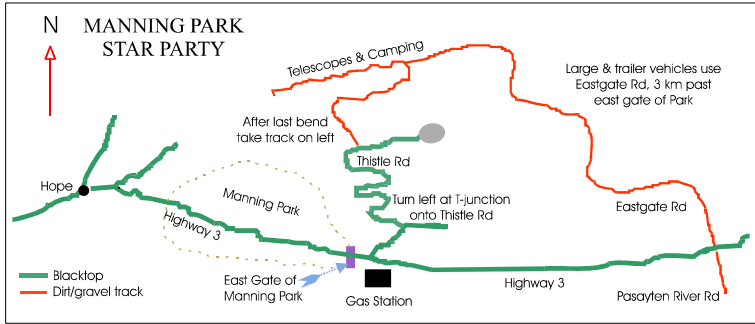
1/2 Page: \$25.00 per issue
Full Page: \$40.00 per issue
Rates are for camera-ready, or electronic files. Payment, by cheque, must accompany ad material. Make cheque payable to: RASC Vancouver Centre.

Observing Sites

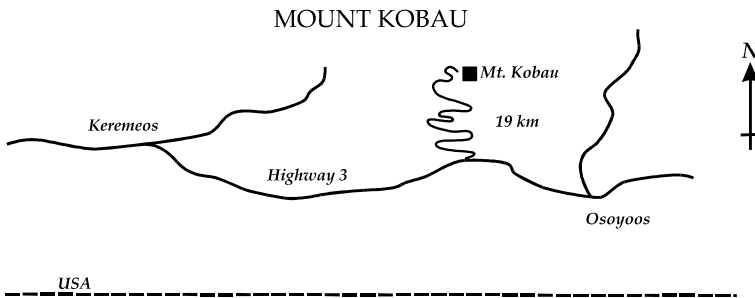


Dale McNabb Observatory in Aldergrove Lake Park (RASC Vancouver Centre's regular viewing site)

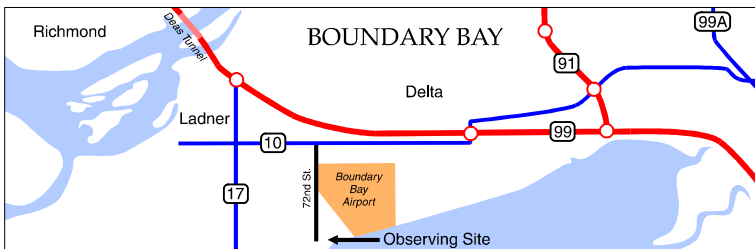
Contact Mike Penndelton (604-888-1505) or Howard Morgan (604-856-9186)



Site of the annual star party organized by the RASC Vancouver Centre



Site of the annual Mt. Kobau Star Party organized by the Mount Kobau Astronomical Society



Site of the regular Thursday night star party. On the dike at the foot of 72nd St.

Upcoming Events

November

18 – Leonid meteor shower peaks

December

10 – Annual General Meeting

May

10 – Astronomy Day

15 – Total Lunar Eclipse

FOR SALE

Cave Optics 8" f/4.5 Newtonian reflector. Includes tube, optics, mount, original tripod with wheels, and 2 finder scopes (one large). Price negotiable. Call Ken Nelson at 604-921-6967.

Dreaming of a RASC Christmas?

Looking for the perfect gift for that hard-to-shop-for RASC member? Check out the merchandise available at the GSO after the meeting.

ASTROCOMPUTING

SpaceBase™ (604-473-9358,59). Affiliated since 1992 with RASC Vancouver, our link to RASC Net, RASC Members only chat area. Future data distribution hub for CARO Project. Features include latest HST images, current world space news and astronomy programs. Provides a file uploading facility for submitting articles and imagery to Nova.

LIBRARY

The centre has a large library of books, magazines and old Nova's for your enjoyment at the GSO. Please take advantage of this club service and visit often to check out the new purchases. Suggestions for future library acquisitions are appreciated.

RASCVC on the Internet

<http://members.shaw.ca/rascvan/>
or <http://www.rasc.ca/vancouver>

H.R. MACMILLAN SPACE CENTRE

The Pacific Space Centre Society is a non-profit organization which operates the H.R. MacMillan Space Centre and Gordon M. Southam Observatory. Annual Membership (\$30 Individual, \$65 Family) includes a newsletter, Discounts on Space Camps, special programs and lectures, Vancouver Museum Discounts, and free admission to the Space Centre. Admission to the Space Centre includes: Astronomy shows, Motion Simulator rides, multimedia shows in GroundStation Canada, and access to the Cosmic Courtyard Exhibit Gallery. For Membership information, call Mahi Jordao at 604-738-7827, local 237 for information. You can also reach them on the Internet at <http://www.hrmacmillanspacecentre.com/>

MEMBERSHIP HAS ITS PRIVILEGES!

New members, did you know? The Vancouver Centre has 8 telescopes available for loan free of charge! We have telescopes ranging from 60mm to 10" diameter. For more information see Phil Morris, Director of Telescopes in the lobby of the GSO *after* the members meeting. All telescopes are to be picked up and returned at the GSO. The loaner period is for one month, to be returned after the next meeting. Telescopes are not allowed to circulate outside of these meetings. You can now reserve 2 different telescopes per year and use what is left at the end of the meeting anytime. Phil can be reached at 604-734-8708.

Your greatest opportunity as a member of the R.A.S.C. is to take advantage of the company of other enthusiasts to increase your knowledge, enjoyment and skill in astronomy.

The best thing you can do to gain the most from your membership is to get active! Take in the club meetings; engage other members with questions; come out to observing sessions (also known as "star parties"), and, by all means, volunteer to take part in our many public events.

Observing takes place at the Dale McNabb Observatory in the Aldergrove Lake Park, located in Langley, on 8th Avenue, just east of 272nd Street. We are there most clear nights. Contact Mike Pennelton at 604-888-1505 or Howard Morgan at 604-856-9186.

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Review: Canon Image Stabilization Binoculars

by Seamus Dunne

This is a review I've been considering for some time. I believe other Vancouver Centre members are curious about the new technology and wonder about its effectiveness. There are other reviews available; Gary Seronik, a longstanding member and current staff writer at Sky and Telescope magazine, has a review in S&T, the July 2000 issue. It's particularly worth reading. What I present here will be a little different; it's information that I gathered from the Internet, from Gary's article and from my own experience. I also obtained some information directly from Canon representatives.

The Canon line of IS binoculars is the widest in the industry. There are 5 members in this group alone, ranging in size from 18x50 to 8x32. Other manufacturers, such as Nikon and Fujinon, also make stabilized binoculars, however each company makes just one model. The Canon model that I own, 15x45 IS, is no longer in production; they have been replaced by the 15x50 model. I bought the binoculars in March 2001 in Vancouver.

How It Works

As far as I can know, all of the various makes and models now on the market employ much the same physical principle to overcome the 'shakes': a moving prism assembly is linked to some

sort of gyroscopic motor. All of the Canon Image Stabilization (IS) binocular models employ the same technology, which is their proprietary 'Vari-Angle prism', or VAP coupled to a high-speed gyromotor. This technology was first used in the company's video



cameras and now it's now being applied to their telephoto still-camera lenses.

It's been described as a circular prism, roughly the proportion of a stack of 3 quarter-sized coins. Two parallel optical-windows are attached face-to-face by a special bellows. This bellows makes up the central region (that is, the middle quarter in my analogy) and is hollow. It's filled with a very clear, viscous (and perhaps patented) liquid. The gyro-motor and electronics circuitry is connected to the VAP. When the user engages the ON button, the gyro-motor spins up to

high speed. Because of its tendency to resist any change in attitude, it senses movement, or jiggling, of the binocular. It instantly applies a counter movement to the VAP, which changes its shape, which in turn bends incoming light rays by a small amount. The user has the perception that the pencil of light passing through the binocular is more or less motionless. 2 AA cells power all of this. If you'd like, you can see a simulation of this at Canon's website: <http://www.canon.com/technology/optics/index.html>.

The Nikon binoculars, with the catchy name StabilEyes, apparently employs a similar gyro and prism technology but boasts two modes of stabilization: 'land' and 'on-board'. They require 4 AA cells and supposedly these binoculars will operate up to six hours on a set of cells. The trade off is increased bulk and weight. They're listed at 1340 grams, compared to 1100 grams for the Canon 15x45 binoculars, 2 AA cells included. Compare this to Fujinon's TechnoStabi 14x40 binoculars at 1220 grams or 1,047 grams for the 7x50 binoculars from Steiner (no image stabilization). Weight is always a factor, particularly for astronomical use, where one must lift the instrument above eye level. I wish they were lighter. Considering battery life, I found that I could get about three to four

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hours of time with one pair of alkaline cells when used intermittently, say 30 seconds ON and 2 minutes OFF. When turned ON, I measured the current drain at a constant 290 milliamps. One must press and hold quite firmly the button to engage the stabilization. The button switch has been improved in the newer editions. One now switches the binoculars ON and OFF or, after five minutes, it automatically goes OFF. Of course they're still functional when the power is dead; one simply needs to find a fencepost to steady them.

Overall I found these binoculars to be very well made. The body is, I believe, a fibre-reinforced plastic, perhaps polycarbonate (although the Canon people I spoke with could not confirm this), covered in a skin of fairly hard, smooth rubber. I'd like a little more texture to improve one's grip but the covering is tough and resilient. Inside I assume that all glass surfaces are multicoated and the prisms are BaK4 glass but, again, it's not something that Canon confirmed. The eyepiece is a 5-element assembly and gives 4.5° FOV. Focussing is done manually; it's straightforward. However, I have a gripe with the ergonomics of the diopter adjustment. Like most binoculars out there, the diopter adjustment is located on the right eyepiece. On most Canon IS binoculars the right hand controls the ON button. Thus I found it somewhat difficult and

annoying to support the binoculars with my right hand alone and also engage the IS feature while I had to reach up and across the binocs with my left hand to adjust the right eyepiece. The entire weight is born by my right hand. To me this is wrong. I believe any Industrial Design student would receive an F grade for this flaw. The remedy: switch one of the functions to the other hand.

Still, I take these everywhere: dog walks, concerts, camping and of course observing the night sky. I can even study Great Blue herons practising Tai Chi in ponds nearby. The closest focus is 18 feet, or 5.4 metres. They are considered to be 'all weather' proof but not waterproof. The Canon Service Manager, Henry Tiexeira, told me that constant rain is OK and perhaps splashing with water is OK, but not full immersion. At this price, I'd expect them to be fully waterproof. Nothing less. Replacing the batteries—yes, I know they're properly called cells—is a snap: just pop open the cover using a fingertip. And it is a snap... as long as it's daytime. But if it's nighttime it's not so easy. The etched orientation symbols are difficult to read. Either one must remember the correct polarity (+ up on left) or pull out a flashlight (do you have a hand free?) or simply guess the correct arrangement, a one-in-four gamble. There's no harm done if the batteries are reversed, but of course the IS feature may not work. Keep in mind this is only a minor complaint but could be

easily fixed. Another issue is the carrying case. It's a two-part, silver-coloured, hard-shell plastic case that is lined with foam. Think of a clamshell with a zipper. This requires two hands to accomplish, unlike a conventional case, where one can simply drop the binoculars into the case while it's slung over the shoulder. The strap (which is quite substantial) holds the binoculars, which in turn hold the case. I question the design and I never use the case, except to ship them back to Canon. More in a moment.

I found the eye relief to be adequate but the three-millimetre exit pupil is a bit small for nighttime use. Those among us whose pupils still open beyond five or six millimeters will be wasting some vision. I suspect that Canon designers decided that this smallish exit pupil was preferable to sacrificing magnification. It seems to me they have gone for power at the expense of field-of-view. Why? Because magnification demonstrates their IS technology. Like Gary Seronk wrote in his review, I never fail to marvel at how well it works. Nevertheless, I'd like to have a little more of the latter and give up some magnification. Then a tripod would be less necessary. This brings me to another point. Although the 15x45 model that I own does not have a tripod-mount, the newer Canon models do boast this feature. It's something that I consider quite necessary. Canon left off a tripod mount on this

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RASC National Council Meeting - Oct. 26, 2002

by Bob Parry

Pomponia and I made the journey to Toronto for the fall National Council Meeting, which was the first "Full" council meeting chaired by Rajiv Gupta, the incoming President. Rajiv did chair the short Council meeting that happens right after the GA but this was his first full-blown meeting.

A few things came up during the President's Message.

- Rajiv wrote a letter on behalf of the RASC supporting Alan's weather reports.
- Calgary will now start to use National's renewal system.
- Renewal notices may now go out by e-mail
- For Centres seeking Funding from Federal Agencies such as the NRC, CSA or other Federal funding agencies, all requests are to go through National Office. This was at the request of the NRC, which did not want to deal with 26 separate applications. This brought about significant discussions, but in the end it was agreed that this could have wide ranging benefits for the RASC. There was a temporary policy passed that would be in effect until a permanent policy could be drafted and passed at the 2003 GA.
- It was felt that this would allow funding of truly National Programs that would be of the most benefit to smaller centres. This might allow resources and

programs to be national in scope.

1st Vice-President's Report:

Peter mentioned that there were now too many comet and minor planets with Canadian connections to be mentioned at the meeting. The full list is posted at our website, www.rasc.ca, and he encourages members to take a look.

National Secretary's Report:

Nine Messier Awards and 3 Finest NGC awards were presented. In the list of Finest NGCs was Lance Petriew! Best know as the discoverer of comet Petriew a little over a year ago now.

Minutes of National Meetings are being scanned and posted to our website. The idea is to have minutes back to the very beginning of the club (over 100 years ago) available. So if you want to beat the rush, get out there on the 'net and find out just what they were talking about in 1904, for instance.

Treasurer's Report:

The Society looks to be in good shape. Some expenses that were budgeted for, such as the Computer budget, are going to be less than anticipated. This means that we should again have a small surplus. The actual spreadsheet is in the Members area of the National website, so I will not bore you with those details.

Publication Report:

There were some complaints about the Calendar containing photos from non RASC members

and that some photos sent in were not acknowledged. Raj said that he knew that had happened and that he would try to acknowledge all those who send him photos. It was also mentioned that he will not publish photos of the same object within any two year period. That means if you have the best photo there is of M31, chances are that it will not be published soon.

Complaints were expressed about delays in shipping of The Journal and Sky News. Records show that the delay was from Sky News and not The Journal for 5 of the last 6 mailings.

As a means of reducing costs, Pomponia and I suggested the possibility of sending The Journal and the Annual Report in some electronic form such as a CD. Many on council felt that conventional paper publishing was the only way to go. However, with looming postage increases of up \$8,000 per year, something will have to done.

Bob Garrison is trying to raise the status of the Journal so that more professionals will publish papers in it. This is long time goal of Bob's and he is working very hard to do this.

Committee Reports:

Astronomy Day:

This year, the official Astronomy Day is May 10th. This is very late for those of us who live at these latitudes. The chair of the committee, Bruce McCurdy, being from Edmonton, said that their

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club was going to have their official ceremony a month earlier. This could present some problems with pre-planned events and media coverage.

Constitution Committee:

There will be a new model for Centre bylaws soon.

Nominating Committee:

With the unfortunate passing of Prof. Hanbury Brown, there is a vacancy for an Honorary Member. If there are any nominations please have them for the next National Meeting on Feb. 22, 2003.

Property Committee:

The tenants above the RASC office have requested that new flooring be installed and that the floor be extended to fill the gap that exists down to the RASC office.

Computer Use Committee:

There is some chance in the future that we will lose St. Mary's University as a location for our website. This not urgent but the search for a new location is starting.

Now we get into the only portion of this meeting that caused any controversy. This was the change of status from Special Committee to Standing Committee for three current Special Committees. These are:

- Light Pollution Committee
- Observing Committee
- Education Committee

This would require a By-law amendment and a vote at the upcoming GA. The question was asked: What is the difference

between a Standing Committee and a Special Committee?

Robert's Rules says that Standing Committees are committees whose function is necessary for the operation of the Society. Any other committee is a Special Committee.

There was discussion that Special Committees did not have the "Status" that Standing Committees do and some felt that this was necessary even though there would be no functional difference in the operation of the committees.

The various votes passed the promotion of the Observing Committee and the Education Committee to Standing Committees and the defeat of promoting the Light Pollution committee to a Standing Committee.

Observing Certificates:

There is going to be a promotion for the completion of the new Observers Certificate. The award that will be presented has not been chosen as yet but will likely be a telescope of some sort.

Education Committee:

The Education Committee redid the Astronomy Program and expanded it to be applicable Canada-wide. The committee asked for and received \$3,500 for the development and publication of the *Skyways*.

A proposal to distribute surplus Observer's Handbooks to high school libraries was passed along with a budget of \$200.

The last item was the motion to amend the bylaws to change the

voting status of chairs of Standing Committees from voting to non-voting status. This was carried 17 For to 7 Against.

This concluded the meeting part of the meeting and from here we moved on to have dinner and then go out to the Toronto Centre's new observing site.

Toronto was the benefactor of a once in a lifetime event. Ralph Chou received a phone call in late 1999 from a member who wanted to make a donation to the club. This donation turned out to be 40 acres and a large semi-finished house about 2 hours north of Toronto. Toronto Centre invited those present at the Council Meeting to a tour of the facilities. This required those attending to bring a sleeping bag.

A Toronto Centre member is a retired Architect who said that he called in every favour that he knew of after many years in the business. It paid off as this is on lovely facility. They built a roll-off roof observatory for the 16" LX200, also donated by Geoff Brown, and very nice warm room. All I can say is every centre is very jealous. This is an outstanding observatory and Toronto Centre deserves credit for being both very lucky and doing a great job on building the Observatory. ★

Journal of a Gypsy Astronomer

by Angela Squires

The first quarter Hunter's Moon cast a glittering reflection across the Fraser River. Just outside Garry Point Park at the westernmost end of Steveston has become my temporary homeport. I truly have reason to be thankful on this thanksgiving. The Humming Chorus from Puccini's *Madama Butterfly* wafted me across the silvery path to touch the Hunter's moon.

Since moving aboard my new 27-foot motor home I have become a proud homeowner. I finally understand why people spend their scant leisure decorating and renovating their homes. I think of my home as a land cruising sailboat because it was my more practical and less costly alternative to a live-aboard sailboat, my dream for several years.

Lavished upon "SV Georgina" are a copper and brass oil lantern, a solid brass barometer and clock with Roman numerals and a Ship's Bell. Georgina's maiden voyage to Vancouver Island was crewed by 1st Mate and Steveston resident, my cousin Tina, with a novice cabin crew composed of her Mum (my Auntie Barbara) and another cousin, Pam from England. We had a wonderful time and fell in love with Chemainus, not only for its murals but glorious turn of the century buildings and shops. Our first port of call was the "Centre of the Universe," the year-old education

centre at the Dominion Astrophysical Observatory (DAO) atop Little Sidney Mountain. We took their tour of the 72-inch Plaskett Telescope, which my non-astronomical crew thoroughly enjoyed. We were given a Starlab show and I spent freely at their imaginatively stocked gift shop. A lot of thought has gone into their selection of goodies and I'll be showing my booty to Jennifer at the HRMSC shop.

This first voyage revealed the bane of my life—speed bumps! Quartering the ocean waves does not work with wheels; you have to hit them straight on the head. A diagonal bump precipitated plates and bowls from the overhead locker around cousin Pam. Miraculously she wasn't injured, not so the china! My sailing experience provided the solution with brass cabin door hooks and eyes holding the lockers firmly closed. My forays at Steveston Marine store spawned another idea. A teak glass rack mounted on a teak rail is suspended on a slope by a hook and eye door lock below the locker-mounted light. Hand-painted highball and crystal wine glasses sparkle beautifully but I'm still working on a tinkle prevention device. Locking brass hooks suspend handcrafted pottery mugs inside their locker. Strategically placed anti-skid material keeps much in place. Visitors to my apartment often remarked that it looked like an art gallery. Most of my 2-D art is hanging in Georgina.

The magic substance for non-swinging frames is marine silicone. A dab in the lower corners adheres them to the wall, is non-marking and removable. My freestanding sculptures and an exquisite celadon glazed, carved bowl by Judy Dyelle are secured with the same goo.

On the last day of our cruise I dropped off my crew in Victoria and went to visit Robin Hopper and Judy at Chosin Pottery. Robin is a fellow Brit, a world-renowned ceramic artist, writer, teacher and garden designer. Judy hales from Montreal and makes delicate pierced and carved work that exudes her very being. She is there on my cabin table, her presence distilled in a bowl. Robin has evolved the design of his functional ware by precise study of the human hand and its relationship to tools. I have my heart set on one of Robin's more expensive decorative pieces. Robin's garden is featured in several magazines and I was given a personal tour. One whimsical feature by his studio is ceramic Khoi fish set in a 'river' of stones. A friend dubbed the Chinese red bridge across "The Bridge on the River Khoi."

Georgina will carry me south to clear, dry skies where I'll explore the winter Milky Way that I rarely see in Vancouver. For me, astronomy is a journey of the spirit. At Manning Park my heart soars as the end of astronomical

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so energetic that they allow us to look further and further back in space and time. Again this is something far out of range of our small telescopes but of great help to understand what we are looking at with our small scopes. In the same class we have the type Ia supernovae. The x-rays probably tell us something about an extremely condensed part of the universe—black holes. The Ia supernovae inform us about the largest distances we can measure and about the behaviour of the universe as it expands. Does it slow down or speed up? Remarkably enough, these supernovae can be seen with relatively small scopes. The expansion seems to accelerate now, and this leads to possibly the most intriguing question of all: What kind of energy is driving this acceleration? This could lead to a whole new chapter in physics, just like gravitation did in the days of Newton. And as far as gravitation is concerned, we would certainly like to see gravitational waves. With observatory like Ligo near Hanford just south of here, we may be closer to an answer than we think

There are so many things my small telescope cannot see, but there is also a lot it can see. And what I can see I see better if I know more about what I think is important in astronomy today. ✨



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utilizing the software package developed by previous GA organizers. A dialog between the programmers and members of the registration committee will start to take place in November. We would sincerely like to include on-line payment and have suggested a couple of ways in which this might be accomplished. Further discussion is required with National input but we hope to have this worked out by January. This is a primary goal for the GA Committee.

The schedule has been fleshed out a bit more with the inclusion of sub-committee chairs listed. It has been suggested that a reduced rate be offered to local membership in order to obtain greater attendance. It has been thought that an appropriate manner

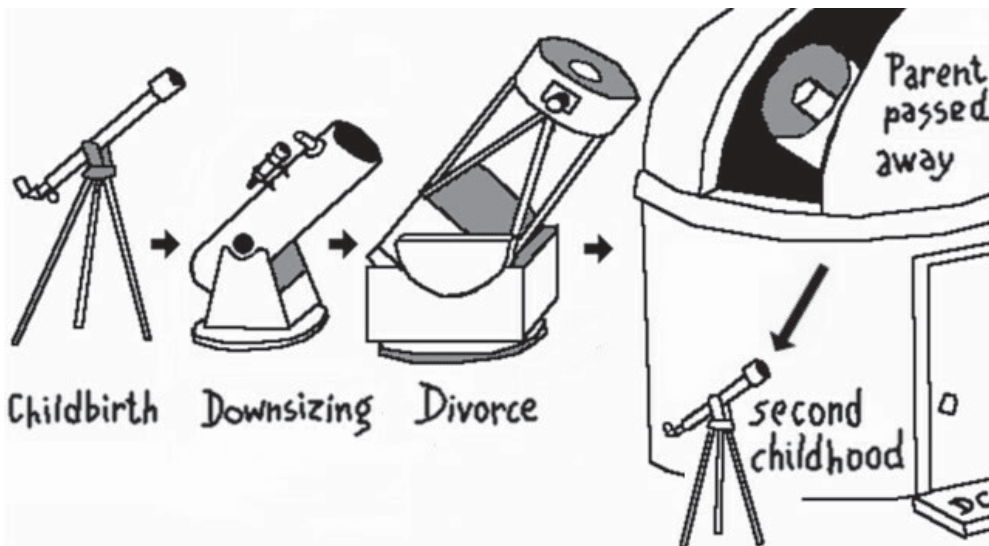
in which to offer this rate is to volunteers of the Assembly. It is felt that a rate of 50% is not unreasonable since many of the volunteers will not be able to partake of some of the events. Offering this rate to volunteers only provides some measure of justification for the rate. Future General Assembly organizers might be encouraged to pursue similar arrangements.

Plans for the Plenary session are progressing with many ideas being presented to the event chair. The invitation to the Governor General has been sent and a reply is expected in the early Spring. Alternate appropriate representatives have been suggested and will be followed up on if necessary. It is hoped that the Plenary session will provide a dignified and enjoyable

experience that is remembered for years to come. Acknowledgement of the 100 years of Royal Recognition will be made at this event and it will be the prime session for this celebration.

Pre- and Post-conference tours can be arranged through Vancouver Tourism provided this information is received in advance. The types of tours offered will be presented in January. The rates we will enjoy for the duration of our Assembly can be extended provided this desire is expressed when rooms are booked. Further information on this will be forthcoming.

Any and all questions will be answered to the best of our ability as promptly as possible. Please do not hesitate to present any comments. *



by Dan Collier

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Space Centre each month. The attendance at our meetings is one of the ways in which the Executive can gauge our success (or lack thereof) with the presentations we make and the activities we organize. I thank you.

The H.R. MacMillan Space Centre has continued to support us and the relationship we hold with them has strengthened. My thanks go to all of their employees who have made our visits so easy.

Lastly, I must thank my wife and two sons who have put up with

impromptu meetings in our home and on top of meetings, they have put up with long nights while I enjoyed my hobby and they entertained those who were more interested in playing cards in our trailer. They have endured long days while I helped to represent our club in events like the Fraser River Festival. They have waited patiently at home while I attended one of our late night parking lot meetings. My thanks to Jill, Teague and Dar for allowing me to chase this opportunity to work on something good.

I thank you all for this privilege of serving the Society and our Centre.

Of course, this doesn't mean I am going away, we still have the GA and I will be increasing my involvement in our observing activities.

“For all the tenure of humans on Earth, the night sky had been a companion and an inspiration. The stars were comforting.” – Carl Sagan, *Contact*.

Be inspired and comforted. ✨

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twilight heralds the deep sky. We amateur astronomers truly have the best of it. We actually look through the eyepiece upon the face of creation. My plan is to earn my living giving astronomy shows in parks and smaller communities. I've already been booked for Manning Park next summer, an opportunity that came about because of the volunteer talks I have given there.

I just purchased two second hand telescopes from Harrison's, ideal for my needs: an 8", F5 Omcon Dobsonian with the admirable Glen Speers mirror and an Antares 5", F8.3 refractor with dual axis drive and lots of goodies. Love that Jeanette—it's such a pleasure doing business with her!

I also grabbed the Brunton 7 x 50, waterproof binoculars. Unwisely discontinued in favour of 8 x 42's, Jeanette bought up

their entire stock so you might want to check them out before she sells them all. I have a 13-ft inflatable boat with electric motor and sailing rig so waterproof bins make sense. Apart from the scopes, my only companion will eventually be a Siberian husky puppy. Peoria near Phoenix is where I hope to get a puppy in April sired by 'Smiles,' the Siberian husky I fell in love with at a dog show here.

I leave Vancouver mid-November and return late April. First port of call is Pine Mountain Observatory (PMO) in Oregon for the Leonids. Then to the Napa Valley for a week of wine and stars with my Scouse (Liverpool) born girlfriend, Joadey. I haven't told her yet to bring her long underwear. Never warn astronomical neophytes 'til the last minute. Once I've dropped a shattered and wiser Joadey at San

Francisco Airport, I'll cruise south to Monterrey, Carmel and Big Sur area where the soft Mediterranean-style light soothes the soul. Then to early winter at Yosemite, south to Death Valley, east to the Grand Canyon, Flagstaff, Phoenix, Tucson and Portal in SE Arizona. The Astronomy Sky Village in Portal is where Jack and Alice Newton hang their winter hats. Their Observatory B&B in Osoyoos has been fully booked this summer but one of these days I'll stay there. March 13th I fly Tucson to Leon, Mexico to spend 16 days in the colonial heritage town of St Miguel de Allende taking a watercolour-painting workshop with Vancouver artist Frank Townsley.

Farewell 'til spring and sorry, cloud-soaked friends, I'm single-handing this voyage! ✨

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earlier model intentionally I suspect, because they wanted to be able to say, “Now a tripod is no longer needed.”

How Things Looked

There is a word for this: superb. The objective is a fluorite doublet—again this is something I could get no firm answer on—made of ‘UD’ glass, that is ultra-low dispersion, considered to be superior to ED glass. Everything is very sharp and contrasty. I’ll give you some examples: While walking our dog, Spike, in Queen Elizabeth Park one early October morning, I stopped to have a look toward North Vancouver. The conditions were ideal: very steady and very cool. I steadied my arms on the bough of a tree in addition to the steadying effect offered by the image stabilization. I was pleasantly surprised, or perhaps astonished by what I could see: the masts of sailboats docked at Lonsdale Quay—about 8 km distance. I could distinguish a door from a window in homes located high up on the West Vancouver mountainside—over 12 km distance. Later I calculated this to

be less than 3 arc seconds resolution! Amazing! I could easily count the number of windows in the quadrangle at Simon Fraser University, about 16 km distance. Some months earlier, while at Pine Mountain Observatory, I could easily pick off M51 and M33—something I’ve never been able to do with *any hand-held* instrument. And the Andromeda galaxy or the Pleiades are stunning. Turning to the moon, I could see craters *inside* the crater Plato, without any other assistance but the IS feature. There is no colour fringing, even on an almost-full moon. Images are sharp right to the edge of the field.

Yes, they performed beautifully. But one day last July, the IS feature stopped. After only 16 months the stabilization feature had failed! I returned the binocs to Canon in Mississauga Ontario. After a couple of weeks, they informed me a replacement of the VAP assembly was required and would cost over \$1,000—more than the purchase price! The one-year warranty had expired. I was shocked and alarmed. I could not afford this. After considering the matter I discussed the cost with the

Canon Service Manager, Henry Tiexeira. He told me that exceptionally few IS binoculars come in for repair and because mine had no apparent dents, shocks or rough treatment he graciously agreed to cover about 75 percent of the cost (by extending the warranty, as a goodwill gesture). Although I initially agreed, the more I considered it, the more I felt that Canon should cover the entire cost. So I pursued this even further through the Canon sales rep and through the store where I bought the binoculars, Lens and Shutter. Canon offered to further lower the cost. I agreed somewhat reluctantly, because I thought this is probably the best offer I was going to get. Eight weeks later they were back in my hands. Now they’re as good as ever. In closing, I can say that I bought these primarily for their optical performance. This they do exceptionally well. Sure, I’d like half the weight, half the price and twice the aperture, but for the most part my complaints are small. I got what I wanted and I got what I paid for. ★



M31
John Nemy

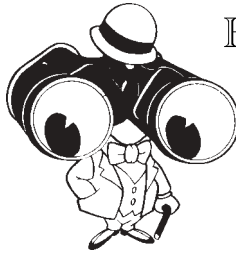
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