

Event Horizon

April 1999

Volume 6 Issue 6

The Continuing Saga of the Winter Star Party

Oksana and Lou Darcie

By now, everyone is aware that the annual Winter Star Party normally held at Big Pine Key, Key West, Florida, has been cancelled. Last year, hurricane "Mitch" tore through the area and completely wiped out the campsite. Having already won a trip to stay three nights at a hotel in Daytona Beach, and four nights at a Resort in Orlando, we were going to Florida, regardless.

The voyage of the STARSHIP VOYAGER:

CAPTAIN Lou C Darcie
FIRST OFFICER Oksana O Darcie
Stardate 990217.1019
Origin N 43° 36.628'
W 80° 08.078'

At 53500 kilometres, we left Rockwood. Outside temperature 2° C, gray overcast, trying to snow, yet the sun is trying to shine. We had an excellent breakfast at our favourite eatery and are well fortified for the trip to come. Passing Woodstock, we notice that the snow has receded, which makes our progress quite admirable.

Stardate 990217.1600
Orbited around the town of Findlay, Ohio, where we beamed down to 24

Elm Street where we visited the two amateur astronomers, Dave and Neil whom we had previously met at the Winter Star Party last year and the year before. After a good but brief visit we beamed up, left that orbit and set our course for Wopakenata. On arrival, we found an eating spot, nourished ourselves, then accommodated ourselves in a local motel. An aside: (each time we cross a state border into a new state, we find these Welcome Stations. Not only do they have nice rest rooms, but they have road maps and books of coupons which point out many places to stay at reasonable rates, and also all the events in the state areas. We took advantage of these facilities all the way down to Florida, as well as all the way back to Canada. As our trip started in February, and ended in March, the March books were all new updated.) Overcast, no stars in sight.

Stardate 990218.0940
N 42° 57.809'
W 81° 02.175'
Temperature 5°C
Cold and gray morning. Roads dry, very light traffic. Beamed down to one of our favourite eating places, the Cracker Barrel. Had a quick refresh, beamed up and continued. We were hoping that soon we might be able to doff our winter clothes, our boots at least, but I am afraid, not yet. There is no snow here, but it is still quite cold. Ended our day in

Knoxville, Tennessee, where we had our first touch of clear sky. There they are, Venus, Jupiter, Saturn, all hanging around the moon. Quite a pretty sight.

Stardate 990219.0930
N 38° 29.557'
W 84° 19.990'
Temperature 9°C
Raining.

As we travel along, we can see changes in the agricultural growth. Along the highways and byways, we now spy pansies, dandelions and other bright and colourful plants and flowers. The weather has cleared, so after stopping for the night and refreshing ourselves, we are able to walk around the area and take in the sights. The sky is clear, and even with my less than perfect eyesight, the planets are very plainly visible. It has been a beautiful day. The transport has been uneventful, and we like it like that, and we are just awed by all the things that pass the eyes.

Stardate 990220.0830
N 35° 41.641'
W 84° 25.837'
Temperature 10°C
Bright and sunny morning. We arrive in the state of Florida, where we visit a Welcome Center. Here we are treated to Orange and Grapefruit juices. No, not freshly squeezed. We were surprised at this also. The

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Chair's Report

On March 27th Grant Dixon got quite a surprise when he showed up at the planetarium at McMaster University. He had intended to host a 'final' show and teach interested people how to give a planetarium show. Instead he found himself being honored for all the work he has done over the past 20+ years of giving planetarium shows. In the audience were many of his friends from the HAA and RASC plus his wife Doreen, his son Christopher, his daughter-in-law Krista, Doreen's parents Gord & Evelyn Gent and his mother June Merlin.

Grant is one of the founding members of the Hamilton Amateur Astronomers. He has held many positions since the HAA was formed in 1993. At various times he has been Chair, Second Chair, Councillor-at-Large and Web Page Coordinator. Most importantly, he has also held the position of Public Education Director during most of those years.

For over 20 years he has given countless Planetarium shows and has given the proceeds from these shows directly to the HAA or the RASC, Hamilton Centre. Over this time he has introduced thousands of people to the night sky. By giving these shows, people who have never been to the planetarium also benefit through the low dues that the HAA offers. Grant is solely responsible for the healthy financial condition of the HAA.

In appreciation of all those efforts, the HAA and the RASC, Hamilton Centre both presented Grant with lifetime memberships and the biggest slide rule you have ever seen. You may wonder what a slide rule has to do with astronomy. He doesn't use one to calculate asteroid orbits but Grant is a collector of slide rules. After the presentations and some refreshments Grant treated us to one of his famous planetarium shows. Special thanks go to Ann Tekatch for all the organizational work that she put into Grant's presentation.

I have a couple of web sites for you to check out this month. A really nice compilation of deep sky objects can be found at the site "Adventures in Deep Space" located at <http://www.angelfire.com/id/jsredshift/>. Jere Kahanpaa has a web site with hundreds of great sketches of deep sky objects appropriately titled "Deep Sky Sketches". The URL is <http://www.helsinki.fi/~jkahanpa/>.

Don't forget, it's time to start making plans to attend the HAA star party on the weekend of June 11/12 at Silent Lake.

Stewart Attlesey
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HAMILTON AMATEUR ASTRONOMERS

Event Horizon is a publication of the Hamilton Amateur Astronomers (HAA).

The HAA is an amateur astronomy club dedicated to the promotion and enjoyment of astronomy for people of all ages and experience levels

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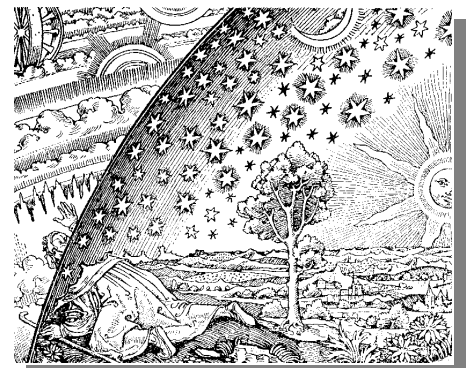
Editor's Report

The deadline to submit articles for the next issue of **Event Horizon** is Friday, May 7th. Thank you to everyone who submitted articles this month. Feel free to send pictures for the newsletter as well.

Rosa Assalone



assalor@mcmaster.ca



Rob'serving Report

Spring for Mars

April-May provide the best opportunity to observe Mars. It's visible pretty well all night long, though the best viewing occurs when it is near the meridian, high in the sky at around 1am. Mars is moving westward and will reach opposition to the Earth on April 24, when it will be its brightest since 1990 (magnitude -1.6). On May 1 it will have an apparent diameter of 16.2", the largest it has appeared in nine years. Red and orange filters are good for observing surface markings, whereas blue and green are best for clouds and the north polar cap. Use relatively pale filters for small scopes.

This month's Binbrook observing

nights are scheduled for April 9, 10 & 17. Call Rob Roy (692-3245), Bret Culver (575-9492), or John McCloy (523-4359) at 8pm for local weather conditions and to confirm. The gate will be opened at 9pm.

Monthly In-Sights

April

22 am - Lyrid meteors peak with 10-15/hour. Best after midnight and Moonset.

24- Mars at opposition

May

01- Mars nearest Earth.

05- eta-Aquarid meteors peak, though active through May 10.

The Planets

Mercury not visible for northern observers despite its greatest W

elongation on April 16.

Venus dominates the western evening sky at magnitude -4 and is still increasing nightly in elevation.

Mars rises in the east during the evening twilight and is visible all night long.

Jupiter and Saturn are too close to the Sun for any observing.

Neptune & Uranus are rising in Capricornus at dawn.

Rob Roy,
Observing Director
roy@idirect.com

Winter Star Party..... (continued)

(Continued from page 1)

juices were made from a frozen concentrate. Aah such a disillusion, and all this time we were all led to believe that all that liquid we were having was fresh. Ah well, so we learn. Leaving I-75, we branch over to I-10, which will take us to Daytona Beach by way of Saint Augustine. Finally the weather has taken a positive turn for the warmer. Not hot mind you, warmer. The surroundings are now taking on a much different look: short pants, halter tops, sun tans, sun burns, motor cycles, bicycles, roller blades. We are now in FLORIDA, DAYTONA BEACH.

Unknown to us, this is the start of Bike Week in Daytona. Last week was the Daytona 500, next week is officially Bike Week, and the time we are here, like right now, is preliminary week. Now for the uninitiated, my first officer and

myself included, bike week is an annual event which brings up to 200,000 that's two hundred thousand people, most of whom own and ride the BIG Harley Davidson motorcycles. These folks take over Daytona Beach and surrounds. From morning till night, all one hears is the ROAR of hundreds of these big 74 cubic inch machines. They come in all colours and trim. In most cases, the rider matches the bike, or is it the other way round. None-the-less, it is a sight to behold. The next four days we will be spending here.

N 30° 05.700'

W 81° 29.930'

Temperature 22°C.

Surprisingly, the sky is clear, and as dusk rolls on, the planets are quite visible, but by the time darkness has arrived, the mist or dust or pollution or whatever, has blanketed them from sight. Strange phenomenon,

but we did notice that if you did not set up the scopes early, viewing was quite limited. I suppose it could have been as a result of all the light pollution, because there is certainly a lot of that here.

Stardate 990223.1821

N 29° 40.676'

W 82° 20.356'

Temperature 26°C.

Orlando, home of the Animal Kingdom, Epcot center and the like. Did the typical touristy things here for the next four earth days. The accommodations here are quite splendid, and the scenery very spectacular, but the night sky was disappointing. It was good, though, to be out of doors wearing short sleeves and short pants as well as a hat to shield one from the very hot sun. Amenities such as a pool and

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other outdoor pleasantries, made up for the poor viewing nights.

Stardate 990228.1645

N 30° 05.638'

W 83° 34.668'

Temperature 25°C.

Perry, Florida. A nice town like so many other nice small towns that make up a lot of the southland of the USA. Very friendly folk, good food, good scenery.

Stardate 990301.0920

N 29° 49.715'

W 84° 41.582'

Temperature 22°C.

We are now heading back in a northerly direction with a deviation on occasion to the west. One of these deviations brought us to a very nice little hamlet called Carabelle Beach. We found this through an inn keeper where we sojourned the previous night. His suggestion was to follow route 98 which ran parallel to the Gulf. It was a worth while suggestion, for at one point, approximately 60 milea east of Panama City, there was this beautiful rest area and white sand beach. My first officer, being a sun worshipper, once again, donned the appropriate apparel and basked in the sun on the beach for a considerable length of time.

Stardate 990302.0926

N 31° 13.037'

W 85° 25.881'

Temperature 14°C.

Dothan, Alabama. Never heard of the place before now, but again a very friendly populace, really laid back. My first officer is an avid fisherperson, so after being taken in

by one of the many beautiful brochures about bass fishing, we headed to a place called Gadsen. Right on the Coosa river. After acquiring a fishing license for \$11, we baited our hooks and tried our luck. Zilch. We questioned the shopkeeper at the water-front about the pictures in the brochures. He laughed. Those pictures were taken at a big fishout a year ago. So, we find we cannot rent a boat, we cannot hire a boat, we cannot even get on the water. There was some disappointment, but a good nights sleep got us in our normal happy frame of mind once again.

Stardate 990303.0834

N 34° 00.099'

W 86° 00.095'

Temperature 10°C.

Nashville, Tennessee. Home of Grand Ole Opry. Spent very little time here, in fact the only reason we stopped was to buy a Harley Davidson Nashville Tee shirt for one of our Canadian fans.

Stardate 990304.0804

N 37° 40.545'

W 85° 50.753'

Temperature 0°C

Elizabethtown, Kentucky. The home of the Kentucky Derby. As cold as it was, one could still see the lush green grass for which the state is famous. Many fine looking horses, horse farms, paddocks. The place exudes wealth. We saw our first vestiges of snow on the ground here. A portent of things to come? Visited a horse farm of one of our friends, to view the new colt supposedly named after her. Reasonably nice farm, obviously on the other side of the tracks, as wealth was definitely not exuded. They did have some nice horses, nevertheless. A really good viewing night. Very clear skies, transparent. Glad we took the 6 incher and binoculars.

Stardate 990405.0750

N 41° 02.440'

W 83° 40.446'

Temperature -2°C

Findlay, Ohio. This is the spot we beamed down to on our southern leg of our journey. The weather channel is forecasting dire weather, so we deemed it sensible to be on our way, as our journey would take us just to the east of Detroit, Michigan where the major snow storm is to take place. Looking at the sky, we could discern that the storm was not yet imminent, so a detour to Maumee, Ohio could be done with little or no difficulty. This plan was implemented, with positive results. Crossing from Ohio in to Michigan saw no change in the weather, and all the way to Canada from there, we sailed through wispy but not threatening skies. Approximately 100 kilometres west of London saw a definite change in the scenery. There was snow on the sides of the highway, and the closer we got to London, the more snow we encountered. At London, flurry activity started, and continued until we reached our home base in Rockwood. Stardate 990306 was day of the big snow, so we just got home in time. With the exception of a burned out bulb in the right front turn signal, our Starship Voyager performed flawlessly. We do not know what the skies were like in the Florida Keys, but most of the spots we stopped during our journey, the nights were not that good. We enjoyed ourselves immensely.

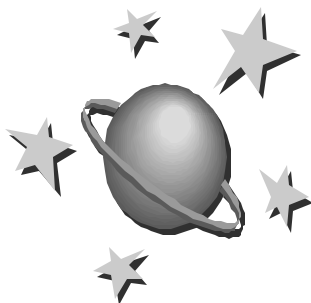
Final Kilometres 59387

Starting Kilometres 53500

Total Kilometres 5887

Total time away 18 days

*Oksana and Lou Darcie
Astronomaires Extraordinaire.*



Hans Hoerbiger and The Doctrine of Eternal Ice

Joachim Brouwer

The Nazi court astronomer/cosmologist Hans Hoerbiger and his English minions Edward Bellamy and Dennis Suarat are virtually unknown in modern astronomy. However their collective ideas spurned a whole generation of people in Europe to question the positivistic basis of modern science.

According to Hoerbiger's doctrine of eternal ice or world ice theory (WEL) there is a continual battle between ice and fire in the universe, a theme also present in the Icelandic saga The Edda, one of the Nazi sacred texts. In his 772 page epic Glazialkosmogonie Hoerbiger related how this elegant yet simple idea came to him. One day he witnessed molten steel falling onto snow. After a few minutes of simmering and sizzling the steel and snow exploded into a dozen or so pieces.

Coupled with fire and ice are the two fundamental forces in the universe, attraction and repulsion. These forces cause the destruction and formation of celestial worlds, an idea which Hoerbiger and the Nazi scientists/magicians derived in part from Hindu sources. This cycle of birth and rebirth was reflected in the human realm where great civilization were toppled by natural catastrophes and replaced by epochs of ignorance and barbarity.

Nazi ethnography held that the Aryan people originally came from Ultima Thule, a nebulous mystic place near the north pole. From a WEL tract:

"Our Nordic ancestors grew

strong amidst ice and snow; this is why a belief in a world of ice is the natural heritage of Nordic Man." (quoted in Pauwels and Bergier pg. 154)

The Hyperboreans, the second 'root' race of the human species resided in Thule. They were claimed to have semi-corporeal bodies and possess highly developed clairvoyant and psychic abilities. When the golden age of the Hyperboreans ended with the sudden inclination of the earth's axis it destroyed the relatively beneficent climate they were accustomed to. A 90 degree axis meant that the north and south poles had the same weather year round that it only does on the equinoxes now. At the time of a upright axis flora and fauna could prosper that couldn't possibly survive in the long winters of total darkness the poles have today.

The Hyperboreans lost their half astral bodies and magical faculties as they migrated south and mixed with the darker Semitic races, becoming fleshier humbler beings. The hallowed third eye where their psychic powers was said to reside became the humble pineal gland.

Much of the above is not strictly Hoerbiger. The French writer Rene Guenon as well as Madame Blavatsky of the Theosophical Society discussed many of the same notions. What was unique was Hoerbiger's idea of various icy moons being captured by the earth, spirally inward and eventually breaking up and falling into the planet. This sequence of events explained natural catastrophes such as extinctions of whole animal species, world wide

floods, ice ages and earthquakes. Most interestingly the lesser gravitational force of a 'low' lying moon provided for the existence of 'giants', of which there is a voluminous record in myth and legend around the world.

The solar system according to Hoerbiger is the result of a collision between two huge bodies made respectively of ice and fire. The later of course was our sun. For thousands of years after the collision the proper chemical reactions were slowly set in motion. Then there was a great explosion and the planets, all made of ice, except the earth were ejected into space. According to Hoerbiger the Milky Way is an immense band of ice that was thrown beyond the solar system.

Sunspots are the result of huge blocks of ice falling from unto the sun from Jupiter. The 11 year sunspot cycle and Jupiter's 11.88 year journey around the sun too much for Hoerbiger to leave alone. (Pauwels and Bergier pg. 158).

Space is not empty, but filled with rarefied hydrogen (ice crystals), a notion which has been supported by modern science. However Hoerbiger's rarefied hydrogen comprises many millions more atoms per cubic metre than the two or three that physics allows. The 'thickness' of space offers considerable resistance to stellar bodies thereby offsetting the repulsive effect of the initial ice/fire explosion and allowing attraction (gravity) to pull the icy bodies inward.

When the planets all fall into the

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Constellation of the Month - Coma Berenices

Margaret Walton

This constellation is named after Queen Berenice II of Egypt, the wife of King Ptolemy III. Berenice was famous for her beauty and had long, amber hair. During a war between the Egyptians and the Assyrians, Berenice was concerned for her husband's safety as leader of the troops. Berenice cut her hair and offered it to the goddess Aphrodite for her husband's safe return.

King Ptolemy returned home safely the next day, but the offering had disappeared from the altar. The court astronomer, Conon, pointed to the sky and showed them the constellation now known as Coma Berenices, saying that Zeus and Aphrodite were so touched by her sacrifice that they placed her hair in the heavens for everyone to admire.

Midnight culmination is April 2.

Objects to see

Coma Berenices contains numerous galaxies and a few star clusters. Listed below are some of the best and brightest. To explore further, consult a star chart and spend an evening exploring this area.

M53 (NGC5024). This is a large, bright globular cluster of magnitude 7.7 and can be seen through binoculars. It forms a pair of 1degree separation with NGC5053. As per the NGC this is a (!) remarkable object. (Note: on a recent clear night at Binbrook we tried to find NGC5053. Sky Atlas 2000 gives it a magnitude of 9.8, although it says it is very faint. Using the 20" Obsession, we could not find it. We turned to the computer guidance of an 8"LX200. Although the computer said it was in the field of view, no one could see it. Maybe some of you could take up the challenge.)

M64 (NGC4826). The Black Eye Galaxy. A very bright, large elongated galaxy with a bright nucleus and a dark dust lane, from which it gets its name. Its magnitude is 8.5 and as per the NGC this is a (!) remarkable object.

M85 (NCT4382). Bright, large round galaxy of magnitude 9.2. This is in pair with NGC4394 and is a member of the Virgo Galaxy Cluster.

M88 (NGC4501). A bright, large elongated galaxy of magnitude 9.5. This is a member of the Virgo Galaxy Cluster.

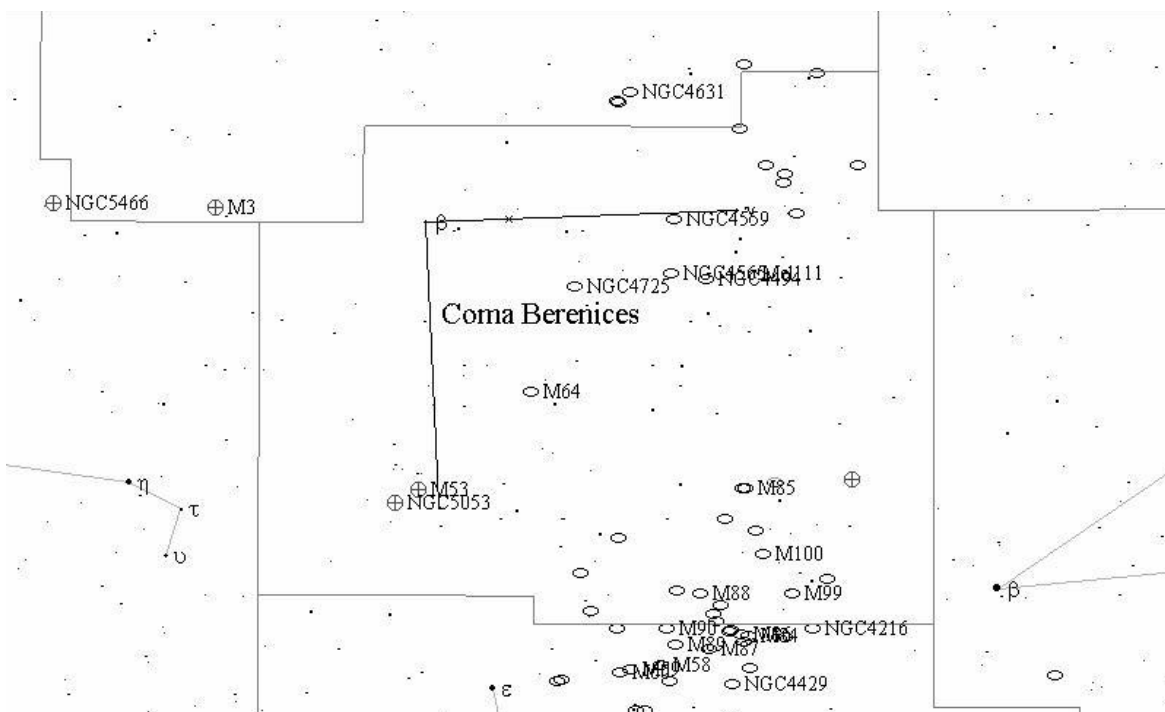
M91 (NGC4548). Another member of the Virgo Galaxy Cluster, this is a bright, large, slightly elongated galaxy of magnitude 10.2.

M98 (NGC4192). Bright, large, very elongated galaxy, another member of the Virgo Galaxy Cluster. Magnitude is 10.2.

M99 (NGC4254). Bright, large, round, face on galaxy with 3 branching spiral arms. As per the NGC this is a (!) remarkable object and is a member of the Virgo Galaxy Cluster. Magnitude is 9.8.

M 1 0 0 (NGC 4321). Faint, large round face on galaxy with a magnitude of

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Canada: Toronto ON LMT: 99/04/15 11:30pm RA: 12.48.0 Dec: +22°40' Field: 25.7° Step: 1 day Mag: 7.0/11.0

HAA Star Party

(Continued from page 6)

9.4. This is a member of the Virgo Galaxy Cluster and as per the NGC is a (!!) remarkable object.

NGC4147. Globular cluster. This is a bright, large, round, well-resolved cluster with a magnitude of 10.3.

NGC4274/4278/4283. This is a nice grouping of galaxies. 4274 is a bright, large elongated galaxy with faint arms and a bright nucleus, magnitude is 10.4. 4278 is a bright, large round galaxy of magnitude 10.2. 4283 is the faintest of the three at magnitude 12.0. It is a small, bright round galaxy.

NGC4414. This is a bright, large elongated galaxy of magnitude 10.3.

NGC4565. This is a wonderful object to look at. It is an extremely elongated, large, edge-on spiral galaxy with a dark lane and a central bulge. It is the largest of the edgewise spiral galaxies. Magnitude is 10.2.



HAA will hold its annual star party this year at Silent Lake Provincial Park, located on Highway 28, north of Peterborough.

If you want to reserve your campsite you can by calling (613) 339-2807. Last year, we all chose campsites in the same loop, it's close enough to the showers so you can easily walk to the nice washrooms and showers.

Information on the specific loop will follow in a future newsletter.

"One, two, ... many big bangs"

The current cosmology revolution.

We will discuss recent trends, ideas, and discoveries on the cosmological constant, anti-gravity, white dwarfs, neutron stars, black holes, missing energy and matter, accelerating expansion, Ia super novae, dark matter, empty space, virtual particles, the age crisis, bubble universes, particle appearance and disappearance.

Saturday, May 1st, 8pm.

McMaster's Burke Science Building room B148.

Reading material could be any or all recent literature on the subject. A good starting point could be the Scientific American, January 1999, Special Report on the subject available at your local library or on limited loan from us.

Informal Discussion, everyone welcome.

For further information or material call Larry at 529-1037.



(Continued from page 5)

sun there will be another explosion and the cycle will start again. In the meantime smaller planetary bodies can be captured by larger ones. Hoerbiger and his English disciples Bellamy and Saurat believe that much of the earth's history has been shaped by the capture and falling of as many as four different satellites or moons known in successive order as the primary, secondary tertiary and Luna terrestrial satellites . The capture, decaying orbit, inward spiral and eventual breakup of these four moons have resulted in four distinct geological epochs.

There are stories of moon catastrophes in many cultures at various junctures in antiquity. The Greek myth of Phaeton driving the horses of the sun too close to Helios and then falling to the earth after being struck by one of Zeus's thunderbolts is maybe the most famous of these moon myths. (Saurat 108)

Luna, like the other three satellites, formerly enjoyed an independent orbit around the sun. It was captured about the time of the last ice age around 12,000 BC. With its capture and the establishment of an, at first very erratic orbit around the earth, great upheavals took place which are recounted in many cross cultural myths of the period. However the best proof of great catastrophes at this time lies in the fossils and in some cases complete frozen carcasses of huge now extinct mammals like wholly mammoths that have been found. Fossils are usually created when there is a sudden change in the earth's environment. An organism normally rots away before it fossilizes. (Saurat 18-19).

However it is the tertiary moon, the one before Luna that Hoerbiger, Bellamy and Saurat are most interested in. With its spiral

towards the earth, the tertiary moon started to revolve more quickly. This and the lesser gravity caused the tides of the world's oceans to be concentrated into a narrow band around the equator. The evidence of a tidal bulge around the circumference of the earth can be found in the Peruvian Andes near Lake Titicaca which is still partially salty. Fossilized algae has been found 12,800 feet above sea level in this area. A line of marine deposits can also be traced for 375 miles starting at Lake Umayo in Peru (Saurat pg 46).

Five distinct landing sites at the ruins of Tiahuanaco near Lake Titicaca have also been found. The immensity of the statues and stone work here leads Saurat to his thesis that they were built by giants. The local natives legends speak of a time when the moon loomed large in the sky. Stone images of an ancient beast known as a todoxon being lead about like a dog on leash have been found here. German archaeologists also supposedly found a calendar in the late 1920's which marked the movements of the tertiary moon in the sky.

Other areas that show evidence of salinity and former marine life are the Mexican highlands, Tibet, Abyssinia (in present day Ethiopia) and New Guinea, all of which fall within the same equilateral band around the earth.

Suarat believes the 7-8 foot giants of Ruanda, west of Lake Victoria who live amidst the local Bantu tribes are a remnant of the giants that used to inhabit the earth. Immense stone remains have been found on islands east of Samoa and at Tonga, Micronesia and Melanesia. Then of course there are the stone heads of Easter Island.

The crux of Hoerbiger, Bellamy and Saurat's theories is that as a satellite gradually approached the earth, it would lessen the gravitational pull, thereby decreasing the normal wear and tear on all living things. Not only could men and beasts grow to gigantic proportions, but they would live longer and be more intelligent.

When the first primary moon hung low in the sky, huge fern-like trees and insects were common. At the time of the fall of the secondary moon the dinosaurs ruled. The intense cosmic rays from the infalling secondary moon may also have created mutations resulting in the first mammals about 60 million years ago.

When the tertiary moon loomed low in the sky, it was often looked at as a second sun. Furthermore when this moon approached the earth within a certain distance, it seemed to move from west to east, the same way the sun moves across the sky. It is recorded in the Bible that Joshua stopped the sun while fighting the Canaanites. This may be a collective human memory stemming from an earlier time when the tertiary moon stopped in its zenith above Abyssinia. At this time the earth and moon were a mere 20,000 miles away from each other and revolved around their respective axis at the same pace. The seismic upheavals which were experienced at this time may have been the cause of Jericho's tumbling walls.(Saurat 79-80)

The closest the tertiary moon came to earth before breaking up was only a few thousand miles. This must have been one of the most awe inspiring sights in all of man's history on this planet, the moon and its heavily

A Discussion of Dates

Submitted by John McCloy

1. B.C. versus negative year numbers

Historians refer to the first year of the Christian era as "1 A.D." with the year that preceded it called "1 B.C.". This is consistent with usage at the time, since zero did not come into use until much later, but creates a messy discontinuity in the numbering of years which complicates any algorithm which attempts to calculate across that boundary. Astronomers have adopted the convention that the year which preceded 1 A.D. is denoted "year 0", the year before that "year -1" and so on. Thus any year less than 1 can be converted to the nomenclature used by historians by discarding the sign and adding one to get the B.C. year number. These functions follow the astronomical convention for years prior to 1 A.D. and hence the year in which Julius Caesar established the Julian calendar in the Roman Empire, 46 B. C. in the history books, is specified as "-45" when using these functions.

2. Julian versus Gregorian calendar

In October of 1582, the modern

Gregorian calendar was proclaimed by the Vatican, replacing the less-accurate Julian calendar. At the same time, 10 days were skipped to correct the inaccuracy in the date of the equinoxes and solstices which had accumulated over the almost six centuries the Julian calendar had been used. Thus Thursday, October 4, 1582 (Julian calendar) was followed by Friday, October 15, 1582 (Gregorian calendar). These functions assume, therefore, that dates on or before October 4, 1582 are in the Julian calendar and dates thereafter in the Gregorian. If you're working with dates from history, you must be extremely careful to verify which calendar they are specified in, as not all countries adopted the Gregorian calendar immediately. Britain and its colonies, for example, remained on the Julian calendar until Wednesday, September 2, 1752, at which time 11 days had to be dropped to align with the Gregorian calendar on Thursday, September 14, 1752. Russia remained on the Julian calendar until after the 1917 revolution, and Turkey did not adopt the Gregorian

calendar until 1927. The later the date of adoption, naturally, the greater the number of days of Julian calendar error skipped.

Did you know that...

"ear witness" reports about where many claim to have heard the swishing of the draperies of an aurora.

Rob Roy

CALENDAR OF EVENTS

- April 9, 10, 16, 17 8:00pm
4359.
- Tuesday, April 20, 7:00pm
- May 7, 8, 14, 15 8:00pm
4359.
- Saturday, May 1, 8pm
- Thursday, May 13
- Friday, May 14, 7:30pm

BINBROOK OBSERVING NIGHTS - For confirmation or directions call Rob Roy at 692-3245 or Bret Culver 575-9492 or John McCloy 523-

HAJA MEETING - McMaster Burke Science Building, room B148. For more information contact Rosa Assalone at 540-8793.

BINBROOK OBSERVING NIGHTS - For confirmation or directions call Rob Roy at 692-3245 or Bret Culver 575-9492 or John McCloy 523-

COSMOLOGY DISCUSSION GROUP- McMaster Burke Science Building, room B148. Topic is **"One, two,...many Big Bangs."**
RASC GENERAL MEETING -Laura Gagne. Topic is **"Search for Extraterrestrial Intelligence."**

HAA GENERAL MEETING - At the Spectator Building auditorium.