SJAA EPHEMERIS

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The EYEPIECE
by Bob Madden

I thought I would try a logo this month to start this editorial. Summer is past and school is upon us. There has been some excellent nights this summer as reported by Paul Barton. Hopefully most of you took the time to observe your favorite deep sky object. There is more to come this fall. Soon our Beginning Astronomy class will stop for a short period to permit Jack Peterson to recharge himself. I believe it is still Del Johnson's and the government's plan for him to go into the Peace Corps in November. I know Del is planning to promote our country and also amateur astronomy. It is also his plan to take along a small telescope.

Also by the time you read this we will have held our annual Yosemite star party. I know several of our members have used this time to explore the constellations of Sagatarius, Hercules and others in the Milky Way. What great skies there are at Glacier Point.

Now that I am back on the subject I wanted to be on, what outstanding or challanging objects have you found? How did you go about doing it? Was it easy? Can you describe it? Please drop me a note describing what you have done this summer and I will publish it in these pages. Don't be bashful. You can do it and maybe you'll help someone else. Isn't that what it is all about?

Sept 4: Star Party at Houge Park. Moon is 62% - will set 0:46a
Sept 5: Too much moon
Sept 11: 8:00 p.m. Beginning Astronomy Class at the Milpitas Library. **This month only!**
Sept 12: General Meeting, 8:00p.m.. Board of Directors meeting 6:30p.m. This month is show and tell - bring equipment and slides to talk about. Paul Barton may describe the group's loaner telescopes available to members.
Sept 22: Autumn begins at 11:45p.m.
Sept 26: New moon - 1% - will set 6:53p.m.. Star Party at Fremont Peak or Grant Ranch . Your Choice.
Sept 28: Rosh Hashana - yr 5753
Oct 2: Star Party at Houge Park.
Oct 3: First Qtr. moon
Oct 10: General Meeting, 8:00p.m.. Board of Directors meeting 6:30p.m. Speaker to be announced.
Oct 11: Full Moon
Oct 17: Last Beginning Astronomy Class. 8p.m., Milpitas Library
Oct 18: Third Qtr. moon
Oct 24: Star Party at Fremont Peak or Grant Ranch. Your Choice.
Oct 25: Darkness squandering time ends.
Oct 31: Almost a First Qtr. moon. Lets have a star party at Houge Park for Goblins. 39% moon-sets 9:04p.m.

News Flash!

Jim Van Nuland has a double star to his credit. Chief reporter Paul Barton has mentioned in the Houge Park report about Jim's new Granddaughter. Jim just announced his double discovery - Erik Johathon Van Nuland - 4 days later. All concerned are doing fine including Jim and Grandmother!

Astronomy Magazine Renewal Time

The renewal period for Astronomy magazine is coming. Jim Van Nuland has not received the new price, so some of this is tentative. Last year Astronomy cost $14. If you presently subscribe through SJAA, Jim will be contacting you when he finds out.

If you do not presently subscribe, call him and he will hopefully have the price by late September. New subscriptions will begin with the January issue.

If you presently subscribe independently, you may convert to the group rate only if your subscription expires during 1993. Jim will need a mailing label. Your subscription will be extended to synchronize it with group renewal (calendar year). Cost will be pro-rated.

Astronomy Magazine sends out renewal notices, asking for considerably more money than the group rate. If you subscribe through SJAA, do **NOT** send payment directly to them! Call Jim if you are uncertain.

Jim Van Nuland (408) 371-1307

Special Notice

September Beginning Astronomy Class has been moved to September 11. This month only! The room at the Milpitas Library is unavailable on September 19.

The Scientist

Arcane Equations Led Einstein and All of Us Into a Relative World. His Theories Upset Newton's and Now Have Survived a Series of Tough Tests Trains, Lighting and Space

By Jerry E. Bishop
Staff Reporter of
The Wall Street Journal

Working alone in Berlin in 1915, Albert Einstein completed a meticulous set of equations that yielded a new conception gravity. To test the equations, he applied them to a decades-old puzzle about why the planet Mercury annually changes orbit about the sun.

When the equations predicted those changes exactly, the 36-year-old physicist immediately realized that he had made a startling discovery.

"I was beside myself with ecstasy for days," he wrote a friend a few months later. But it would be four years before the rest of the scientific world would grasp his enormous achievement: He had ensured that his new general theory of relativity would supersede Isaac Newton's laws of motion and gravity, which had dominated science for more than two centuries.

So far, Einstein's work has stood up better than Karl Marx's or Sigmund Freud's. It has turned back repeated challenges and remains, even now, the very basis of modern physics. His general theory is widely regarded, says physicist-author Jeremy Bernstein, as "the most perfect and aesthetically beautiful creation in the history of physics, perhaps in all science."

In addition, the theory has spawned surprisingly practical applications: It enables engineers to guide spacecraft through the solar system. It has helped astronomers find black holes, pulsars, quasars and other mysterious celestial objects. It plays a central role in cosmologists' debates over the origins of the universe.

In a recent article in Science magazine, Clifford M. Will, a Washington University physicist, ticks off half a dozen space-age tests of general relativity now in progress. For instance, astronomers periodically fire streams of rapid laser pulses at reflectors left on the moon by Apollo astronauts. The time light takes to make the round trip back to earth measures, within one inch the distance to the moon.

The laser measurements test some calculations made by Kenneth Nordtvedt, a physicist at Montana State University. His calculations showed that if Einstein's general theory is true, the Earth and moon would be affected equally by the sun's gravity. But if various theories are true, solar gravity would affect the Earth differently than the less massive moon.

So far, the ultra-precise laser measurements show no perturbations in the Earth-to-moon distance that could stem from the so-called Nordtvedt effect. General relativity remains unscathed.

Yet, like all scientific theories, Einstein's general theory is fragile. With its predictions fixed, Dr. Will writes, "Every test .... is potentially deadly. A verified discrepancy between observation and prediction would kill the theory" and cause huge reverberations.

General relativity spawned the third great revolution in the prevailing view of the universe. Copernicus launched the first by removing the Earth from its center.

Newton launched the second. In the 17th century, he formulated his three laws of motion - the first, for example, that a body continues at rest or in uniform motion unless some force acts on it - and his law of gravity, which holds that the pull of gravity depends on the masses of two bodies and the square of the distance between them. These laws implied that if all natural forces could be identified and measured, the state of the universe at any given moment could be predicted.

Then came Einstein's theory, which sparked a public response that Paul Johnson, in his book "Modern Times," calls one of the "principle formative influences on ... twentieth-century history." Although most people didn't understand the abstruse theory, they grasp that "absolute time and absolute length had been dethroned," the British historian says.

"All at once, nothing seemed certain in the movement of the spheres," Mr. Johnson declares. "At the beginning of the 1920's, the belief began to circulate [that] there were no longer any absolutes: of time and space, of good and evil, of knowledge, above all of value."

General relativity became the first scientific subject that the newly emerging mass media tried to popularize. But even the simplest explanations of the theory are difficult to follow, so the media instead focused on Einstein - and created a lasting image of the modern scientist. Einstein was "a very 'mediagenic' fellow," Dr. Will notes in his book, "was Einstein right?" Dr. Will adds: "His absentmindedness, his playful wit, his willingness to expound upon politics, religion and philosophy in addition to science, his violin playing - all these characteristics sparked an intense curiosity on the part of the public."

Descended from a long line of German Jewish merchants, Einstein grew up in Munic, where his father and uncle ran a not-very-successful electrical equipment business. Even when he was only four of five, Einstein later recalled, a simple magnetic compass interested him in the working of invisible natural forces. At 12, he discovered that the proofs of theorems in a geometry book seemed as obvious and real as the physical world around him. Graduated from the Swiss Federal Polytechnic School in Zurich in 1902 with a degree in physics but unable to find a teaching job, he went to work as a patent-office clerk in Bern.

It was during his seven years as a patent clerk that Einstein first astonished the scientific world. Although isolated from the mainstream of theoretical physics and limited to research after working hours, Einstein tackled some formidable problems then facing physicist. The crucial issue: whether Newton's laws reflected fundamental laws of nature.

In the late 1800's, a number of discoveries were making scientists doubt the universality of Newton's laws of motion. Newton had assumed for instance, that all motion was relative to a mysterious absolute "stillness" and that an absolute time was being ticked off by an unseen universal clock.

Continued on page 3

Einstein . . . Continued from page 2.

Testing for Ether

Spurring the doubts was an 1881 experiment by two physicists in Cleveland. At the time, physicists assumed space must be filled with an invisible and stationary medium, the so-called ether. One could always determine whether the planets, or any one on them, were moving by relating their motion to the stationary ether. So the ether was Newton's absolute "stillness."

One way to test for the existence of the ether was to see whether it affected the speed of light. The Clevelanders, Albert Michelson and Edward Morley, reasoned that a beam of light flashed "forward" as the Earth moved through the ether would travel at a different velocity than a light beam shined perpendicular to Earth's movement. Yet when the men flashed two beams perpendicular to each other, they found no difference in their velocity - as though the ether didn't exist. For years, physicists struggled to explain that.

Einstein later said that in 1905 he wasn't particularly thinking about the Michelson-Morley experiment. In that year, however, one of the five scientific papers he published provided the answer. To start with, Einstein explained that if a physical law reflected a fundamental law of nature, it must hold true whether one is moving or stationary - that is, in all "frames of reference." This requirement, he said is the "principle of relativity."

The 26-year-old patent clerk proceeded to cite situations - frames of reference - where Newtonian physics led to paradoxes, where motion seemed to be absolute in one frame of reference but not the other. The paradoxes showed that Newton's laws of motion violated the principle of relativity. The paradoxes vanish, Einstein suggested, if one sets aside Newton's laws and looks for a universal constant, something that is the same in all frames of reference.

Einstein then noted that James Clerk Maxwell's theories on electromagnetic waves held the speed of light in a vacuum is constant. If the velocity of light was the same whether one was moving or at rest, one would have a new theory of motion that conformed to the principle of relativity, a new "theory of relativity."

One of the examples Einstein later used to illustrate how his new theory resolves the Newtonian paradoxes deals with simultaneous events. In Newton's universe, two events could be said to occur simultaneously in all frames of reference because an absolute time was being ticked off by a universal clock. A person in motion could say an event happened at exactly 7:10 a.m. Universal Clock Time and a stationary person could say another event also happened at 7:10 a.m. UCT. Thus, even though they are in different frames of reference, the two observers would agree that the events were simultaneous.

But, Einstein said, this notion of absolute time and simultaneous events produces a paradox. Noting that light takes time to travel from point to point, he cited a case of two bolts of lightning striking near a railroad track. A person standing midway between the strikes might see both flashes at the same time. To him, they are simultaneous. But someone on a fast train would see the flash up ahead - the stroke he was rushing toward - before the flash of the stroke he was rushing away from. To him, the two bolts struck at different times.

So the two events are simultaneous in one frame of reference but not another. Notions of absolute time and absolute motion violate the principle of relativity.

On the other hand, Einstein said, if the velocity of light is the same whether one is moving or stationary, passengers on a moving train can measure the time a flash of light takes to travel from one end of the train to the other and calculate the velocity of light. A stationary observer standing by the tracks could see the flash of light - or even a different flash - and come up with the same figure for its velocity.

With the new theory, Newton's concepts of absolute time and motion evaporated - and so did the ether. Michelson and Morley couldn't find any difference in the velocities of light beams perpendicular to each other because light's velocity isn't changed by the motion of its source.

The new theory applied only to a special state of matter, that of uniform motion; that is, motion in a straight line at a constant velocity. Hence, the theory was known as the special theory of relativity.

Later in 1905, Einstein published what was essentially a footnote to the special theory. It linked the mass of a body and its energy content: The energy of matter was equal to its mass times the velocity of light squared, or $E=mc^2$. (Years later, the formula enabled physicists to calculate the energy released when uranium atoms split. Other than writing his famous letter urging President Roosevelt to pursue development of an atomic bomb, Einstein played no role in it, however.)

The Acceleration Problem

In 1909, Einstein left the patent office for a low-paying university position in Zurich. There, and later in Berlin, he tried to expand his theory of relativity to encompass matter in non-uniform motion, or acceleration, in which an external force causes a moving body to change speed or direction. Acceleration posed a contradiction that Einstein later illustrated with analogy of a train passenger looking out a window. As long as the train was moving in a straight line at a steady speed, the passenger couldn't tell whether he was moving relative to the landscape or the landscape was moving relative to him. Motion was relative.

"If the motion of the [railroad] carriage is now changed into a non-uniform motion, as for instance by a powerful application of brakes, then the occupant of the carriage experiences a correspondingly powerful jerk forwards," Einstein explained. This acceleration is sensed by the passenger even if he can't see out the window. Acceleration seemed to be absolute.

If acceleration is absolute but uniform motion is relative, the "laws of nature" would appear to be different for different states of matter. "No person whose mode of thought is logical can rest satisfied with this condition of things," Einstein wrote later. What is needed, he explained, was "a physics which is conformable to the general principle of relativity ... what ever may be [a body's] state of motion. (To be continued)

[Printed without permission.]

Fremont Peak B-B-Q and Star Party
by Paul Barton

The joint FPOA and SJAA picnic and star party was the best outing of the year. An effort was made to get everyone's name for the Ephemeris, but was abandoned after one page. There were too many people and all having fun. There was a large quantity of food, plenty for the most robust appetites. The hamburgers were generous and perfectly cooked. Ditto for everything else; salad, cupcakes, water melon, soft drinks, even wine. Everything was nicely organized.

We started viewing about 4 or 4:30, but people were so busy visiting and looking at telescopes, there was little waiting in line. The FPOA raffled prizes ($1 per chance), including a fine pair of Celestron binoculars donated by Earl Watts. Of course the 30" Challenger was open and doing a big business. Jack had our new T-scanner going with a borrowed Solaris, showing remarkable solar prominences.

Quite a traffic jam of telescopes at the photo site, near the Ranger's house, about a dozen or more. Most stayed the night. The next morning the site looked like a Boy Scout Jamboree, with campers snoozing away "all over the place". Like wise Coulter Camp - - Telescope Row - - was jammed. Perhaps there were two dozen or more telescopes over there. There were over a hundred people at the affair and the greatest assortment of telescopes imaginable.

The sky gazing was exceptional, best outing this year, warm, shirtsleeve weather all night. It was dry with no dew!! It was clear, though there was some sort of obstruction low in the sky to the east (no stars were there). The Milky Way stood out like a bandage.

The Dolphin was visible with little difficulty, a gauge of the sky transparency. There was no fog below to cancel city lights. In fact it was quite clear below. Sharp eyes could see Andromeda, The double cluster in Perseus, the Triffid and more. Finding faint objects with the various telescopes was routine.

In brief, if that is possible, we had a whale of a good outing. FPOA is to be congratulated on a fine, well organized "affair". They should " arrange" perfect weather like this more often. Rick Morales, the ranger in charge at Fremont Peak State Park, is to be complemented too. Rick was around talking to every one in attendance with a smile. Rick is a very gracious host. We are glad he supports astronomy.

Henry Coe Star Party
by Paul Barton

Those in attendence were:

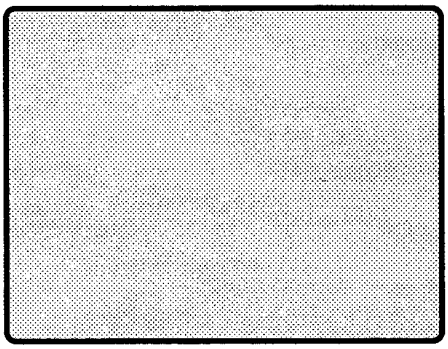
P. Barton	JMI-18
Jim Baggott	C-8 w/NGC
Alan Nelms	Takahasi - TSC 225
Jim Van Nuland	8" & 4-1/4"
John Bettencourt	w/P Barton on JMI
Charles Chew	C-90/C-8
Astro Class Member:	
Terry Kahl	4-1/2" Edmond
Irma Dizon	Pantax Camera
	20X80 Binoculars

Guests:
Mark Wagner
Pat, Daniel and Mimi Wagner
Dean Linebarger

This outing was outstanding as it was very warm, dry weather, good sky and fog below. Also there was a good turn-out. Moon rose about 3 am. Only Jim Van Nuland and Paul Barton saw the moon come up over the horizon.

Alan Nelms' 9" Takahasi is an outstanding instrument - fine optics and completely stable, more so than the JMI-18, which is very stable.

Last person out customarly checks the area for lost items and trash, including cigarette buts to help ensure our welcome next time. Many times a hat or shovel, etc., has been brought to the next meeting looking for its owner.



Houge Park - 7 Aug. 1992
by Paul Barton

This night was another fine outing as it was warn, clear, dry, good sky and about a 5/8 moon. There were no less than fifteen telescopes and perhaps 50 to 100 visitors. The Houge Park site is working out very well and our members are supporting this effort in numbers. The Astronomy class is helping these public star parties too. Present at Houge were the Wagners (4 of them) and Terry Kahl, who are regulars at the astronomy class. Terry and her Edmund Scientific telescope is a regular at all our outings these days. She is hooked!

We observed the moon, Saturn, the Ring Nebula, the Dumbbell nebula, Hercules cluster, also M-92 nearby, Uranus, Neptune and an artificial satellite. There was too much moon to see the Perseid meteors.

Jim Van Nuland announced another grand daughter: Jennifer Marie Morganstern, 6-1/2 lb, born at Sutter Creek (north of Jackson), Wed. 8/5/92. Congratulations to all concerned. Jim had a star party up there and the seeing was superb. Why do we stay in places like San Jose? Inertia must be one of the greatest forces in nature.

Those who signed in were:

Lady	
P Barton	JMI-18
Shelly McAleese	13.1 Dob
Rich Neuschaefer	4" Takahashi
Tom Harrold	visitor
Michael Grenot	visitor
Crazy Ed Erbeck	10 f/4.5 Coulter
Bob Brauer	C-102
Lew Kurtz	LX200
Michael England	10" Mead
Leon Jones	10" Oddesy
Mike Johnson	8" Celestron
Dick Chimenti	visitor
Christopher Landers	visitor
Jim Van Nuland	8" Newtonian
Mark Wagner	astro class
Pat Wagner	astro class
Danial and Mimi Wagner	
Ryan Hawper	visitor
Bob Keller	w/Camera
Enrigue Gomez	C 4.5
Terry Kahl	4" Edmond Sci Newt.
Jack Zeider	

Double, Triple, and Multiple Stars

by Patrick M. Donnelly

It would appear appropriate at this time to return to the very basics of double star observing. Rather than describe some obscure doubles and triples in a particular constellation, I have decided to provide a list of ten excellent doubles in the September skies. It would appear that just having some fun observing is in order. This list was compiled from purely personal observations, and may not reflect the doubles commonly considered the best doubles in the sky at this time of year.

The criteria for choosing these stars is based on several factors. First, the stars had to be visible in the September skies in the evening. Also they had to have a rather generous separation, so that they would be easy to resolve and pleasing to observe. Next, the stars had to be relatively bright, so they would be easy to find. The brightest of the group is Gamma Andromedae at magnitude 2.3, and the dimmest is Psi Draconis at magnitude 4.9. Each pair should provide some color contrasts or have some color enjoyment. Finally, each star should be a double star and not an aparent member of a multiple star. There are a few exceptions, Gamma Andromedae for example, but the components that are much too close or dim to be easily observed could be ignored. The list is provided below:

	NAME	MAG	SEP
1.	Psi Draconis	4.9/6.1	10.3"
2.	Beta Cephei	3.0/8.0	13.6"
3.	Delta Cephei	3.6v/6.5	40.7"
4.	Eta Casiopiae	3.6/7.5	12.0"
5.	Beta Scorpionis	2.9/5.1	13.6"
6.	Theta Serpens	4.5/5.4	22.2"
7.	Gamma Delphinii	4.5/5.4	10.0"
8.	Beta Cygni (Alberio)	3.2/5.4	34.3"
9.	Beta Piscis Austrinii	4.4/7/9	30.4"
10.	Gamma Andromedae	2.3/5.1	10.0"

COMET COMMENTS

by Don Machholtz

Three faint returning comets have been recovered lately, while comet Shoemaker-Levy and Comet Machholtz fade from view. Unless a new bright comet is discovered soon, there is not expected to be much comet activity for the next few months.

Periodic Comet Giclas (1992 l): T. Seki of Japan recovered this comet at magnitude 18 on June 30. Its seven year orbit will bring it to perihelion in mid-September at 1.8 AU. It may reach 14th magnitude by then.

Periodic Comet Wolf (1992m): T. seki also picked up this comet on July 10. It was then at magnitude 20. Comet Wolf was discovered more than one hundred years ago. It takes 8.3 years to complete an orbit and will be closest the Sun on August 28 at 2.4 AU. It might brighten to magnitude 15 by then.

Periodic Comet Schuster (1992n): On July 28: T. Seki recovered this comet. It was then at magnitude 18. It might brighten to 15th magnitude by the end of next year.

Don Machholtz (916) 346-8963
[there are no ephemerides this month]

ASTRO ADS

ASTRO ADS are free to all noncommercial advertisers wishing to sell astronomically related products or services. Please send your ad directly to the Editor:

Bob Madden
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NO LATER THAN THE 12th OF EACH MONTH! Your Astro Ad will run approximately 3-months.

Celestron 14 Very good condition. Proven performance. Previously housed in a University's observatory. Complete with tube, 2 inch diagional, counterweight bars, finder, fork, drive (electric dual axis slow motion), wedge, field tripod and metal pier. Price reduced was $5,000 make offer. Edward Hillyer, 4900 N. Hwy 99 #238, Stockton, CA 95212 - (209) 931-0486 evenings 9/92

ESTATE SALE - Owner will accept bid. DS - 10 f/4.5 Newtonian - minor damage to optical flat, telrad, Tasco finder scope, Custom made German EQ mnt, Spotting scope - minus 0.965 ocular, 2 axis drive corrector - disassembled (Meade), 2X Barlow, 2X Telenegative, 9mm guide Reticle, 1.25 extension tubes, Camera Extension Adapter, Eyepieces 5mm, 7mm, 9mm, 12.5mm,18mm, 25mm, 30mm Ultrascopic (all Orion oculars), Metal Case. FILTERS - Polarizer, 2 ea. Skyglow, Color set, 2 ea. 52mm Skyglow (all 1.25 except as noted). PUBLICATION - Tirion Sky Atlas 2000.0 - delux color edition. Camera body - X7A, winder, Lenses 500mm - f/8, 80-200mm f/3.5, 50mm f/1.7, 2X Teleconverter. Total Approximate Value $3,575. Call Ms. Judie Hobgood (408) 244-8851 8/92

Celestron 40mm, 2" eyepiece, very good cond $95. Celestron 25mm and 18mm 2" orthoscopic, $95 each. Meade 12mm (1.25) Illuminated Reticle eyepiece w/C cell battery box and connecting wire. Never used, mint. $50. C-8 Piggyback bracket for camera. $20. Binocular clamp (screw-in type to mount binocs on a tripod) $5. NIKON T-ring $5. Porro Prism (1.25), never used $25. 1/4 - 20 Adapter block for Orion small equatorial mount (for supporting camera or small scope). $10. Call Bill Dellinges (510) 792-9206 8/92

Bushnell 454 power, 60mm/f=910mm refractor, Equatorial Mount. K21mm, H12,and SR4mm eyepieces. Assorted filters and prisims. $150. Call Leigh Trowbridge (415) 967-6396 8/92

Meade DS16 Telescope w/9X60 Finder - $1,000. Other Accessories available also. Contact Mike Schartman. Days at (510) 455-6012 X-353 or (209) 544-8828 (Modesto) 8/92

Celestron C5 (one of the last ones made) w/wedge, tripod, extra eye pieces, porro prism, camera adapter (Canon). Like new. $2000. Contact Russ Jhonson at (408) 752-2404 (days) or (415) 967-3354 (eves/weekends). 8/92

Celestial Calendar
August 1992

Lunar Phases	Date	Rise	Tran	Set
FQ 15:39hr	03-09	1403	1845	2330
FM 19:17hr	11-09	1842	0042	0640
LQ 12:53hr	19-09	2345	0700	1421
NM 03:40hr	26-09	0742	1317	1848

Nearer Planets

Mercury	07-09	0522	1215	1912
1.41 A.U.	17-09	0632	1255	1921
Mag -1.2	27-09	0739	1330	1916
Venus	07-09	0828	1424	2023
1.48 A.U.	17-09	0856	1434	2015
Mag - 3.9	27-09	0919	1443	2003
Mars	07-09	0018	0734	1456
1.22 A.U.	17-09	0000	0717	1440
Mag +0.4	27-09	2338	0659	1418
Jupiter	07-09	0710	1322	1939
6.44 A.U.	17-09	0642	1251	1905
Mag -1.7	27-09	0610	1221	1828
Saturn	07-09	1743	2244	0346
9.13 A.U.	17-09	1702	2203	0304
Mag +0.4	27-09	1617	2122	0219

SOL Star Type G2V Mag - 26.72

1058+1615 ...	07-09	0633	1252	1914
1136+0220 ...	17-09	0645	1251	1902
1015+0139 ...	27-09	0653	1251	1845

Astronomical Twilight

JD 2,448,873.5	07-09	0458	-	2048
883.5	17-09	0512	-	2034
893.5	27-09	04521	-	2016

Sidereal Time

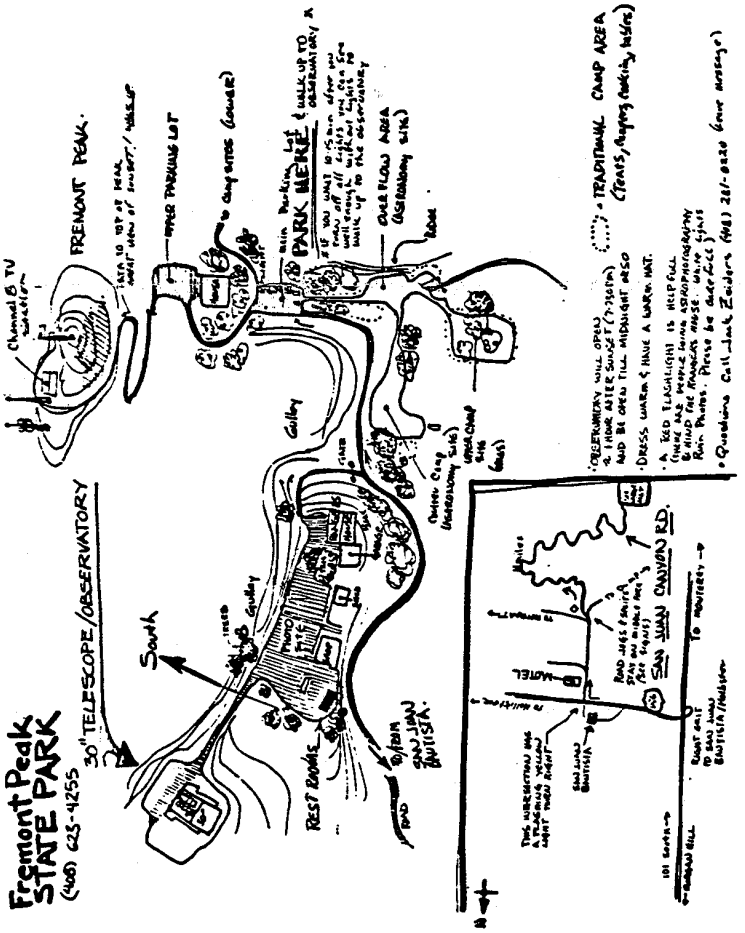
Transit Right	07-09	0000	PST = 2159
Ascention at	17-09	0000	PST = 2238
Local Midnight	27-09	0000	PST = 2318

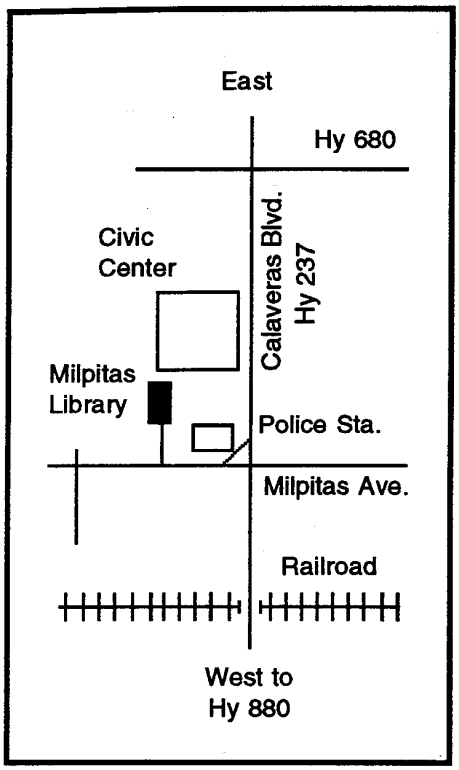
Darkest Saturday Night ..... Sep 26

Sunset	1846
Twilight End	2017
Moon Rise	1848

TIMES & DATES ARE PACIFIC DAYLIGHT

by Richard Stanton





REMEMBER! ENTERING GRANT RANCH AFTER 10:00 PM CAN BE DANGEROUS TO YOUR AUTOMOBILE TIRES. DO NOT ENTER THROUGH THE EXIT GATE WHEN THE ENTRANCE IS LOCKED!

Directions to our Favorite Places
by your Editor

To the left is a map showing directions to the Milpitas Library location for our Board of Directors, General Meeting and Beginning Astronomy Classes. This is the old Milpitas Police Station location. The public and members are welcome to these meetings. There are interesting talks given by professional and amateur astronomers along with lively discussions. Here is a chance to ask someone about your equipment or theory to work out a solution.

The map below shows directions to our public star party site at Houge Park. Star Parties begin at sundown and continue until around 11:00 P.M. As you know the public is invited and so is the membership. Come display your favorite telescope, help another who is less proficient, and get someone else interested in astronomy and the night sky.

Henry Coe State Park is located east of Morgan Hill in the Hamilton mountain range. To get there go down Hy. 101, past San Jose toward Morgan Hill. Take East Dunne Ave. Follow it east, past Anderson Reservoir, up the mountain for 12 miles. At the overflow parking lot you'll see the sign identifing the Park. Then in a half a mile, you'll see the buildings of the old Coe ranch, now the park headquarters. On the left is a horse trough and a locked gate.

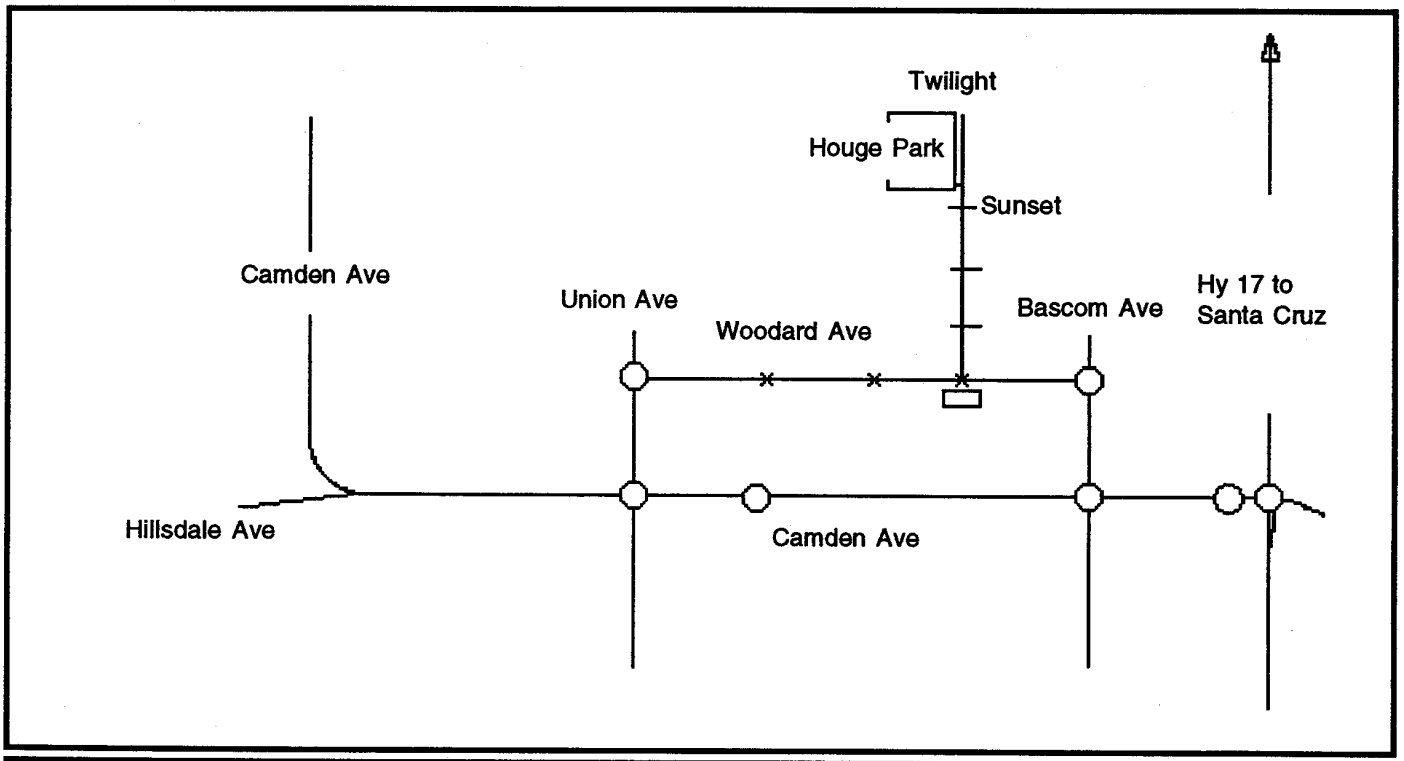
When star parties are scheduled you will pass through the gate and drive up the hill, about 100 yards and set up on the right. Be extremely careful in the summer as the grass is dry and flamable. Smoking is allowed only inside your vehicle.

You should not let anyone else into the park who is not attending the star party. If you don't need your car at the site and are not hauling heavy astronomical equipment, consider parking near the camp grounds.

There are restrooms in the Museum building, down the stairs and to the rear.

To get to Grant Ranch take Alum Rock Ave. east to Hamilton Road. Turn right here and continue on until you arrive at the Grant Ranch gate. Enter, pay your fees, and continue to the first or second left where you will see Telescope row. There is no power here at the observing site, however there are restrooms. Soon, we'll have a map to Grant Ranch included. Please read the notification to the left of this page.

Also there is a map to Fremont Peak State Park on page 6.



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