ORBIT

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From The President

Les Nagy, President

Well this has been an interesting year for me. Interesting as it was my first go at President for the Hamilton Centre. Interesting in getting to receive and help setup a new telescope for our centre. It has also been a year of some difficult decisions. All my friends on the board have worked hard to help keep the Hamilton Centre running smoothly and make sure that everyone gets treated fairly and with respect.

Roger Hill: A man of great integrity and an ultimate sense of fairness. Roger has been a rock in the Hamilton Centre.

Ken Lemke: Ken has used his vast experience and wisdom to help us get through some rough spots. Ken says it like it is.

Victor Grimble: A no nonsense hard working nice guy. Did it need doing? He did it without any grumbles.

Ev Rilett: Always a nice balance with her wit and perspective on our hobby. A great Orbit editor.

Colin Haig: A smart man with good ideas and a good heart. When the chips are down, Colin doesn't run.

Steve Barnes: Its hard to be around Steve and not forget everything except the reason we are in this club. A generous man.

Mark Kaye: Who asked him to? No one, and he didn't need to be asked. Things just got done with Mark.

John Williamson: Quietly went about his tedious task as treasurer and did it right. A kind and thoughtful person.

Gary Colwell: A good man who had to leave to do good things for his family. His help was appreciated.

The Hamilton Centre owes all of these people a great deal of thanks. Running the Hamilton Centre this year has not been easy but they stuck with it for the benefit of all. I thank all of them for doing the invisible hard work that sometimes meant not being where they wanted to be. I thank them for helping me all the way. I thank them for being people who truly care about the Hamilton Centre.

INSIDE THIS ISSUE

From The Editor

Ev Rilett

In the month of October Mars moves from Taurus into Aries in the first half of the month. It is nearing it's closest approach to Earth so Keep your eyes on it. There is a great deal written for Taurus known as the Bull. Aries does not have much poetry written around it, however it's renowned name "The first point of Aries" speaks for itself and its unequivocal importance. I'll cover Aries next month as Mars will still be in Aries and it's closest approach will be on the morning of Nov 7th.

Taurus

Sigourney writes**:** *". . . go fourth at night, And talk with Aldebaran, where he flames, In the cold forehead of the wintry sky . . ."*

The colour of the star is usually described as "rosy" or "pale reddish-orange"; the poet W R Thayer saw a deeper tint in the great star: *". . . I saw on a minaret's tip, Aldebaran like a ruby of flame, then Leisurely slip Into the black horizon's bowl . . ."*

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SCHEDULE OF EVENTS

Hamilton Steam Museum hosts our General Meeting on the 1st Thursday of each month
October
6 – General Meeting – Annual Business Meeting
7 – Sidewalk Astronomy @ Spencer Smith Park in Burlington @ 9.00 pm.
13 – Board Meeting @ Observatory
November
3 – General Meeting – To Be Announced
10 – Board Meeting @ the Observatory

THE HAMILTON CENTRE OBSERVATORY:

From Highway 6 North of Hamilton.

Take Concession 7 East eastbound, cross Centre Road.
Continue on 7E, keep going past railroad tracks, to near end.
Observatory driveway is on the right just before the stop sign.

From Mississauga or Milton.

Britannia Road past Highway 25, Guelph Line, Cedar Springs Road to End. South 1 Block on Milborough Townline to Concession 7 East.
Our gate is on the south side of the last lot (south west).
The observatory phone number is (905) 689-0266.

Sidewalk Astronomy

Spencer Smith Park
In Burlington
@ 9.00 pm

Friday May 20
Friday June 17
Friday July 15
Friday August 12
Friday Sept 9
Friday Oct 7

Always a good time had by all. Members and guests alike. Many people pass through and are able to share an experience for the first time. Bring a scope if you have one or just bring yourself. Everyone can help. Hope to see you there.

PUBLIC EDUCATION

Public Education is very important at the Observatory. Among other events, our Centre is involved with Girl Guides, Scouts, and other groups interested in a guided tour of the night sky. We generally give a brief discussion, a slide show or other visuals, and then a tour outside with two or three different scopes. This gives the guests a chance to decide for themselves which type of telescope they like best.

It is wonderful to see the look on a child's face the first time they look through a telescope. Also, if you know of a group that may be interested in an evening under the stars call for a booking.

Call a board member to find out more. Your help is always welcome.

LIST SERVERS

Check out our newest addition of communications. We have a **new website** found at http://www.hamiltonrasc.ca/new .
Also, we have a new forum linked from the new homepage including an interactive calendar which members can contribute to, found at the following: http://www.hamiltonrasc.ca/forums
Les Nagy will be making improvements to their appearance and function as the weeks go on.

There are two list servers available for members to receive and contribute with informative conversation. Our local centre list. Get in touch with Mark Kaye (see Board of Directors List) and he will sign you up.

There is also the national list. Members must go the national web page to sign up for. http://www.rasc.ca/computer/rasclist.htm

MONTHLY SWAP MEET

Feel free to bring in any astronomical items you no longer need in your collection. It might be just what someone else is looking for. A table will be set up each month for items to be swapped that evening. So, clear out that closet space and make room for some new, slightly used astro ware.

In the oldest of the Egyptian inscriptions, the *Pyramids Texts* of the 5th Dynasty, we find the following lines, addressed to the king in his role as divine being:
"Behold, thou art the Enduring Bull of the wild bulls of the gods who are on earth . . . of the gods who care in the sky . . . Endure, O Enduring Bull, that you may be infinite in strength as the ruler of all, at the head of the spirits forever. . ."

In an 18th Dynasty hymn to Amon-RE, dating from about 1500 BC, the god is addressed as:
"Lord of the Thrones of the Two Lands; Ruling over Karnak,
Bull of his Mother, Presiding over his fields; Far-reaching of stride,
Eldest of Heaven, First-born of Earth, Lord of all that is, Enduring in all things, The Goodly Bull of the Assembly of the Gods . . ."

Photo by Colin Haig

YOUR BOARD OF DIRECTORS

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Observing Opportunities

Ken Lemke

After discovering the wonderful hobby of amateur astronomy four years ago, the first thing I had to learn was how to use my equipment and more importantly how to find objects in the night sky.

After I had become comfortable with identifying the constellations and the major stars. It was time to begin some serious observing, but what should I observe?

About this time, Grant Maguire spoke at a Hamilton Centre meeting regarding a new observing program that had just been introduced by the RASC's Observing Committee called "Explore the Universe". I obtained the information and discovered that this was just what I was seeking. Over the course of about 9 months, I completed the program, which introduced me to double stars, various deep sky objects, the Moon, variable stars and planets within our solar system. Additionally, the program introduced me to recording and drawing what I saw through the eyepiece, an aspect of the hobby I find most enjoyable and relaxing.

As a newcomer to the hobby, I found that a structured observing program was quite helpful. So my next challenge was to complete the Messier list. This kept me busy for about the next year or so. Since completing the Messier list, I have prepared my own observing lists concentrating on double stars.

Recently, I decided to expand my observing program, and luckily the RASC's Observing Committee had come to rescue again, with the introduction of the Isabel Williamson Lunar Observing Program. This program is designed to familiarize the observer with the geology of the Moon and in additional to the craters and basins, a plethora of other lunar features such as rilles, domes, rifts, faults and ridges.

A complete description of the Lunar program as well as observing forms can be printed directly from the RASC web-site (www.rasc.ca). Alternatively, a coil bound booklet can be purchased from the RASC.

While accessing the information for the Lunar program I found that the Observing Committee has also made an observing album available for the Finest NGC Program. This is a program consisting of open clusters, globular clusters, diffuse nebulae, planetary nebulae and galaxies. A total of 110 objects. The album can be downloaded (116 pages) and printed directly from the RASC web-site.

I think these two programs will keep me busy for a while !

For more information on the "Explore the Universe", "Messier", "Isabel Williamson Lunar", and "Finest NGC" observing programs, click the "Observing" icon on the home page of the RASC web-site, and follow the links.

You will find that to access some of the more detailed information, you will need to enter the "Members" area of the web-site. If you do not have a password to access the "Members" area, simply send an e-mail to webmaster"at"rasc"dot"com requesting a password.

Enjoy the Night Sky

A TALE OF TWO ASTEROID OCCULTATION ATTEMPTS (or why dry runs are a good idea)

Harry Pulley

September's final week offered southern Ontario occultation enthusiasts two opportunities to watch asteroids pass in from of a star, both which I attempted to observe from my back yard in Guelph. I'd corresponded with our own Roger Hill and Toronto Centre's Guy Nason about these events and was looking forward to trying this kind of serious amateur astronomy again.

The first occultation was on the 26th of September, a Saturday morning which is as convenient a date as these events can have. The 13th magnitude asteroid Juewa was to pass in front of an 11th magnitude star in Gemini. I wasn't sure at first if I could see Gemini at 3:21am at just 30 degrees altitude to the east north east from my yard so I ran a dry run Friday morning and indeed I could see it. Finding the star field was easy because it was fairly close to Castor (alpha Geminae). I also found the target star in the field so I was all set for Saturday! Come Saturday, the clear sky clock was predicting cloudy skies. Unfortunately, it was right. I never even set up but kept checking the sky occasionally until 2:50am when it began to rain.

The clear sky clock also predicted poor skies for the September 30th occultation, the exciting event of 14th magnitude Ida and its satellite

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A TALE OF TWO ASTEROID. . .
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Dactyl passing in front of an 11th magnitude star. The clear sky clock was confused, however, with less than 30% of sky covered in clouds yet 0% transparency, which gave me hope that it was wrong. At sunset the sky was partly cloudy and at 8pm or so it cleared almost completely but at 10pm it socked right in so I went to bed.

At 2:20am or so I awoke, though I had not set my alarm and my children were not crying. It was sheer luck. I crept to the window and pulled back the curtain and to my surprise, there were stars! I quietly went downstairs and dressed, having left my shoes and jacket by the patio door just in case. I grabbed my Observer's Handbook for any situation I'd need a reference, short wave radio and cassette recorder, both which had fresh batteries from when I'd replaced them on the 25th.

I opened the door slowly to avoid waking everyone else. I got everything out of the shed and scouted the yard for locations. As would become important later, I moved closer to the house to avoid some street lights but still being able to align on Polaris.

I hadn't done a dry run this time. I'd forgotten to do one on Wednesday night when I had the chance while observing Mars after midnight and Thursday night was rainy and windy as many will remember, uprooting trees around southern Ontario (just took branches down in my yard). Since I hadn't even found the star yet I was worried about getting to the right field. I tried to find a time signal before I found the right star but I couldn't find a strong transmission. I opted to find the star first, thinking I'd have lots of time to find it later on my analog SW.

Once I was set up and roughly polar aligned, I got out the finder charts and pointed the scope at Sheratan (beta Arae) and saw gamma Arae, a nice double star with roughly equal components at 45x while I focused. The star seemed to be drifting, which was strange or so I thought. I checked the cables but it was no use: while the scope would slew, it would not track properly at the sidereal rate and even slewing in right ascension was weird as it would go east or west almost randomly. Time was getting short so I decided to just move the scope at a guiding rate for the event. I hopped my way to Iota Arae and then into the target star field. It was now 3:30am with 22 minutes to go and looking fairly good, drive and time signal problems notwithstanding. The star was in the field and I could see it which was the main thing, or so I thought.

The drive problem was becoming an annoyance, however. While I knew I could probably just slew in RA until I found it again after it drifted out of the field, I wasn't sure how quickly I could re-position it so I wanted to try and keep it in the field. That meant I had to start the tape going and try to find a good time signal while juggling the controller. I pressed REC and PLAY on the tape recorder and saw the red REC light flash when I spoke so it looked good to me. I tried to find a time signal again but no luck! Religious sermons were plentiful and there were some newscasts, talk radio sessions and music but time signals were weak and worse, my having to press buttons on the controller was causing interference.

Then I noticed the view in the scope was getting dimmer. "Oh no, clouds!" I thought but I looked up and it was not clouds but a tree. With my head mostly down guiding I had not noticed that the target star had moved in the hour since I'd set up, into a tree branch. Aries itself was still high up and I hadn't taken into account the lower declination of the target. If I'd set up in view of the street light I might have been in luck but I couldn't change it by that time. I quickly decided there wasn't time to move the mount and find the star again. I found out later that spinning the german equatorial mount around the other way would not have helped, it would have been even worse into the same tree so I'm glad I didn't try that. I pressed on, with a tree in the way and no timing signal but I thought I could pick CHU up right afterward so I could use a stopwatch to get an approximation later. Looking at my watch as a further backup I observed and noted that the star disappeared and reappeared very quickly, in less than a second, at around a corrected time of 7:52:47 UT. Whether that dimming was from the asteroid of the set of trees I am unsure but it happened quickly while the dimming from the tree branch had happened slowly so I was hopeful.

It turns out the tape recorder's PAUSE button was set so I had recorded absolutely nothing which is too bad as the skies gave me the opportunity to see it but my comedy of errors did not.

While sketching Mars the clouds returned and then a skunk chased me back into the house. It really wasn't my night! Luckily the skunk and I were reasonable and I wasn't sprayed. I noticed while sketching Mars that setting my drive to the southern hemisphere caused it to drive at the sidereal rate but slewing was still messed up. It was acting in a non-deterministic fashion.

The next morning, I found an email from Guy Nason about the

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occultation but I did not read my email before I retired to bed. If I'd read it, I would have seen that Guy Nason wrote that I was probably the only station outside of California which could have seen the event, according to the clear sky clock. I don't know if reading the message would have made me go out earlier or not, or if reading it would have made the observation even more stressful. At any rate, that observer in California did not see any dimming of the star, being just off the northern edge of the path. I believe I was just inside it so my observation of a very short dimming could be right. The observation has been reported to IOTA and others, with the proper degree of certainty and comments attached so they can decide whether or not it is worthwhile to count my dubious observation.

Analysis: In the morning I was able to survey my mount's drives and controller and I discovered that both of those were in order. The problem was the cable, the plug had become detached from the socket to the RA motor. For year's I've had the odd intermittent problem with the controller but I re-soldered the circuit board and that seemed to fix it. I now suspect this bad cable connection was the real problem since I never found any real solder breaks or cracks on the board.

I pushed the plug back onto the cable hard today as a temporary fix. In solar tests today it seems to track fine but I don't trust it. Since it is a molded plastic cable and I would have to cut it up and tape it up after I resodered it, which would make a mess. I will instead try to find a replacement 8-wire cable; hopefully this style of microphone plug is still in use. I need to do it before next week's batch of two more asteroid occultation events.

Lessons learned: I really didn't want this to be a funny, sad story. I wanted it to be one of success. I am sorry that this attempt failed. From now on, I will always try to do a practice run and if I can't do one then I'll look out for trees and other obstacles and give myself as much room as possible by backing up from houses and other large objects. Getting clouded out is one thing but losing an object in the trees is a terrible way to miss an occultation. Next time if I'm in the trees I'll move the scope and try to find the star again -- getting a poor, questionable observation isn't much worse than making no observation at all.

I will go out earlier next time. I hadn't set my alarm so it was pure luck I was up when I was but an extra hour would have helped me find a timing station. This was Dactyl, I really should have set my alarm for it. If the drive controller goes south again, I'll resort to just pushing it by hand. I wasted too much time trying to fiddle with it when I didn't have time to spare.

Occultations are tough! You get only a few seconds to get it right and you get no mulligans. Check and recheck that the tape reels are moving, the drive is working and so on.

About the next occultation events, Guy Nason said, "Asteroid (61) Danae is next on Thursday, Oct 6 at 05:01 EDT for us. A small delta-mag, but no Moon. Should be ok, weather permitting. Then on the 8th, we get (924) Toni just east of Toronto. It has a brighter star and a much larger delta-mag. And still no Moon. But it's also an early morning event (04:06 EDT). I'll post data sheets and a "call to telescopes" on these over the weekend. Monday at the latest." See his asteroid page at
http://toronto.rasc.ca/content/occultations.shtml

His email address is located there. If you wish to participate, please check the page and contact him. Hopefully you won't experience the gremlins that plagued me, at least not all at once.

Sidewalk Astronomy for September 9, 2005

Roger Hill

Kevin and his wife, Ev and I were there, but the turnout was disappointingly low. Only a couple of dozen people showed up. What that meant was that we were able to show people a number of objects, rather than always keeping the scopes pointed at the Moon.

Kevin brought his image-stabilized binoculars, which was the first time I had looked through them...very nice! Unfortunately, he and his wife had to leave early...I gather they got a call from their babysitter.

Ev had her Pronto, and was able to show people the entire Moon, including earthshine. Ev was also doing her usual great job of informing the public.

After the Moon set, my scope was turned to M13, M31 and M57. About 10pm, Ev and I packed up, and left. Not the madhouse that we sometimes get, but a pleasant way to spend an evening.