NOVA NOTES

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THE NEWSLETTER OF THE HALIFAX CENTRE OF THE RASC
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INSIDE THIS ISSUE...

ASTROPHOTO OF THE MONTH – DAVE TINDALL

A photo of our New President Dave Tindall provided by Mary Lou Whitehorne.

EDITORS REPORT: BY SHAWN MITCHELL

This issue of Nova Notes has been surprisingly easy to produce. The request for material in the last issue resulted in a flood of articles. Which makes the production of Nova Notes a lot easier. Also because of the great response I have had to hold articles until the next issue. So to any article submitters who don't see their article in this issue it will likely be published in the next issue. I publish everything I receive.

Don't think I'm going to let up on requesting more articles due to the recent flood. It would be nice to hear from more of our members and what you are doing. Write a short article on a trip out observing, or an article on what you saw from your backyard, or observing the December 99 shuttle launch from your yard in Eastern Passage (ok Steven). So get out your type writers and computers and write an observing report, or a book report, or a research article, something that you would like to share with other members of the Centre. Ω

NOVANOTES,
THE NEWSLETTER OF THE ***HALIFAX CENTRE OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA***, IS PUBLISHED BI-MONTHLY IN FEBRUARY, APRIL, JUNE, AUGUST, OCTOBER, AND DECEMBER. THE OPINIONS EXPRESSED HEREIN ARE NOT NECESSARILY THOSE OF THE *HALIFAX CENTRE*. MATERIAL FOR THE NEXT ISSUE SHOULD REACH THE EDITOR BY **FEBRUARY 18TH, 2000**. ARTICLES ON ANY ASPECT OF ASTRONOMY WILL BE CONSIDERED FOR PUBLICATION. "LETTERS TO THE EDITOR" OR TO OUR RESIDENT EXPERT: GAZER ARE ALSO MOST WELCOME. CONTACT THE EDITOR AT:

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PRESIDENT'S CORNER: BY CLINT SHANNON

My second and last year as President of the Halifax Centre, RASC, will draw to a close this December after which time I will enjoy the luxury of a more relaxed participation as a member of the Centre.

Our meeting speakers this year were:

15 Jan 99 Sherman Williams "Presenting the Night Sky from a Disk and a Desktop"

19 Feb 99 Dr. Robert Hawkes "The 1998 Leonids: The View from Mongolia"

19 Mar 99 Dr. Roy Bishop "Time"

16 Apr 99 Blair MacDonald "Technical Aspect of Image Processing"

21 May 99 Mary Lou Whitehorne "Microvariability and Oscillations of Stars"

18 Jun 99 Pat Kelly "Trivia Quiz"

17 Sep 99 Mini talks by Dave Chapman, Dave Lane, Shawn Mitchell, Roy Bishop, Sherman Williams, Mike Falk, Clint Shannon, Dale Ellis and Blair MacDonald re summer activities and the Aug. 11th eclipse 15 Oct 99 Mary Lou Whitehorne "Nebulae for Dummies" Steve Tancock "Backyard Observatory Dome" Mike Falk "Ancient Hebrew Names for the Planets"

19 Nov 99 Randy Attwood (National President RASC) "Sending a Spider to the Moon"

And to close out the year at the Dec. 17th meeting Roy Bishop will give a talk titled "Astronomy and HMS Endeavour: 1769 and 1998"

It was my great pleasure to announce, subsequent to the Annual General Meeting on 19 November, that Dr. David Tindall had accepted the nomination for President of the Halifax Centre and is indeed our new President by acclamation beginning in January 2000. He presently holds the position of Associate Professor of Physics at Dalhousie University.

David originated in England where he received his PhD in physics from Cambridge University in 1971 and came to Canada that same year. He has long been a very active member of the Society, first at the Centre level and then nationally. He has been a member of the Halifax Centre since 1973 and became a life member of the Society in 1981. He has occupied the following Centre Executive positions: Vice President '81, '82, '83, Treasurer '86, '87 (until July when he came National Secretary). As VP, David was a strong promoter of Handbook sales by the Centre. As a result of his efforts the Halifax Centre was the leader in Handbook sales (of all the Centres) during the years 1982 through 1986.

Dave has served as National Secretary for two consecutive terms: 1987-90 and 1990-93. A major contribution to the running of Society business has been Dave's RASC Manual, which he single handedly compiled, produced and distributed to the Centres. He has, over the years, participated actively in many Centre events, working long and enthusiastically to promote public awareness of science and astronomy and most especially through his many years of volunteering in the Halifax Planetarium.

Dave was the recipient of the Society's Service Award and received the medal at our Halifax 1993 GA. Ω

PRESIDENT'S REPORT: BY CLINT SHANNON

It has been rewarding to note that a goodly number of our members have enjoyed our St. Croix Observatory this past year. As previously advised, the Celestron Ultima 8" SCT has been installed,

mounted on a steel pedestal in the roll-off and has been used by some members. It is anticipated that the construction of the 17.5" truss dob will be completed early in the new year.

In July we were able to conduct a rather successful evening of public observing on the Halifax waterfront but were not able to repeat the operation in August due to inclement weather. The August 11th solar eclipse was enjoyed by many who witnessed the partial eclipse from Nova Scotia ant the fortunate few who saw the total eclipse aboard a cruise ship off the southeast coast of Nova Scotia and from an altitude of 9000 feet aboard a small charter aircraft. Mary Lou's beautiful picture made the cover of the October Journal, and the November/December issue of Sky News published an excellent eclipse report by Roy Bishop. The Journal also had eclipse pictures by Dave Lane, Ian Anderson and yours truly. Sky News published a spectacular diamond-ring full page picture that Roy captured on board the cruise ship.

After much discussion it has been decided to hold Nova East 2000 in Nova Scotia at Smiley's Provincial Park. A Nova East 2000 committee has been formed which is composed of Daryl Dewolfe representing the Minas Astronomy Group, John Jarvo representing the Nova Central Astronomy Club of Truro and Paul Evans representing the Halifax Centre. This enthusiastic committee has some new ideas and it is expected that they will organize a great new Nova East Starparty. Since it will take place in Nova Scotia in August 2000 it is expected that the turn out should be good as the long drive to Fundy will have been eliminated.

Due to all the recent discussion regarding the monthly meeting night I felt as Centre President that it would be appropriate to express my thoughts on the subject.

Whenever the question has arose as to what night our monthly meetings should take place the overwhelming preference of the members this year has been Friday. The choice of Friday has many things going for it. It is not a weeknight wherein a student, or for that matter, anyone has to normally arise early on Saturday morning. It enables those who have to travel fair distances, such as the Truro and MAG members, to attend without undue hardship. A Friday does not interfere or disrupt possible weekend activities such as a Saturday meeting could. The choice of the meeting night is also dictated or influenced by the availability of the meeting facility.

For those who argue that Friday is not the choice of "young people" as Friday is their choice of "party night", I would point out that we only meet on ten Friday nights a year which would leave 42 Friday nights in the year 2000 for those who want to "party" on a Friday.

The main reason that the Halifax Centre exists is that the members have a common interest in astronomy. A number of good suggestions have been presented in recent e-mail posts with a view towards revitalizing our Centre. I believe that most will agree that it is not possible to satisfy everyone but if a variety of proper programs were presented then at least a good effort would have been made in this direction.

Our present Centre membership is at 170, which is slightly up from 1998. Next month will see the end of my two-year tenure as the Halifax Centre President, I would like to take this opportunity to say that it has been an honour to serve in this capacity and I extend my best wishes and, needless to say, offer my support to my successor. I would also like to express my appreciation for the support that has been given by the Executive Council.

Clear skies! Ω

MERCHANDISE REPORT : BY IAN ANDERSON 2ND VP

Our merchandise sales for 1999 were over $3,000, which were once again quite respectable considering no sales targets or major initiatives were in effect this year. Up to a point, it is safe to say that our merchandise sells itself.

Overall, sales were up from 1998 in nearly every category. We had some miscellaneous revenues from a rental of our C8 telescope, and we sold a carton

Appendix A

Sales by Item

Item	Inventory 9/30/1998	Acitivity Fisc 1999	Inventory 9/30/1999	Sales 1999	Sales 1998
2000 Cals	0	101	54	47	28*
1999 Cals	72 + 20 + 20 - 11		0	101	73**
1999 Obs Hbks	0	75 - 17 - 1	0	57	49
Bogs 3rd Ed	36 + 27		33	30	25
Centre T Sh.	28		24	4	0
Other T Sh.	9		7	2	0
RASC Pins	51		46	5	7
RASC Key Chains	2		0	2	3
Bumper Stickers	6		5	1	1
Other (Box of books)	1		0	1	NA

* 1999 Calendars
** 1998 Calendars

of old library books at Nova East for $25.00.

Consignment sales made up over half of unit sales in the major categories of handbooks and calendars. Unfortunately, we will have to drop consignment sales with a certain retailer[1] and look for new retail replacements elsewhere. Sales by individual members were good as were sales at meetings to our members.

We use discounts to sell to our retailers, or to get the slow moving stuff out of inventory. We surrendered about $500 worth of discounts. Speaking of slow moving, we purchased a batch of stale 3rd edition BOGs which we are still saddled with at this time. It is probable that we will have to write them off in 2000 if we cannot sell them. This will affect our profits in the future.

For 2000, sales of calendars may not be as strong as we might have expected since there is a supply shortage at National Office. We can sell them if we can get them but we may not get them in time.

Appendix B

Sales by Dollar Amount

Item	Units Sold in 1999		Sales Price	Discount	Revenue
2000 Calendars	47	@	$ 14.00	- $ 80.00	$ 578.00
1999 Calendars	101	@	12.00	- 133.00	1,079.00
1999 Obs Handbooks	57	@	20.00	- 215.15	924.85
BOGs 3rd Edition	30	@	12.00	- 62.00	298.00
Centre T Shirts	4	@	17.00	0	$ 68.00
Other T Shirts	2	@	16.00	0	32.00
RASC Pins	5	@	5.00	0	25.00
RASC Key Chains	2	@	6.00	0	12.00
Bumper Stickers	1	@	2.00	0	2.00
Other (Box of books)	1				$ 25.00
C - 8 Rental	1	@	$200.00		200.00
Misc					8.12
			Total Sales Revenue:		$ 3,251.97

Sales of shirts, and non-printed items remain slow, so we will have plenty on hand over the next few years if current rates persist.

Discovery Centre's refusal or inability to pay their account with us leaves us with a bad debt and no choice but to avoid consignment business with them in the future - if they survive.

Discovery Centre Has finally paid their bill.

See you in 2000 ! Ω

PRESERVING OUR ASTRONOMICAL HERITAGE: BY RANDALL BROOKS

Astronomers have always had an interest in the history of their discipline resulting from introductory astronomy most often being approached and taught from a historical perspective. The national collection of scientific apparatus, though only 30 years old, often reflects the desire of Canadian scientists to preserve the tangible fruits of their research. The National Museum of Science & Technology's artifact collection covers scientific disciplines from (among others) astronomy, geodesy and surveying, physics, metrology and meteorology to space and computing technologies.

Much of the astronomy collection originated form government research facilities like the Dominion Observatory, Goth Hill Observatory, Algonquin Radio Observatory and Geodetic Survey but also from universities including Toronto, McMaster and Saint Mary's. Also in the collection are a number of instruments used for Nobel Prize winning efforts including Herzberg's vacuum spectrographs with which the identity of some of the first interstellar molecules were discovered.

The preserved instrumentation provides a window on the capabilities of researchers, the ideas they were investigating and, with some modern scientific analysis, even information on the precision of the measurements being made. One doesn't usually expect to learn science from museum artifacts, but one can learn an amazing amount from a well-developed collection.

This talk will introduce you to the Museum's collection, why and how we collect historic apparatus, and perhaps even refresh your memory of some of the science and the individuals behind the apparatus.

Dr. Randall Brooks is Curator, Physical Sciences and Space, at the National Museum of Science and Technology in Ottawa. Ω

LIGHT POLLUTION: BY PAUL HEATH

'Light pollution is something like the weather, we amateur astronomers gripe a lot about it, but very few of us try to do anything about it' (RASC Bulletin SRAC June 1995)

I suppose this is how I've felt for sometime, even as I have watched my night sky disappear over the last 10 years. Being confined to the city by lack of transportation, I have had to rely on a 'dark site' at the top of Main Avenue.

A clearing past the radio towers affords a view of about 70% of the sky, from 15 degrees above the NW horizon to about 30 degrees above the

SE horizon, were the sky glow from Halifax washes out the sky.

The continued development of Bayers Lake Industrial Park and Clayton Park subdivision, now washes out the sky to about 35 degrees above the NW horizon. Clear cutting of the woods for a golf course, now allows the flood lights and strobes of the radio towers to wash out the NE horizon to almost 40 degrees.

Serendipitous blackouts of Bayers Lake Industrial Park on the nights of closets approach of both comets Hyakutake and Hale-Bopp, have shown me the real potential of my 'dark site' within Halifax.

Now with the impending lighting of the bridges with 330 floodlights each, all pointing straight up! I feel the need to do something to halt and reverse the loss of my night sky. To this end I have begun research into the problems of light pollution.

Reading information from the RASC Light Pollution Abatement Program (LPAP) and the information sheets from the International Dark-Sky Association (IDA), has led me to the following conclusions:

1. A Halifax section of the IDA needs to be formed to coordinate any action on light pollution.
2. Strict light pollution ordinances need to be drafted and promoted to both the Halifax Regional Municipality and the Windsor Municipality.
3. The Nova Scotia Legislature should be approached to set up a Dark Sky Preserve around our St. Croix and (wouldn't it be wonderful) St, Mary's Observatory.

Although this may seem a daunting task at first, a lot of groundwork has already been done by the LPAP and IDA. As with anything, the lack of information is why the 'Status Quo remains'. It would be our job to adapt the information available from the LPAP and IDA to our local concerns. Once done, showing the general public and politicians that Light Pollution is a problem, with viable solutions, will only be a matter of perseverance and stamina.

Despite as they say 'preaching to the converted', light pollution not only effects Astronomers, it effects Society as a whole. Light Pollution inflicts economic burdens through the tremendous waste of power to uselessly light the night sky. Other environmental affects include wasting natural resources, affects to flora and fauna and the social stresses with its effects on driving and crime.

A committee on Light Pollution should not only contain Astronomers, but others concerned about any effects of light pollution, be it social, economic or environmental. To this end, I ask all members of the RASC Halifax Centre to consider persons who may be interested in forming a committee to address the issues of light pollution. I can be reached via e-mail at: space@hercules.stmarys.ca

I encourage everyone to learn more about Light Pollution issues and solutions by searching the RASC-LPAP weblink or the IDA site at http://www.darksky.org.
I hope to update post updates in future issues of Nova Notes.

Dark Skies Everyone! Ω

THE NEOPHYTE'S NEOPHYTE:
BY CRAIG LEVINE

Growing up in rural Cape Breton, I was blessed with living with very dark skies. About 26 years ago, my parents gave me a top-notch pair of Russian-made 7x50 binoculars (stamped CCCP!), which, for me, opened up my eyes to the delights of the night sky. What was beautiful and distant became transformed into a mystical treasure house to be explored. I can still recall the thrill I felt the first time I saw M31 through them, and today it is still one of my favorite nighttime companions. Unfortunately, I never followed up with star maps or viewers guides. Living where I did, I never even knew that they existed. It was enough for me to point my binoculars skyward and admire the sights as they randomly appeared in my field of view.

I left my home 15 years ago to come to Halifax to study and find my direction in life. Unfortunately, not having a car and working *and* studying, my fascination with the night sky was replaced with other pursuits, and my study of the heavens reduced to glimpses of the moon, bright planets and stars through the orange glow of the city sky.

My interest in astronomy became rekindled again in 1996 when comet Hyakatake appeared in the sky outside my old apartment on Windsor Street. The sight of this fuzzy ball in the sky held my interest for hours, the view even more spectacular in my reliable old Russian-made 7x50's. Getting to a less light polluted observing venue was difficult, but I did start to pick up astronomy magazines and read as much as I could on the subject. On my occasional trips back to my parent's home, I made sure to pack my binoculars. I found that having even a rudimentary knowledge of some of the constellations made viewing more pleasurable, and finding my viewing targets easier.

Three and a half years ago, Lynne and I bought a house about half way to Peggy's Cove. The sky to the north, west and south is generally free of light pollution and terrestrial obstructions. The appearance of Comet Hale-Bopp and my first sighting of three of the moons of Jupiter through my binoculars fanned the old astronomy spark to a flame. Much to Lynne's combined

amusement and dismay, my fascination has grown into a full-blown obsession. On recent business trips to Montreal and Ottawa, I managed to squeeze in time to visit *Lire la Nature Inc* and *Focus Scientific (1975) Ltd.* respectively, to talk with the proprietors, price out my future potential acquisition(s), and actually touch a variety of scopes. On a free evening in Ottawa in early November I even took in a meeting of the observers group of the Ottawa RASC, with interesting presentations on odd galaxies, light pollution, and astrophotography, as well as a pre-Leonids talk on the history of the annual spectacle.

What I would like to do with this column is give a recounting of the steps I have taken and will take in my journey towards getting to know the night sky and equipping myself for this trek. One of the more daunting things for a newcomer to this hobby/obsession is figuring out what are the appropriate steps to follow towards making the hobby a fun and fulfilling one. What knowledge is required before one looks up? What are the best tools for the beginner? So far, a good star atlas (Tirion's *Cambridge Star Atlas*), two pairs of binoculars (My 7X50's and a cheap pair of 16X50's), a red penlight and warm clothes have been my tools. Joining the Halifax chapter of the RASC and reading as much as I can have been my next step. I've found some excellent resources for the newcomer to amateur astronomy, and have done a lot of research in my quest for my first telescope. For the newcomer to this most rewarding of pastimes, I've found that your best tools are your eyes and a good supply of patience. I look forward to sharing my thoughts, foibles, and triumphs with you in the coming months. Ω

MURPHY AND ME 1999 : BY MICHAEL BOSCHAT

Well, it was November 17 about 7 p.m. and I was talking to Darren Talbot about the weather situation and going to St. Croix Observatory. As we were discussing the prospect of his arrival time to pick me up I was looking out the apartment window at the clouds and snow squalls coming in. I had no thought of not going at that time I figure possibly it could clear later on as we had discussed the satellite images and the accurate forecasts of AES...hehehe.. Darren said he would arrive at 9:20 p.m. and I so ok. I went out for a walk and as I saw the snow flurries and Moon just visible at times I began to wonder if it would clear, I decided to give a friend a call out in Mt. Uniacke and ask about the weather, he replied that it was "snowing" and he could not see the Moon at all. I said thanks and hung the phone up. I continued walking back home, the time was not about 8:35 p.m. I called Darren and told him I had decided not to go and said good luck to those that were going out to SCO.

I had put everything away that I had unpacked for the adventure and was getting ready to watch some Ren & Stimpy then monitor the radio for radio meteors. I looked out the window and lo and behold there were stars shining through big cloud gaps! A few minutes later Darren phoned and asked if I had looked out the window, I said oh yeah. Mr. Murphy Law had dangled a carrot in front of me now, clearing skies, hmmm. After a bit I told Darren to drop by and I would go. He arrived about 20 minutes or so later and I had everything packed and layers of clothing on me ready for the Leonids. We took off and headed out the Bi-Hi along with clouds again, as we hit near Mt. Uniacke we were treated to Mr. Murphy's short laugh of some light snow flurries! My mind was reeling as to what we would encounter at SCO, clouds and more clouds and Mr. Murphy laughing with clouds and snow!! We arrived about 10:35 p.m. or so along with Dave Lane. Into the warm room we went and Dave got the furnace going nicely, it was a lot warmer than my apartment! Now and then we would look out to see what was happening with the weather and it was looking a bit more promising.

By 11:30 p.m. or there abouts the clouds had broken more and we could see stars! Out we went to look for Leonids, a few more members had shown up and we saw the clouds clear and the Moon ever so slowly setting. I set up my camera and began some time exposures on Orion. Not much really happened until a Leonid went by then some AHHHS and OOHHHSSS! echoed through the woods. I was hoping for a -10 Leonid to burst through Orion and of the Leonids we began to see they were going through Gemini, Auriga, and missing Orion, I was tempted to move my camera, but a voice said "Don't move it." Thus I kept photographing Orion and as the AHHHS and OOHHHSSS were going on I was being tempted by Mr. Murphy's voice "Come on Mike, move your camera to Ursa Major, remember last year? HAHAHAHAH!!" But I persisted and kept at Orion. As the Moon set, Darren set up his camera and we were both pointing to Orion, I went into the warm room and as I looked out the window I saw a -6 at least cutting through Orion . I ran out and undid the cable release, both Darren and I had caught the fireball, finally I was thinking "In your face Murphy..HAHAHA!"

About 2 am clouds began to roll in slowly, Dave was closing the observatory up and I went in to do what I should not be doing, rewinding the film. Some of you may recall my worst case scenario last year of 2 rolls ripping in the camera. I began to rewind and as I felt the tension I made the last

turn of the lever, it went perfect...too perfect in my mind. We closed up and parted our ways from SCO back to our places of sleep, my roll of film with that -6 Leonid safely in my pocket.

The next day I took the film over to the Superstore for one hour processing, the hour went really slow, but the radio was detecting meteors like crazy. The hour was up, I walked over and got my prints, I did not want to open them till I got home so I could sit back and look at the fireball cutting through Orion. I ran up the stairs sat down and almost being like a Xmas present I opened the envelope, I went through each shot...but wait were is the fireball may be I missed it as I nervously shuffled through the prints. I took a deep breath and slowly looked at each photo, nothing, were was it, did they forget to print it? I looked at the negatives with a magnifying glass, it was not there!!! NOOO!!!

I fell back into the chair just staring out the window holding the photos I noticed that the clouds were almost forming a smile face and I could hear the laughter of Mr. Murphy, "HAHAH...got you again."

In closing, we did see some nice fireballs and about 2-3 lingering trails, but we figured the ZHR was about 20-30/hour. There is a rumor that on that night when Roy Bishop opened his observatory dome the clouds got caught in some type of time vortex and vanished until he closed it and they rematerialized again.
But, this is just a rumor right? Ω

WHAT'S ASTRONOMY GOOD FOR?:
BY MARY LOU WHITHORNE

The real mission of astronomy is "to set free the mind of man..by giving him an ever-widening mental horizon, by revealing to him an ever more glorious universe... a universe of which man himself is an integral part." - Robert G. Aitken, director of Lick Observatory, 1933.

But there are other, more practical things that astronomy does. Following is a brief list:

Astronomy serves as a "jumping off place" for the study of other sciences. Study of astronomy seems to improve students' attitudes about science in general; the understanding of science becomes more important to students than it was previous to taking an astronomy course. Amateur astronomers are an important resource they play a vital role in the introduction of science to young people.

Photographic emulsions developed first for astronomy, such as technical pan, gold-sensitized film, red and infrared-sensitive films, are now widely used commercially. Some have found special applications in missile tracking and environmental surveillance (detecting diseased crops, for example).

X-ray instrumentation, like the portable Lixiscope used in neonatal medicine, outpatient surgery and sports injury diagnosis; as well as airport luggage scanners were first developed for an X-ray astronomy satellite.

Radio astronomers developed the technique of "aperture synthesis", an image-reconstruction method that has been further developed into CAT scanning and magnetic-resonance imaging; both methods are of tremendous diagnostic value in the field of medicine.

VLBI (very-long-baseline-inter-ferometry) was developed by astronomers and VLBI observations are now the foundation on which our navigational coordinate systems rest. VLBI is also used to measure the Earth's rotation; a necessity for satellite and missile guidance. VLBI methods are used in geophysics to monitor motions of the Earth's tectonic plates, especially around active fault lines like the San Andreas Fault. VLBI can also be used to monitor small changes in sea level due to global warming.

Satellite surveillance of all kinds, both military and environmental, has benefited from the development of adaptive-optics systems and image-processing software first put into use by astronomers.

An improved understanding of our Sun will lead to predictions of the types of Solar activity that can be disruptive and dangerous such as power failures, communications breakdowns, and dangerous radiation levels in high-flying aircraft.

Studies of the Sun and solar-type stars can help us unravel some knotty Problems dealing with climate change. There are tantalizing hints of Sun-driven climate changes. Is our planet responding to small changes in solar luminosity? Is ozone production affected by changes in solar ultraviolet radiation, stratospheric heating and ionization by solar charged particles and X-rays, or by cosmic rays which reach Earth in greater numbers when solar activity declines?

[1]Excerpted from Dr. Virginia Trimble and Dr. Rebecca Elson in Sky & Telescope, Nov.1991, p485 Ω

AN ALIEN AMONG US:
BY DAVE CHAPMAN

OK...now we have proof that Roy is an E.T.:

1. He never refers to Earth, but "this planet".

2. His supernatural control over the weather in his vicinity.

3. His fascination for spacecraft.

4. His longevity. (In his acceptance speech as Honorary President, he warned us that he would be in the post for a very long time.)

and finally....

5. In his own words (Editor's Comments in the Observer's Handbook 2000): "I wish to devote the time that remains in my visit to this planet to other pursuits."
(see Number 1.)

Looking forward to Friday Night! Ω

NOTICE OF MEETINGS AND EVENTS

REGULAR MEETINGS

Date: **Regular Meeting — Friday, Jan 21 at 8pm**; 7pm for the council meeting.

Place: Lower Theater, Nova Scotia Museum of Natural History, Summer Street, Halifax. Access is from the parking lot.

Topic: **Preserving Our Astronomical Heritage**
Speaker: Dr. Randall Brooks

Date: **Regular Meeting — Friday, Feb 18 at 8pm**; 7pm for the council meeting.

Place: Lower Theater, Nova Scotia Museum of Natural History, Summer Street, Halifax. Access is from the parking lot.

Topic: **Mini Talks**
Main Organizer: Doug Pitcairn

BECOME A ST. CROIX OBSERVATORY KEY HOLDER

For a modest key fee, members in good standing for more than a year who have been briefed on observatory can gain access to the centre's new Observatory, which is nearing completion. To become a key holder, contact Observatory Committee Chair, Shawn Mitchell.

JUST WHERE IS THE ST. CROIX OBSERVATORY?

The Centre's Observatory is located in the community of St. Croix, Nova Scotia. To get there from Halifax (Bayers Road Shopping Centre), follow these simple instructions.

1. *Take Hwy 102 (the Bi-Hi) to Exit 4 (Sackville).*
2. *Take Hwy 101 to Exit 4 (St. Croix).*
3. *At the end of the off ramp, turn left.*
4. *Drive about 1.5km until you cross the St. Croix River Bridge. You will see a power dam on your left.*
5. *Drive about 0.2km past the bridge and take the first left (Salmon Hole Dam Road).*
6. *Drive about 1km until the pavement ends.*
7. *Drive another 1km on the dirt road to the site.*
8. *You will recognize the site by the two small white buildings on the left.*

WHAT'S UP:
BY SHAWN MITCHELL

January 2000

Fri 14	First Quarter Moon with Jupiter 4 degrees north of the moon and Saturn 3 degrees north of the moon.
Sat 15	Double shadow transit on Jupiter
Mon 17	Aldebaran Occulted by the moon.
Fri 20	Total Lunar Eclipse visible from Nova Scotia, it will be clear because its RASC meeting night.
Sat 22	Double shadow transit on Jupiter.

February 2000

Wed 2	Venus 1.4 degrees south of the moon.
Sat 5	New moon (observing at St. Croix?)
Tue 15	Mercury at greatest eastern elongation 18 degrees.
Tue 22	Watch for the Zodiacal Light in the West at the end of evening twilight for the next two weeks.

2000 HALIFAX CENTRE EXECUTIVE

Honorary President	Dr. Roy Bishop	
President	Dave Tindall	
1st vice-president	Pat Kelly	798-3329
2nd vice-president	Ian Anderson	542-0772
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