



SASKATOON SKIES

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What Happened in History in August

- 1 Astronomer Maria Mitchell was born in 1818.
- 2 In 1967, U.S. Lunar Orbiter 5 left for the Moon, arriving in orbit August 5. After photographing, it was sent to crash on the Moon.
- 6 Gherman S. Titov of the USSR in the first space flight of more than 24 hours, in Vostok 2 in 1961.
- 8 In 1978, the interplanetary probe Pioneer 13 (Pioneer-Venus 2) left the U.S. for Venus, going into orbit around that planet December 9, 1978, checking atmosphere, photographing surface, four probes dropped.
- 9 In 1976, the USSR sent Luna 24 to a soft landing on the Moon August 18, 1976. It brought back soil samples August 22, 1976.
- 10 In 1966, U.S. Lunar Orbiter I left for the Moon, going into orbit around Earth's natural satellite August 14, sent back 21 photos.
- 11 Martian moon Deimos discovered in 1877 by Asaph Hall. He discovered Phobos, a moon of Mars, six days later.
- 11 In 1962, Andrian G. Nikolayev

in Vostok 3 and Pavel R. Popovich in Vostok 4 made the first tandem group flight. On first orbit, Vostok 4 came within three miles of Vostok 3.

17 In 1966, U.S. Pioneer 7 left for orbit around the Sun, ranging 92 to 102 million miles from the Sun, circling every 400 days.

17 USSR sent Venera 7 to Venus in 1970, it arrived December 15, 1970, sending data back from the surface for 58 minutes.

17 A moon of Mars, Phobos, was discovered in 1877 by Asaph Hall. He had discovered Deimos, a moon of Mars, six days earlier.

19 Astronomer John Flamsteed was born in 1646.

20 In 1975, the U.S. sent Viking I to Mars, carrying cameras and life detectors. It landed on the Red Planet July 20, 1976. Designed to last 90 days, Viking 1 worked on the surface 6.5 years.

21 L. Gordon Cooper Jr. and Charles Conrad Jr., Gemini-Titan 5 in 1965, first use of fuel cells to generate electricity in space.

24 USSR Luna 11 left for Moon in 1966, into orbit there August 27.

25 U.S. spacecraft Voyager 2 flew past Saturn in 1981.

27 In 1962, the interplanetary probe Mariner 2 left the United States for Venus, passing 21,648 miles from the beautiful planet December 14, 1962. Reported 800, F. surface temperature. Contact was lost January 3, 1963, some 54 million miles from Earth.

28 Saturn's moon Enceladus discovered in 1789 by William Herschel.

30 Guion S. Bluford Jr. became the first black American to fly in space, aboard shuttle Challenger in 1983.

Mercury Facts

Mercury is the closest planet to the Sun and the eighth largest: average distance from Sun: 57,910,000 km (0.38 AU) Diameter: 4,878 km mass: 3.30e23 kg. Mercury is smaller in diameter than Ganymede and Titan but more massive.

In Roman mythology Mercury is the god of commerce and thievery, the Roman counterpart of the Greek god Hermes, the messenger of the Gods. The planet probably received this name because it

moves so quickly across the sky.

Mercury has been known since at least the time of the Sumerians (3rd millennium BC). It was given two names by the Greeks: Apollo for its apparition as a morning star and Hermes as an evening star. Greek astronomers knew, however, that the two names referred to the same body. Heraclitus even believed that Mercury and Venus orbit the Sun, not the Earth.

Mercury has been visited by only one spacecraft, Mariner 10. It flew by three times in 1973 and 1974. Only 45% of the surface was mapped. Mercury's orbit is highly eccentric; at perihelion it is only 46 million km from the Sun but at aphelion it is 70 million. The perihelion of its orbit precesses around the Sun at a very slow rate. 19th century astronomers made very careful observations of Mercury's orbital parameters but could not adequately explain them using Newtonian mechanics. The tiny differences between the observed and predicted values were a minor but nagging problem for many decades. It was thought that another planet (sometimes called Vulcan) might exist in an orbit near Mercury's to account for the discrepancy. The real answer turned out to be much more dramatic: Einstein's General Theory of Relativity! Its correct prediction of the motions of Mercury was an important factor in the early acceptance of the theory.

Until 1962 it was thought that Mercury's "day" was the same length as its "year" so as to keep that same face to the Sun much as the Moon does to the Earth. But this was shown to be false in 1965 by doppler radar observations. It is now known that Mercury rotates three times in two of its years. Mercury is the only body in the solar system known to be captured in a ratio other than 1: 1.

This fact and the high eccentricity of Mercury's orbit would produce very strange effects for an observer on Mercury's surface. At some longitudes the observer would see the Sun rise and then gradually increase in apparent size as it slowly moved toward the zenith. At that point the Sun would stop, briefly reverse course, and stop again before resuming its path toward the horizon and decreasing in apparent size. All the while the stars would be moving three times

UNIVERSITY OBSERVATORY HOURS FOR PUBLIC VIEWING

The University of Saskatchewan observatory will be open to the public on SATURDAY evenings from 9:30 - 11:30 p.m. during August. (In September, the hours will change to 8:30 - 10:30 p.m. on Saturday nights.)

Visitors will be able to view: the planets Jupiter and Saturn, the Globular Star Cluster in Hercules and other celestial objects.

Observatory assistants will be present to answer questions about astronomy and to assist the public in viewing through the telescope. The observatory is located on campus, one block north of the corner of Wiggins Ave. & College Drive in Saskatoon.

For more information, call Stan Shadick, Astronomy Instructor, at 966-6434.

The stars would be moving three times faster across the sky. Observers at other points on Mercury's surface would see different but equally bizarre motions.

Temperature variations on Mercury are the most extreme in the solar system ranging from 90 K to 700 K. The temperature on Venus is slightly hotter but very stable.

Mercury is in many ways similar to the Moon: its surface is heavily cratered (picture 5) and very old; it has no atmosphere; it exhibits no plate tectonics. On the other hand, Mercury is much denser than the Moon (5.43 gm/cm³ vs 3.34). Mercury is the second densest major body in the solar system, after Earth. Actually Earth's density is due in part to gravitational compression; if not for this, Mercury would be denser than Earth. This indicates that Mercury's dense iron core is relatively larger than Earth's, probably comprising the majority of the planet. Mercury therefore has only a relatively thin silicate mantle and crust.

Mercury's interior is dominated by a large iron core whose radius is 1800 to 1900 km. The silicate outer shell (analogous to Earth's mantle and crust) is only 500 to 600 km thick. At least some of the core is probably molten.

The surface of Mercury exhibits enormous escarpments, some up to hundreds of kilometers in length and as much as three kilometers high (picture 9). Some cut thru the rings of craters and other features in such a way as to indicate that they were formed by compression. It is estimated that the surface area of Mercury shrank by about 0.1% (or a decrease of about 1 km in the planet's radius).

One of the largest features on Mercury's surface is the Caloris Basin (picture 2); it is about 1300 km in diameter. It is thought

to be similar to the large basins (maria) on the Moon. Like the lunar basins, it was probably caused by a very large impact early in the history of the solar system. That impact was probably also responsible for the odd terrain on the exact opposite side of the planet (picture 4).

In addition to the heavily cratered terrain, Mercury also has regions of relatively smooth plains. Some may be the result of ancient volcanic activity but some may be the result of the deposition of ejecta from cratering impacts. There is no evidence of volcanism on Mercury.

Amazingly, radar observations of Mercury's north pole (a region not mapped by Mariner 10) show evidence of water ice in the protected shadows of some craters. Mercury has a small magnetic field whose strength is about 1% of Earth's. Mercury has no known satellites.

FALL BINOCULAR OBSERVING PROGRAM...Sandy Ferguson

Our popular naked-eye and binocular observing program introduced last winter/spring is being offered again this fall. This series of introductory observing sessions will only be offered in the fall, and not in the winter or spring.

The program instructors will be Sandy Ferguson and Brian Friesen. The program will emphasize constellation recognition, locating and observing brighter deep sky objects, such as those in the Messier catalogue, observing techniques and generally getting comfortable with the sky. The opportunity also exists to observe other phenomena, such as aurorae and meteors. Guidance and suggestions will also be given in the purchase of observing accessories (star charts, books, etc.) and in binocular equipment. It is emphasised, however, that owning binoculars is not compulsory for joining the program. Naked-eye observing will also be covered.

The observing sessions will take place once a month at the Saskatoon Centre's Rystrom Observatory, on the same evening as we hold our observers' group meetings (usually the Saturday closest to

new moon--however, it is always announced in Saskatoon Skies). The program members will hold their session at the beginning of the observers' evening, which will enable the binocular program members to indulge in an hour or so of instruction first, then stay on, if desired, to look through the Centre's telescopes and any others belonging to members set up that night. This gives everyone a chance to view through a variety of observing instruments of different sizes and design.

Tentative dates are: September 15 or 16; October 20 or 21; November 24 or 25 and December 15 or 16. Keep your fingers crossed for clear skies!

This program is being advertised outside the Saskatoon Centre, as the Centre would like to get as many people involved as possible, (with, of course, the hope that newcomers would be interested in joining the Centre, when they see what we are up to). For non-members of the Centre there will be a charge of \$15.00 for the program, which includes a guidebook to the constellations and Messier charts. For Centre members who are joining the group for the first time, the program is \$8.00, which covers the costs of the guidebook and Messier charts. For members who were part of the winter group there is no charge.

All participants are welcome to attend the Centre's monthly meetings in Room A-226 of the Health Sciences Building located on Campus, the third Monday of each month, at 8:00 p.m. For further information on the program please give me a call at 931-3184 or Brian Friesen at 384-2963.

BINOCULAR ASTRONOMY OBSERVING PROGRAM ORDER FORM

Name:.....
Address:.....
City:.....
Phone:.....

- RASC Member (\$8.00)
- Non-RASC Member (\$15.00)

Send To: RASC Saskatoon Centre
Box 317, RPO University
Saskatoon, Sk. S7N 4J8
(Or give to a program instructor at the monthly meetings)

Important Info

The Rystrom Observatory

Members are welcome to use the observatory at any time but please phone ahead. Call Nelson or Gloria Rystrom at 955-2370 before 9:00 p.m. if you intend on going out. This lets them know that someone will be roaming around their yard. If they do not answer anyway. Drive through the yard slowly, and dim your lights as a courtesy to others who may be observing.

Early Response to Internet... by Rick Huziak

In the June issue of S.Skies, I asked members if they would like their email addresses published. I already have a few responses. Send these guys some email so they know you're there.

Jim Huziak

"jshuziak@hmtnet.awinc.com"

Rick Huziak

"huziak@SEDSsystems.ca"

Dan Kulak

"kulakd@desoto.wx.sk.doe.ca"

Stan Noble

"nobls@explorer.sasknet.sk.ca"

Gord Sarty

"ge.sarty@usask.ca"

Towards a Better Centre by Rick Huziak, President

On July 18, we held an extraordinary executive meeting to discuss the current and future affairs of the Centre. During the past year, we have seen a rapid growth of the Centre and have implemented several new and exciting programs, including 'Astrobuddies', and Temporary Memberships, and have begun the search for a new observatory site. Meeting informally for several hours at David Cornish's house gave us the opportunity to discuss the successes and failures at length and allowed us to plan for the upcoming year. I would like to thank David for providing the comfortable meeting place, plus lots of coffee and doughnuts. (I like the cream-filled ones the best). The following is a summary of the results of the meeting. All members are welcome to call me to discuss any of the topics or to bring up new ones. (665-3392). I hope that all members have had a good year and enjoyed the activities of the Centre and will support the Centre by rejoining for the upcoming year.

Temporary Membership Program - This program was a great success. About

70% of the 20 or so people on the temp list eventually joined or will join the Centre! Cooperation from all members to provide names for the list is required to keep this program going. The temp members are offered 3 free newsletters and a trip to the observatory, then are invited to join or are dropped from the list. They may be assigned an Astrobuddy if they seem interested.

Size of Membership - The Centre requires about 65 members to 'break even' financially. This is because we have several expenses, such as the cost of the newsletter printing and mailing, insurance for the observatory and displays, a small operating budget, etc. We are currently at 58 members, but have 7 additional already signed up for Oct. .1. Our target membership is 75 for the 1995-96 season. Good programs are required to keep the membership interested.

Astrobuddies - The intent of this program was clarified to assign an experienced Centre member to all new or incoming members who want an Astrobuddy. The Astrobuddy's job is to introduce the new member to the Centre and facilities and to get them out to the observatory and/or general meeting at least once. Once the new member has been familiarized, the Astrobuddy's job can be terminated. Assignment of Astrobuddies is the responsibility of the Membership/Promotions Coordinator. The following people have so far volunteered to be Astrobuddies: Rick Huziak, David Cornish, Don Friesen, Al Hartridge, Eric Keser, Sandy Ferguson, Garry Brett. *More volunteers are needed.*

Observer's Group (OG) Meetings - This year was a washout due to terrible weather, and also because few showed up during good weather; directors or general members. This program needs structure. The OG coordinator will have a structured observing program for each session, based on the Messier List, visible planets and other interesting objects or events. This includes handout materials. The OG program is intended to get new and inexperienced members to learn the sky. New OG date is set at Friday night with an alternate rain day of Saturday night. Eric

Keser is the OG coordinator, with Garry, Brett as alternate. The OG coordinator will call Rystrom's prior to going out. It was suggested that a work session of several members be coordinated at the beginning of the new season (Sept.) to come up with the OG program for the year.

Binocular Astronomy Program - The program went reasonably well, but was greatly affected by the terrible observing weather. Last year's members will be reinvented to some of this year's observing sessions to make up for the bad weather. The new year's program will begin in Sept. in conjunction with the first OG session (Sept. 15). Sandy will continue as coordinator with Brian Friesen as the assistant. It is unknown if Craig Reichert will continue in the program. Costs will be set so the program is self-supporting.

August Observing Session - The Perseid shower coincides with a full moon, so as an alternate, an OG session was set for August 18/19 at Al Hartridge's in-law's farm on Highway 5 East. Al will put a blurb and a map into the August newsletter.

Editors Note: The directions to Al's in-law's farm for the Observers Group Session are as follows: Drive East on Hwy 5 toward Humboldt. Drive 16 km past the Sundown drive-in to Pitt Road. Turn right (South) on Pitt Road. Drive 1.0 km to a ground level approach on the left (east) side. Turn left and drive 0.9 km into the field to the site. The turns will be posted

Advertising Info

Commercial advertisers are encouraged to advertise in the Saskatoon Skies. Your ad will give you access to all Canadian members of the Royal Astronomical Society.

Commercial advertising is accepted in the Saskatoon Skies with three sizes of ads available. Artwork must be camera ready and supplied by the advertiser.

One quarter page.....\$25.00
One half page.....\$39.00
One full page.....\$50.00

For further information please contact or mail your questions to the address below.

The Editor
522 Devonshire Crescent
Saskatoon, Sask.
S7L 5W1
(306) 384-1807

General Meetings - The general feeling is that the General Meeting format is fine as it is. It would be nice to have coffee at the meeting, but the U of S will not allow this. Suggested topics and improvements are: readable transparencies, keeping the business part short, programs on basic astronomy, 'definition-of-the-month', 'How to Use the Handbook'.

Newsletter - Garry is to be congratulated on a great format. Newsletter is the only window to the Centre to many distant members and other Centres. It is the outside's perception of what the Saskatoon Centre is. It should contain articles about amateur astronomy first, with emphasis on what Centre members are doing. Reprints from other Centres' newsletters and old Saskatoon newsletters are a great source of filler material. The Internet can often provide filler material that is amateur astronomy related. Newsletter should acknowledge all new members and provide member profiles.

Raising Money - The Centre needs to raise a lot of money in the near future. About \$25,000 will be needed to fulfill our plans of building a new observatory, finishing the 16-inch and purchasing a large, portable scope for public education. David Cornish will resign from Membership/Promotions at the end of this term and concentrate on fund raising. Garry Brett has agreed to assist.

Vacant Executive Positions - Rick Huziak has expressed his desire not to run for a second term as President. David Cornish will resign from Membership/Promotions to concentrate

on Fund Raising. Bill Hydromako would like to back out of Secretary. Jim Young's Centre Rep position (3-yr. term) may expire this year. There will be some vacant positions on the executive this year.

The New and Old Observatories - Attention should be paid to the relationship at the Rystrom Observatory. A power payment should be made and the lease agreement closed up as soon as possible. The search for a new observatory site is progressing with Yannis, Stan and Rick meeting often. A complete set of RM maps has been obtained for the search site.

National Publications and the GA - The discussion over the Journal/Bulletin combination was heated at the GA due to the paid editor position proposed. The Saskatoon Centre may have to have an Executive meeting prior to the Sept. Nat council meeting to voice our (influential) opinion on the subject. Jim Young has yet to fill us in on what all the issues are.

Other Suggestions - A number of other suggestions were made but not discussed at length. Several are good and deserve future consideration. They are:

- The RASC should make a presentation at at least one U of S astronomy class and at the UofS astronomy club meeting.

- Centre brochures inserted in Astronomy magazine appears to have good success and this practice may be used again this year.

- Loaner scopes are available for new members, but the scopes have to be upgraded a bit to make them useful.

Amended Centre Financial Business - The following finances were approved. The "Dolly Fund" was dispersed into general operating funds as a dolly was provided on loan by Eric Keser. \$140 was approved for purchase of 1996 calendars. \$185.40 (up from \$160.00) was approved for purchase of the Centre banner.

Summary of Members' Positions (note that these are NOT official executive positions):

OG Coordinator Eric Keser
OG Alternate Garry Brett
Astrobuddies Coordinator probably Rick Huziak
Binocular Astronomy Coordinator Sandy

Ferguson
Binocular Astronomy Assistants Brian Friesen, Craig Reichert(?)
Fund Raising Coordinator David Cornish
Fund Raising Assistant Garry Brett
Temporary Members Coordinator probably Rick Huziak in new year

Summary of Upcoming Events

August 18 (alt 19) OG Meeting at Al Hartridge's in-law's farm
Sept. 15 (alt 16) OG Meeting possibly at Hartridge's in-law's farm (?)
Sept. 15 (alt 16) Binocular Astronomy Session at Hartridge's farm (?)
Sept. 18 First General Meeting of the fall
Sept. 22 & 23 Annual Fall Public Starnight, location TBD

Landell's Ladle...by Paul D. Ferguson

Here is another very pretty asterism. Start at RA 20h 42m, Dec 35 30", in other words, the center of the open cluster Ru 173 in Cygnus. Follow a faint but obvious line of stars almost due North for about 4 degrees to an oval pattern of stars centered on RA 20h Dec 38 20'.

The distribution of stars of different brightness in this oval gives the 3D optical illusion of the bowl of a ladle with Ru 173 as the enlarged end of the handle that connects the two groups. It is easily visible in 7x35 binoculars or low power telescopes with an actual field of view of 5 degrees or so.

Viewing it is largely independent of seeing conditions. However, since most of the stars which give it the magical 3D effect are quite faint, low skyglow and good transparency are a must for full appreciation. Of course, like M31, once you know where it is, you can always at least find it, even with a full moon.

If you want a preliminary look at it now, or it is going to be cloudy tonight, turn to page 120 in Uranometria 2000. Rotate the book until the top right corner is pointing at your tummy. Find Ru 173 and look about halfway down the line of stars. Fix your gaze at this point and squint to defocus your vision a little. The ladle will nearly jump out of the page at you. Of course it looks much better in binoculars.

Membership Info

Membership in the Royal Astronomical Society of Canada and the Saskatoon Centre is open to anyone and has many benefits.

Below are the prices for memberships. Should you require additional information please contact Rick Huziak at 665-3392.

Regular membership (21 & up).....\$40.00
Youth Membership (21 & under).....\$22.50
Club Newsletter (12 issues).....\$10.00
Observer's Handbook.....\$18.95

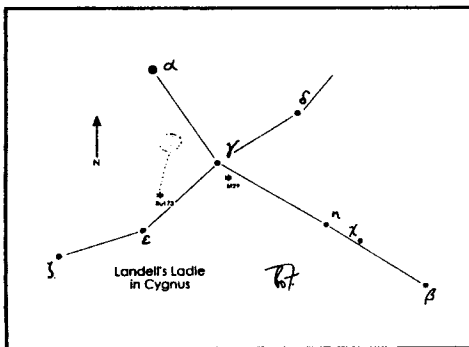
Note: Lifetime memberships are available on request for \$900.00

You can also pick out just a hint of it in the Akira Fujii photograph that was used in the Binocular Highlights column in Sky and Telescope Oct. '94. I'm not sure why it doesn't photograph very well. Perhaps nobody yet has gone after it specifically.

The pattern of a ladle is culturally universal, and easily recognizable. I would very much like to have this one named after my aunt, Elizabeth Landells Morrow Ferguson, who died last year at the age of 91. I can recall her telling many times of using just such a ladle to stir the family meal in a cookpot hanging in the fireplace of the small cottage where she was born in Scotland.

From these simple beginnings, she rose to become the director of a great teaching hospital, the Henderson General, in Hamilton, Ontario. My childhood impression of her was that she was small and distant, but very bright, and had a tremendous influence on all those around her. She was very much one of the stars, and that is where I hope she can be remembered.

Perhaps it is just a Canadian love of alliteration, but around here, we call this asterism "Landells' Ladle". (c.f.: Kemble's Cascade) Once you have seen it on a clear night, you'll wonder how we



ever could have missed it before. The 3D effect is quite spectacular.

Beer In Space

This article was sent to us by Mark Parshall (markus@pyramid.com) on the Internet. Truth is funnier than fiction...

To boldly drink what no man has drunk before...

This week, a million fraternity brothers

rushed to join NASA. The reason: scientists have discovered beer in space.

Well, not beer exactly. But they did find alcohol: ethyl alcohol, to be precise, the active ingredient in all major alcoholic drinks (antifreeze Jell-O shots, quite obviously, are exempted from this category). Three British scientists, Drs. Tom Millar, Geoffrey MacDonald and Rolf Habing, discovered this interstellar Everclear floating in a gas cloud in the constellation of Aquila (sign of the Eagle, the mascot of Anheuser-Busch! Hmmmmmm).

Millar and his compatriots have estimated the size of this gas cloud at approximately 1,000 times the diameter of our own solar system; there's enough alcohol out there, they say, to make 400 trillion trillion pints of beer. These guys are British, mind you; if you were to translate this in terms of American beer (which the British, with some justification, regard as fermented club soda), the amount of potential brewski just about doubles.

In human terms: remember that double-keg party you threw at the end of your Junior year in college (the second Junior year)? Imagine throwing that same party, every eight hours, for the next 30 billion years. You'd STILL have beer left over. And boy, would YOUR bathroom be a mess! Simply put, no one could ever drink 400 trillion trillion pints of beer, except maybe L.A. Raiders fans.

The sheer volume of all this alcohol begs the question of how it managed to get out there in the first place. Despite the simplifying effect it has on the human brain, ethyl alcohol is a reasonably complex molecule: two carbon atoms, five hydrogen atoms, and a hydroxyl radical, all cavorting together in beery camaraderie. It's not a compound that is going to spontaneously arise out of the cold depths of space. It can lead to speculation: What is this cloud?

1. It's God's beer. After all, He worked for six days creating the universe, and on the seventh day, He rested. And after you've had a hard week at the office, don't YOU grab a beer? Since man is made in God's image, it could be that this cloud is the remaining evidence of the first, best Miller Time.

2. It's Purgatory ("400 trillion trillion bottles of beer on the wall, 400 trillion

trillion bottles of beer! Take one down, pass it around, 99,999,999,999,999,999,999,999,999 bottles of beer on the wall!")

3. Proof of an undeniably highly advanced but chronically dipsomaniac alien society. This particular theory is shaky, however: it's reasonable to assume that if the aliens were going to construct a nebula of alcohol, they'd also have large clouds of Beer Nuts and pretzels nearby for snacking. Advanced spectral analysis has yet to locate them.

The truth of the matter, however, is far more prosaic. In the middle of this gas cloud is a young and no doubt quite inebriated star. As the star heats up and contracts, sucking the dust and gas of the cloud into a smaller area, complex molecules form as a result of greater interaction between the elements. Ethyl alcohol forms on small motes of dust in the cloud, and then, as the motes angle in closer towards the star and heat up, the alcohol is released from the motes in gaseous form. And there you have it: an alcohol cloud. Or, as Dave Bowman might say, "My God! It's full of booze!"

Enough with the science lesson, you say. Just tell me how to GET there! Sorry, Chuckles. You can't get there from here. The gas cloud (which, by the way, has the utterly romantic name of "G34.3") is 10,000 light years away: 58 quadrillion miles. Even if you hijacked the shuttle and headed out with thrusters on full, by the time you got there, the guy in Purgatory would be done with his tune. You'd have had time to work up a powerful thirst, but you'd also be, in a word, dead.

No, the Space Beer Cloud will have to wait for the far future, when men can leap through the universe at warp speed. One can only imagine what they will do when they get there:

Captain Kirk: My...GOD! Sulu! What...is...THAT?

Sulu: It's a free floating cloud of alcohol, sir.

Kirk: And we've just run out of Romulan Ale! Could it be a trap, Bones?

Bones: Damn it, Jim! I'm a doctor, not a

distiller of fine spirits!

Kirk: We need that booze! But if we fly through that cloud, we'll be too drunk to live!

Spock: May I remind you, Jim, that I am a Vulcan. We are a race of designated drivers.

Kirk: Well, all righty, then. Spock, drive us through! Bones and I will be out on the hull. With our mouths... open!

What's Up....by Scott Alexander

What's up this month is a pair of planets called URANUS and NEPTUNE in the constellation of Sagittarius. These 2 planets are not that hard to find in a good pair of binoculars. 7x35's or 10x50's or a small telescope (4 to 6 inches in size) will show you the small bluish planet (Neptune) and the planet (Uranus) with it's greenish color.

Both of these planets are around 5.6 (Uranus) and 8.0 Neptune). The planet Uranus can, under a dark sky, be seen thout any magnification at all using just with your eyes alone.

If you wish to find them with a sky chart, look at about RA 20 hours and 0 minutes and Decl -21 degrees for the planet Uranus. For the planet Neptune, look at RA 19

hours and Decl -21 degrees. The chart is in the OBSERVER'S HANDBOOK 1995 on page 143. It will give you a chart of the position of these two planets.

Also look at the planet Jupiter in the constellation of Scorpius. It is the brightest object in the western sky and is visible just after sunset, and for 1 to 2 hours after the sun sets. Have a look at all 4 moons which are easily seen in a pair of 7x35 binoculars held on a steady tripod.

The next object to look at is the open cluster M 52 in Cassiopeia at Right Ascension 23 hours 24.2 minutes and declination +61 degrees 35 minutes and at a magnitude of 6.9. M 52 is visible in a pair of 10x50 binoculars. The cluster is rather spread out. The famous Bubble nebula lies nearby but this nebula is very faint, but is very pretty on long exposure photographs.

The next object to look at is very easy to see even without trying. The object is the Andromeda Galaxy (M 31) in the constellation of Andromeda. At a magnitude of only 3.4 is easy to see with the naked eye under dark skies. A pair of 7x35 binoculars will give you a beautiful view of this galaxy. Look for the two companions right next to the galaxy. They are called M110 and M32 and at magnitudes of 8.0 and 8.2 respectively are not hard to see. GOOD LUCK AND CLEAR SKIES

when the computer suddenly locked up. I tried everything to unlock it and when that didn't work I rebooted it. That started two weeks worth of frustration.

Somewhere in my software I had picked up a monkey virus or something to that affect and it did some real serious damage to my system. It did not wipe out my hard drive and information. What it did was wipe out my bios rom so the computer didn't even know what it was.

I spent the better part of two days on the phone talking to people and finally we figured out a way to get the computer to understand it was a computer. Unfortunately I had no choice but to wipe out my hard drive and completely reformat it. This meant of course that I lost alot of information I had stored, including back issues of the Skies. Fortunately I have the originals.

Since reloading everything I have had alot of fun getting it all to work right again. I just got my printer finally running this morning but that was only after spending 20 minutes on the phone with the manufacturer in the States.

On a lighter note I finally took the plunge and figured seeing how I was spending all of this money I would buy a flatbed scanner. Once I figure out how to use it properly I will put it to good use for the newsletter.

I want to thank the people who responded to my questionnaire. Some of the suggestions were very good and some of them will be turning up in the next newsletter....Garry

The Swap Shop

To have your ad run here call me at (306) 384-1807 before the end of the month and I will run your ad in this section. Should your item not sell you can reword it and try again. This section is for anything for sale, swap, give-a-way or anything else you can think of.

OOPS For The Record

The drawing of Jupiter shown on page 5 of the July 95 Newsletter was actually made on June 12, 1995....not 1994. Rick H.aziak

Letter from the Editor

I hope that you enjoyed this issue of the newsletter. The fact that I even got it out was a miracle. About three weeks back I decided to upgrade to a 486 computer with all of the toys. What I basically did was buy a modular cabinet and install a new 486 motherboard, video card, controller and then took what I could from my 386.

After putting the old/new computer back together I was sitting there playing a game

ASTROPHOTO CORNER

AUG 1995

RASC

SASKATOON CENTER

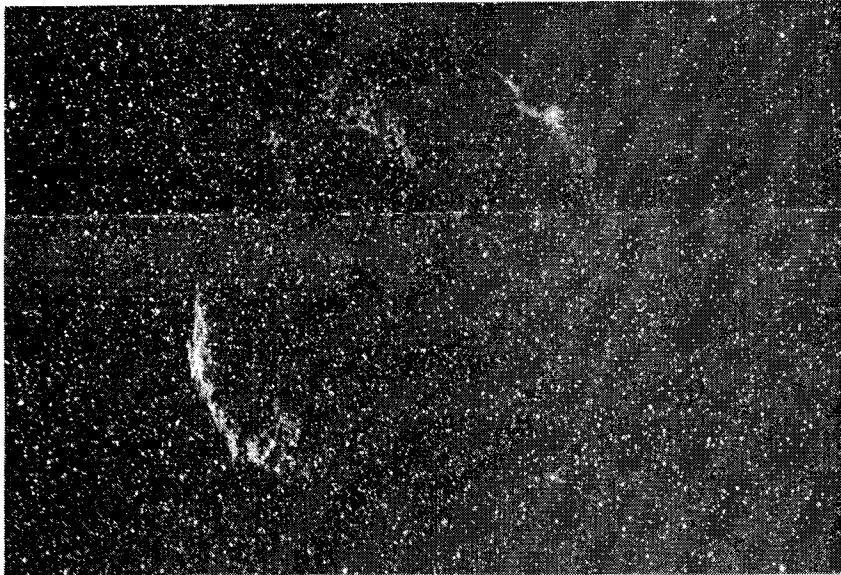


PHOTO OF THE MONTH

THE VEIL NEBULA

NGC 6960, NGC6992 also sometimes called the Cygnus Loop is found in the constellation Cygnus near the star 52 Cygnus. This object is a suspected old supernova remnant. It appears as an expanding wreath of gas about 70 light light years in diameter. It is roughly 1500 light years distant.

This object in dark skies can be seen in binoculars. I have seen this in Rick Huziak's 4" Newtonian at the Alberta Star Party when it was held at Waterton Lakes several years ago, and also in larger scopes and it is a fine sight. ☞

TECHNIQUE: The above photograph was taken with my 8" Schmidt Camera using a #92 Wratten filter on hypered Kodak Tech Pan 2415 film. Exposure time was 30 minutes at f1.5. The negative was developed in D19 for 6 minutes at 70 degrees F.

ASTROPHOTO TIP: When guiding for a long exposure photograph with a separate guide scope I try to use a Barlow teleamplifier which will give me at least twice as much focal length in the guide scope as I am photographing with in the primary telescope. For example, my refractor has a focal length of about 1100 mm. at f7, my guide scope is a 3" refractor with a inherent focal length of 900 mm. so I use a 3x Barlow or a focal length of 2700 mm. to guide with. This allows me to hopefully see movement of the guide star and correct for this before it gets recorded on the film.

Clear Skies and Good Guiding ----- Al Hartridge