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Hamilton Centre RASC
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To:

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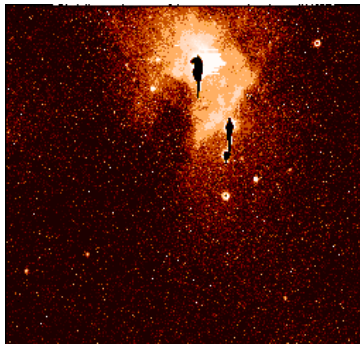
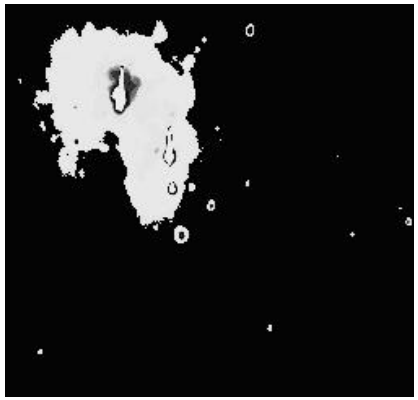
February
1996
Vol. 29, Issue 2





First Light! The Hamilton Centre's CCD Camera project culminated with a successful first series of images in the final two weeks of January. These images are of the Orion Nebula M42, taken on the Celestron C8 telescope with sub 15-second exposyures.

The Official Publication of the Hamilton Centre of The Royal Astronomical Society of Canada

Cover Image courtesy Leslie V. Powis Observatory and our CCD Team!

EDITORIAL

Here come the clear skies! With the recent cold snap being experienced, we have had some nights of excellent seeing. The clouds have parted, and the CCD camera has been able to do some imaging. Our associates in London, Winnipeg, and Halifax have been lamenting the weather, and it looks like we are very fortunate. Although it gets down to -10C to -20C or colder some nights, our friends in Winnipeg are enjoying -33C days!

Our curator, Les Nagy sends his apologies for the lack of a Curator's Corner in this issue, but we all wish him well, and hope to see him back soon.

Ray Badgerow has put together some ephemerides for minor planets (asteroids, etc.) that we can look forward to this and next month.

As you may know, the CCD Camera is a success. In this issue we will discuss some of the progress that has been made.

We also have an important message from the National President in this issue.

Colin A. Haig, Editor

CONTENTS: THIS MONTH

MEMBERSHIP APPLICATION

Application for 1995-1996 Membershipin the HAMILTON CENTRE of the ROYAL ASTRONOMICAL SOCIETY OF CANADA. Our Membership Year officially concludes September 30. We welcome people of all ages, skills, and interests in things Astronomical. Please make your cheque payable to: "RASC Hamilton Centre" and mail to the Treasurer c/o the address on the reverse. Associate membership is for those in other Astronomy Clubs. Please state the club. Full members receive The

MEMBERSHIP INFORMATION	
NAME:	
ADDRESS (1/2):	
ADDRESS (2/2):	
CITY:	
POSTAL CODE:	
DAY PHONE:	( )
EVE PHONE:	( )
E-MAIL:	

PAYMENT OPTIONS		
ADULT	**@ $49.00**	
ASSOCIATE	**@ $30.00**	
YOUTH (under 21)	**@ $35.50**	
VOLUNTARY DONATION:		
TOTAL:		
Circle one:	**NEW Member**	**RENEWAL**

WHAT'S HAPPENING!

- **Monthly Meetings** are held by the Hamilton Centre at McMaster University Medical Centre Ewart Angus 1A6 8pm
- **February 1** - *Michael DeRobertis* of York University on Extra-Galactic Astronomy!
- **March 7** - *Ralph Chou* of University of Waterloo Opthamology Department
- **April 4** - *Charles Baetson, Colin Haig, John Kezys* on the CCD Project
- **May 25** - Speaker to be announced

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LETTER FROM THE RASC NATIONAL PRESIDENT

January 27, 1996.

Dear Fellow Members of the RASC,

It is with regret that I write to inform you that our Executive Secretary, Miss Rosemary Freeman, has submitted her resignation effective June 30, 1996. Rosemary has served The Society since 1972. For almost a quarter-century, she has looked after membership matters, has dealt with publishers and bankers, has provided an essential link between The Society and the general public, has provided continuity and guidance as National Councils have come and gone, and has done countless other things for us which we could not imagine. I encourage all of you to attend GA'96 in Edmonton, and to join us in thanking Rosemary for her years of loyal and effective service.

With Rosemary's departure, important and difficult decisions will have to be made soon regarding her replacement and the structure of National Office. Those decisions may be linked to the important decisions which must be made -- also VERY soon -- with respect to publications.

It is important that all Members return the pre-addressed postage-paid cards which were included in the prototype issue of 'Astronomy Canada'. Please, remind Members of your Centre to drop those cards in a mailbox1 NOW! The decisions as to whether, or not, to replace The Journal and The Bulletin with 'Astronomy Canada' will be made by National Council, but it is desirable that National Council act in accord with the clearly expressed wishes of a substantial majority of all Members.

I remind you that 1996 is an election year for The Society. As of July 1, 1996, you will have a new President, 1st Vice-President and 2nd Vice-President. They will be leading The Society into a new era: without the valuable support which I have enjoyed from Rosemary; and, perhaps, with a new publication which will present a new and very different 'face' to the astronomical community.

Given all of the above, I strongly encourage you to send your National Council Representative to the next meeting on March 23, 1996, and to the

meetings which will be held at GA'96. (I expect that the decision on publications will be made at the March 23rd meeting of Council.)

Again, I especially encourage all Members to attend GA'96 in Edmonton for astronomy, fun, tough decisions ... and for that 'Thank You' to Rosemary.

Doug Hube
National President

From the Keyboard of the President

There are three things that I need to talk about this month. One is the concern, expressed to me, about the future of the Centre, and the other is a milestone: the completion of the CCD camera.

First, the CCD camera. Less than two weeks ago (as you read this, not as I write it), the CCD group achieved a significant milestone in grabbing the first images from the camera. Yes, the Hamilton Centre is now one of the very few groups anywhere that can offer, to its members, the opportunity to use of one of these modern miracles. At the moment, I am not sure how time with the camera will be apportioned, as we still have a number of bugs to be worked out. Whether there should be a CCD camera steering committee, the qualifications (if any) needed before a member is granted time on it or not are all questions that need to be addressed in an attempt to ensure that all members have the opportunity to use it.

As far as bugs go, most fall into how to use the device, not trying to get it to work. The pump that circulates the coolant needs upgrading, as the original one does not move enough fluid around to be of much use. This is not much of a problem at the moment, as the nights are cold. Once spring arrives, though, an active cooling system is a must. Other 'bugs' to be worked out include things like focusing, cable lengths, mounting the control electronics to the telescope, and the current need to move a computer adjacent to the 'scope being used. These problems are all relatively easy to fix, and will be very soon. The next step will be to move a telescope with a good drive into the dome. Then, a computer can be placed in there and the ethernet connection re-established. With this setup, using the CCD camera will become easier. No doubt the CCD group will let everyone know when it is ready for general use, or at least when you can be trained on its use. I have also invited the CCD guys to take over the April meeting, to show off their

Roger Hill - tireless leader of the club, encouraging us to work toward this project's completion, and who had an uncanny sense as to how this project could generate some new excitement in the club.
Ev Butterworth - always ready to lend a hand, and quite knowledgeable about the skies above.
Bob Botts - Mr. Don't Thank Me, I Just Want To Do Some Observing. Bob has silently be pushing us along to GET THINGS DONE, and has offered use of his giant refractor for testing.
Les Nagy - our curator on the road, who has forgotten more about astronomy and instrumentation that I may ever know. He helped us put a plan together to to refurbish and re-arrange the available telescope to best advantage.
Dave Coulson, Ray Badgerow, Anne Tekach, Richard Petrone, Carmen Martino, Bert Rhebergen, and many others for their input.
(I suppose I should be on this list, as assembler of the Camera Head from HELL. I guess the next one will be easier...)
- Colin Haig

Phenomena Page

The Phenomena Page is a place for weird happenings and tidbits

Weather Weirdness: Members have noticed that a bad windy, stormy day is usually followed by a clear, perfect night. So, don't hibernate! Call an astro-buddy, and get outside!

Did You Know?

- The Hamilton Centre was founded in 1909 as the Hamilton Astronomical Society. It was incorporated in 1968 under its present name.
- Less than a dozen T-Shirts are left! Get one today!
- To get to the observatory: Hwy 6 North from Hamilton to Concession 7 E. Proceed eastbound on 7E, cross Centre Rd., then rail tracks, proceed nearly to the end. Our gate is on the south side on the last lot.

each locked in its own sphere. Their movement caused them to hum in the air and the pitch of their note depended on the length of their orbit. The harmony of the spheres were lost to the mortals because they add been bathed in it since birth or because they were too imperfect to hear it.

Aristotle argued for a spherical Earth. For instance, the observed distribution of the stars at any evening differs between Alexandria and Athens and this can only be explained by an Earth which was a globe. Next, consider the eclipse of the Moon, which he knew to be caused by the shadow of the Earth passing over the moon. He noted that the shadow was curved and thus the Earth must be curved. Aristotle believed that everything seeks its "natural place" thus an object will fall down. If all the material making up the Earth tends to fall toward the centre of mass, the result will be a spherical body. When a ship is viewed coming over the horizon, one sees the sails first followed by the remainder of the ship. However Aristotle argued strongly for an immobile Earth. A clearer explanation of the workings of the heavens was delayed by almost two thousand years. It was Copernicus and Galileo that set science straight but they too had their detractors.
- John Kezys

CCD SUCCESS

We crimped, we soldered, we conquered! This project has been a TEAM EFFORT - all efforts have been irreplaceable. To give a brief summary of all those involved would take many pages. Here is a brief credits list, and I am sure I will be missing someone. Special Thanks go to:
Tim Nichols - Commercial CCD owner, advisor, consultant, idea man.
Mike Jefferson - astrophotographer, and the guy who encouraged new members to get involved with the project.
Hugh Gibson - In a matter of days he had constructed a professional-quality, polished, neatly-packed, well designed supply.
John Kezys - club treasurer, builder of circuit boards, tester extraordinaire, wizard of image processing. And a man of infinite patience.
Charles Baetson - Master of all trades, driver of the project. Charles picked up the ball and ran with it, in the face of uncertainty and the unknown.
Patty Baetson - for letting Charles out to work on things, and for Assembling the cooling system plumbing.

images, display their prowess and basically to tell the story of how the cameras came to be. I am really looking forward to it.
The next thing to discuss are the concerns, expressed to me by one member about the future health of the Centre. I cannot disguise the fact (nor would I want to) that the Centre's expenses have been greater than its income. A portion of this is due to the aforementioned CCD camera. It is the long term that is cause for concern. The problem is that we do not have enough members to support the Observatory. Our pride and joy was built and organized with 70 to 80 members in mind. We now average between 50 and 60. As such, we are slowly eating into our reserves. This reserve is sufficient to allow us to carry on for a few more years but I don't think that we can continue this way into the third millennium. So, what can we do? For those who read the latest Bulletin from the National Office, there appears to be an answer in there. I must also say that the concerns expressed to me were made before the Bulletin arrived. Anyway, what the Saskatoon Centre has done is to create a class of member called a temporary one that costs....(wait for it)....nothing. This, they say, has allowed people to 'try before you buy' and they say that once these prospective members have been shown the ropes, that they tend to stick around. Temporary members get three free Orbits, and three months of 'Observatory' privileges (although no keys), In Saskatoon, they also have a special coordinator for these 'newbies' who finds a mentor for them to show them around, answer questions, and generally make them feel at home. Frankly, these are all things that we like to feel that we do, but the sad truth is that although we have all done this from time to time, we generally expect people, like water, to find their own level. By having a designated person doing this we could go closer to ensuring that a follow up occurs.
So, guess what I am going to ask? That's right, how about someone volunteering to do this? In Saskatoon, it appears that this position is a Board position, but frankly, our Board members are already maxxed out. I cannot, in all honesty, ask any one of them to take this on, as well as their other duties. I am quite worried about burning out some of them. Regardless, this position does not have to be a Board position, although it can be if a volunteer so desires. If I have to beg, then I will. I think that having a Temporary Member Coordinator could be a valuable asset to the Centre. If you have an extra few hours a month to either take on this position, or be part of an ad-hoc group, then please let me know, stand up at the meeting, talk to me afterwards, speak to me at Mellows, e-mail me with questions, or phone me, please. This could be the idea we have been looking for. If you don't think you have been in the Centre long enough to be able to do this, don't worry. Nobody else in the Hamilton Centre has ever done this before (to my knowledge), either. You have a chance that does not come along too often to do something unique, to set the standard that others would have to follow.

Okay, I think I have typed enough. See you next month, and would you mind imploring the deity of your choice for some clear skies? I am tired of having Orion obscured by clouds for what seems like weeks on end. Thanks.

Roger Hill

email: roger@ad-here.com
voice: (905)878-5185
fax: (905)878-3974

ASTEROID UPDATE

by Ray Badgerow

If skies are clear in February and March, there are several opportunites to get some Asteroid hunting underway.

Minor Bodies 1996

Table 1: Close Approaches to the Earth(<0.2 AU) 1996

Object	Encounter Date	Distance(AU)
45P/Honda-Mrkos-Padjuskova	Feb 4.59	0.1702
1993QA	Feb 6.56	0.0708
2063 Bacchus	Mar 31.67	0.0678
1566 Icarus	Jun 11.32	0.1012
1685 Toro	Aug 2	0.221
3103 Eger	Aug 6.10	0.1151
1991CS	Aug 28.42	0.0620
1994PC	Sep 9.41	0.1706
1989RS1	Sep 16.08	0.1950
1989UQ	Oct 22.95	0.1505
(4197)1982TA	Oct 25.64	0.0846
(3908)1980PA	Oct 27.86	0.0613
4179 Toutatis	Nov 29.96	0.0354
1994WR12	Dec 25.61	0.0978

Table 2: Timing of Cometary Apparitions

Comet P/	Perihelion Date 1996	Longitude of Earth	Comet	Comet Ahead by (days)
Pons-Winnecke	Jan 2	100	265	167
Churyumov-Gerasminko	Jan 17	116	62	-55
Chiron	Feb 14	144	189	45
duToit-Neujmin-Del	Mar 5	164	304	142
Mueller 1	Apr 24	214	35	-182
West-Hartley	May 12	231	150	-82
Denning-Fujikawa	May 29	247	14	236
Comas Sola	Jun 10	259	107	-154

THE CONCEPT OF THE UNIVERSE BY THE ANCIENTS

The first impressions of the universe must have been the result of the following thinking: here I am, and I stand at the centre of all that is important. The vista from an elevated position must of have been reassuring. All was self evident, the Earth stood still, otherwise we would feel it moving. The Earth was flat, otherwise we would slide off. This universe was also immense, stretching without limit from one ocean to another. The sky was a massive vault where the heavens moved and we ere at the focus.

Religion was the authority and it did not provide an explanation but a description of the operation of the cosmos. In ancient Egypt it was understood that the sun was pushed across the sky by a beetle and at dusk it would be swallowed by the goddess Nut. The sun would pass through her and be reborn each morning. The Earth, according to Hindu theory, was supported on the backs of four elephants standing on the shell of a tortoise which was inturn supported by a serpent floating on a boundless ocean. The universe provides a convenient stage set for the gods. The gods represented order and comfort whereas an abstract scientific explanation would have caused disorientation and anxiety. Non periodic phenomena such as comets and eclipses were signs of divine displeasure.

These astronomer priests with their attendant scribes were then the only literate class. Despite the misconceptions there were accurate maps of the night sky and a calendar which would keep in step with the cycle of seasons. Revolutionary scientific thinking has its origins in the sixth century BC in the town of Miletus, now a desolate location on the west coast of Turkey. Physical explanations for the workings of the heavens are provided rather the simplistic attributions to the gods. Thales, a Milesian astronomer was able to predict the eclipse of the sun. Anaximander believed the universe to be infinite in time and space. He freed the world from the traditional requirement that it must have something to rest upon. Instead he allowed the Earth , which he believed to be cylindrical in shape, to hang freely in space. It did not fall because being at the centre there was no particular direction in which it could move.

It was Pythagorus who proposed the Earth to be spherical. The sphere was considered to be the perfect shape for the universe with the Earth suspended in air at its centre. The sun, moon and planets revolved in concentric circles,

RASC Simon Newcomb Award Contest

Every year, the RASC runs an essay contest for members. The winning entry receives the Simon Newcomb Award, which consists of a book prize, ownership of a trophy for a year, and---due to a recent generous donation---$250 in prize money.

Essays should be 2000-3000 words long and the deadline is 31 March 1996. Any RASC member who is not a professional astronomer may enter. Full details can be found in the October 1995 Bulletin, which is currently (!) being mailed to members; for those in a hurry, the rule are also available in the December 1994 Bulletin.

Last year the rules were reorganized a little, and I believe that a wide range of subject matter is appropriate, i.e. the article does not have to be a "formal" paper such as one would find in the JRASC.

This award was suggested by the Halifax Centre in 1978 and the Centre provides the book prizes.

Dave Chapman
President
RASC Halifax Centre

Parker-Hartley	Jun	25		273	65 -211
Kopff	Jul	2	280	284	4
Spacewatch	Jul	16	293	240	-54
Gunn	Jul	24	301	265	-36
Shoemaker-Holt 2	Aug	19	326	106	-223
Wild 4	Aug	31	337	193	-146
Macholz 1	Oct	15	21		109 89
IRAS	Oct	31	37		355 -28
Helin-Roman-Crockett	Oct	31	37		102 66
Tritton	Nov	5	42		89 47
Mrkos	Nov	8	45		183 140

Computer Bits

The old answering machine has been replaced with a Voice/Fax modem, so now people can send us faxes at the Observatory as well as leave messages. The 386 computer will soon be dedicated to this task among other activities, since we need the 486 for image processing of the CCD pictures. To play back messages, press 9 when you get the greeting, and then the passcode is 97. If you retrieve messages, then write them down, and call the people involved or pass the messages along.

Charles Baetson

Publications Survery

The National Results are in on Astronomy

We received word from David Lane on the results of the mail-in survey: The Publications Revitalization Committee is please to annouce the results (so far) from the publications questionaire which was included in your August Journal/Astronomy Canada.
We were very pleased with the support of the membership of our proposal and as a result, the committee will proposing approval of the new publication at the March meeting of Council.
Vote Total, 660* Yes, 590 No, 68 Spoiled, 2 (* received by Jan 19)
Yes is 89.4% of the total. Of the "yes" votes, here are the name preference:
Astronomy Canada, 397 Astronomy in Canada, 66
Leave it the same, 103 Suggested name, 24
AC is 67% of the total. AC and A in C is 78%

BRIAN MCKID: REMEMBERING CAPTAIN QUESTAR

Many centre members will be saddened to hear that another fellow stargazer and former Hamilton Centre president has passed on. Brian McKid passed away in November of 1995 of a stroke. Brian was in his late forties. Many members shared their memories about Brian:

Grant Dixon writes: “What I do remember is many nights observing with Brian. Brian would pull into the observatory on his Harley with his beard and freak flag flapping in the breeze. A Questar was tied to the back of his hog, and a Hasalblad strapped around his neck. A typical evening would find Brian, Clive Gibbons, Barry Sherman and myself glued to eyepieces. Crosby, Still Nash and Young would be echoing from a tape deck and we would feel we were at Woodstock and we observed. Cameras would shutter, telescopes would whir and the flipping of star charts kept us awake, and we observed. We would joke and laugh and still we observed, oh how we observed. We shared a love of astronomy, laughter and music. This was not a lot, but it was enough to build a friendship on. Some of my most productive and enjoyable observing sessions were shared with this man who I hardly knew. Take care Brian!”

Clive Gibbons had this to say about Brian: “I'll always remember him as "Captain Questar", unmasked champion of that most magical of 3.5" telescopes! Brian liked to tell the story of the time he walked into Efstonscience to buy a telescope. He was wearing full "biker" leathers at the time and after browsing around the store for awhile (none of the staff offered to assist him), he encountered Mr. Efston and asked him for a demonstration of the Celestron 8. Efston "sized" Brian up and, assuming he was just a time-wasting bike-gang member, remarked, "Why should I take the time, when you obviously don't have the resources to buy a C-8!?". Brian then turned on his heels and left the store (after a few choice words) and took the $2000 in his back pocket elsewhere!!

“One other episode that comes to mind (I'm sure many more will, in the fullness of time) was the time Brian gave a slide show at a general meeting, displaying the (guess what...) *awesome* capabilities of the Questar telescope. Well, we Celestron owners had grown very tired of Brian's Questar "propaganda", so a "special" slide had been prepared for just such an occasion. Brian was about halfway through his latest collection of high-resolution Questar images, when the projectionist (me!), dropped the special slide into the carousel. A few seconds later the message, "CELESTRONS EAT QUESTARS" was filling the screen, much to Brian's chagrin! Everyone (including Brian) had a good laugh and in reality, we were just jealous of the lovely pictures and pin-sharp views Brian enjoyed through his magical scope. We've lost another one of the *good* guys, I'm sorry to say...”

Peter Ceravolo sends this along: "The first thing to pop in my mind about Brian as I read your note was a newpaper clipping with a picture of Brian and his Questar posted in the Hamilton Centre Observatory. I can't believe it was over 15 years ago. I remember him showing up at winter meetings with a skidoo suit, complaining that his Land Rover had no heater! Please send condolences to the family from another fellow stargazer. I'd like them to know that his kindness and effort have not been forgotten, even after fifteen years.”

Friend of astronomers everywhere, David H. Levy writes: "I am so sorry to learn of this sad news about Brian. He was apparently a very enthusiastic person about observing, the sky-- all these things we hold dear-- and he will be sorely missed.”

DARK SKY WEST WORKSHOP

The oronto Centre’s Ken Davy extends his invitation to the Dark Sky West Workshops, which are held throughout the Fall, Winter and Spring months. The observing site is held at the Forks of the Credit Provincial Park, about 2.5 km West of the town of Caledon, Hwy 10 And 24. We are holding the events on the first clear night of the following nights, Feb 12-15 and Mar 11-14. Further events will be organized a little later. If anyone is interested in coming out or would like more info please call me at work at 416-747-8681 or at home 905-452-0605 or at my EMail address 10246.2330@compuserve.com

Best Regards and Clear Skies,
Ken Davy
RASC Toronto Centre