

# Predictions

MARCH IN THE YEAR 1979

- Feb. 24 Star party at Henry Coe Park. Dusk 'till dawn.
- Feb. 26 Solar eclipse beginning at 6:59 a.m. in the San Jose area. (Just 15 minutes after theoretical sunrise.)
- Mar. 2 Wolfgang Hanisch's birthday.
- Mar. 3 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Mar. 4 - 5 Lunar Graze Occultation of Aldebaran near Dixon, CA. For more information contact Graze Leader Jim Van Nuland at 371-1307.
- Mar. 5 Frank Dibbell's birthday.
- Mar. 8 Chris Pratt's birthday.
- Mar. 10 General Meeting, Rosicrucian Planetarium, 7:30 pm. Park & Naglee, San Jose. George Nothwang from NASA will talk on the recent Venus Probe.
- Mar. 16 Board of Directors meeting at Cathy Pinheiro's. 1787 Lancaster Dr. #14, San Jose, 8:00 pm. Bring chairs, pillows and parakeet seed.
- Mar. 17 Gerry Rattley's birthday.
- Mar. 17 Indoor star party, Los Gatos Red Cross, 7:00 pm. The program will be "What did you do on the morning of February 26?"
- Mar. 23 - 24 The First Annual Don Machholz Messier Marathon. Loma Prieta Mountain. For info call Don at 356-7727.
- Mar. 23 Ed Schell's 27th birthday.
- Mar. 30 - 31 The First Annual Don Machholz Messier Marathon Part II.
- Mar. 30 Bruce DeGraaf's birthday
- Apr. 7 General Meeting, Rosicrucian Planetarium, Park & Naglee, San Jose. The program is Astronomy Day. Everyone bring your telescopes.
- Apr. 13 Board of Directors meeting at Wolfgang Hanisch's. 1815 Cleveland Ave. San Jose. 8:00 pm.
- Apr. 14 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Apr. 21 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Apr. 27 - 28 AANC-sponsored star party at Fremont Peak.

# OCCULTING ZONE

GRAZE INFORMATION

Date: Sunday-Monday, March 4-5, 1979. All times are PST.

Circumstances: Moon only  $5^{\circ}$  up, but Aldebaran should be easily seen with binoculars if the sky is clear. The graze is the culmination of the moon's passage over the lower arm of the Hyades cluster. During the evening, a half-dozen bright stars will undergo total occultation. Come early and enjoy the show!

This is the IOTA expedition -- other groups will also be present. So let's have a good turnout to represent SJAA.

Location: 110 miles north of San Jose, near Dixon, Calif. Up I-80, past Vacaville and Dixon. Exit on Cal. 113. Go 0.3 mile south to Vaughn Rd. I'll try to post instructions at this intersection, and someone will make pickups at irregular intervals including 7 and 10 o'clock. See also next item.

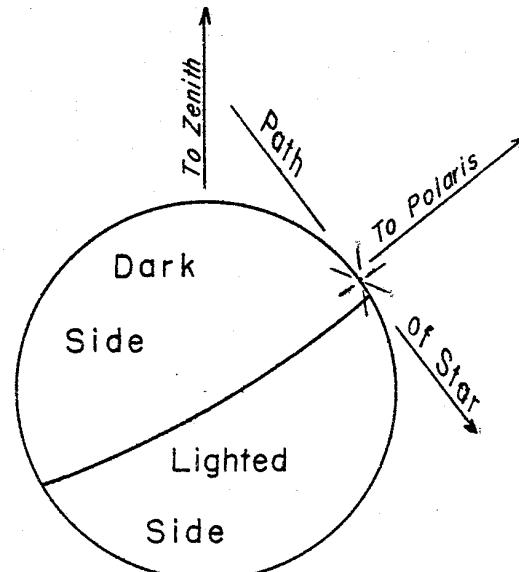
CB: Channel 14. The group handle is "Graze Chasers", answer any such calls with your own. My handle is "Sunspot". Bring Handy-Talkies if available: They can talk to a car from half a mile or so. Be sure they're for channel 14.

Weather Update: I will call my wife before 7:00 PM. Call her after 7:00 to learn of weather prospects for the night. This is early enough to drive up. Call her before 6:30 to pass messages up to me, especially if you find that you can't make it.

Time: Start continuous record at 12:07 AM. Central graze time is 12:17. End record at 12:25 or when star is well clear of the moon. Be ready by 11:40. Allow plenty of time to find station, set up, try out equipment, try eyepieces, etc. etc. etc.

## Many Handy Numbers and Neat Stuff

Graze Position Angle:	$358^{\circ}$
Vertex angle:	$307$
Cusp Angle:	$+6N$
Watts Angle:	$7^{\circ}$
Moon North Pole PA:	$352$
North Cusp PA:	$352$
South Cusp PA:	$172$
Sunset:	6:02 PM
Civil Twilight:	6:29
Astro. Twilight:	7:23
Moonset:	12:50 AM
Star Magnitude:	1.1
Spectrum:	Orange, K5
RA (1950):	4h33.0m
Declination:	$+16.4^{\circ}$
Moon Elevation:	5
Azimuth:	237
Illumination:	46%+
Moon RA (1979):	4h37m
Declination:	$+16.8^{\circ}$
(at Midnight)	
Constellation:	Taurus



West

287

Azimuth

Editorial

I want to thank Dr. Gregory and Patrick Earhart for personally calling me just to compliment me on the February Bulletin. The encouragement they gave me made my problems and discouraging feelings about the Bulletin almost disappear! Both calls came on the same day, and, consequently, I spent the rest of the week walking on a cloud in blissful happiness!

I also want to thank everyone who contributed to this month's Bulletin. All of you made things so much easier for me, and I badly needed the help. Thank you, thank you, and thank you!

*Penny E. Rinckhoff*

*BLURBS*

Astronomy Day and our general meeting fall on the same day. Therefore, the Board has combined the two. Locations for setting up telescopes will be the Rosicrucian and possibly at the Minolta Planetarium. Talk to Gerry for more details.

The July 15 installation of officers banquet will be a picnic this year at Sanborn Canyon. Details in later bulletins.

More MGM type star parties (see history section) are scheduled. If interested contact John Rhodes at (415) 969-2615.

Kitt Peak National Observatory has continuing requirements for persons for a number of positions such as telescope operators, technical assistance, and instrumentation specialists. In most positions, a Bachelor's or Master's level degree in the physical sciences, familiarity with computer programming and a general background in astronomy, electronics, optical, and mechanical devices is desired. Address to send resumes and such will be given to anyone who requests it. I also have more information. My number is 356-4330.

Much to my (and many other peoples) displeasure, Jack Zeiders has resigned his board position. The Board decided that Wolfgang Hanisch will fill his slot for the few months remaining until elections. I very much regret seeing Jack go, but I do think their choice of Wolf was a good one. At least they both fill the same space - in more ways than one!

Yes, this Bulletin is short and early as was predicted last month. I deliberately left out articles and such that could have been published if I had done more reduction pages. Since I'm planning to leave on the 22nd for the eclipse, I wanted to get this finished and mailed as soon as possible. Reductions are more work and take longer. Hence, a shorter Bulletin. Next month's should be nice & fat.

Speaking of next month's, I need eclipse articles - one from each group, organization, or whatever. Just a page or so describing what happened, with whom, and where.

For those interested in the Messier Marathon later this month, Don has told me that evening twilight ends about 7:00 pm. This would be the time to begin observing. In the morning, twilight is at 5:20 am.

I have an acherontic and somewhat desipient feeling that I have foregotten something of importance to put in the Bulletin. But, since I am not able to queme everyone I won't be spoffish and worry about it now. Instead, I'll compesce myself and dacyrgelosis next month if necessary. I hope no one has malentendu the quiddity of this commatic. I'm not very xyresic today.

Penny

Open or Closed Universe  
by Bob Fingerhut

Is there enough mass to close the universe? If there is, where is it? That was the subject of a talk given by Dr. Wallace Tucker of the Harvard - Smithsonian Center for Astrophysics and the United States International University. He spoke at the Lockheed Palo Alto Research Laboratory on January 25.

Dr. Tucker discussed the theory that the missing mass exists in rich clusters of galaxies. Until recently, we could only detect about 10% of the mass needed to bind the clusters of galaxies or the universe. Dr. Tucker showed recent photographs showing x-ray emissions centered on clusters of galaxies and extending over an area many times the optically observed size of the clusters. He suggested the missing mass is in the form of a halo of stars and gas torn from colliding galaxies and hot gas left over from the formation of the galaxies.

According to the theory, collisions between galaxies result in equalization of the momentum of the galaxies. The most massive galaxies, the elliptical, end up with the least velocity. They are pulled toward the center by gravity. Photographs show these giant elliptical galaxies at the center of clusters. Some have multiple nucleuses. This is the result of the merging of several galaxies. According to the theory, the stars torn out by the collisions should be old, low mass stars. Dr. Tucker suggested that to test this theory, 24 or 25 times ionized iron should be looked for.

A recent article in Defense-Space Daily said HEAO 1 discovered "a universal hot plasma constituting a major fraction of the mass of the universe, as well as a cloud of dust and gas with a mass equal to a million billion suns enveloping a super-cluster of galaxies. This discovery suggests there is probably sufficient mass to close the universe." --NASA -- Marshall, Jan. 10, 1979.

For those of you who like a challenge, there is a 14th magnitude elliptical galaxy at the center of a cluster which is the largest object in the known universe. It is NGC6166. It is in Hercules near M13. R.A. 16:27.8 DEC. +39°37'. (Kevin, can the 18" show this object from Fremont Peak?)

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"Observing plans made in the light of day often go unfulfilled in the dark of night."  
Rob Vorderbrueggen

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Sanborn Canyon star party - Jan. 27, 1979  
by Chris Pratt

The attendees were: Fred Braniff, John Cincotta, Jay Freeman, Mike Gustafson, Kevin Krisciunas, Pete Manly and daughter Susan, Norm Neinchel, Jack Petersen, Penny Punschmidt, Carl Roach, John Rhodes, Ed Schell, Jim Van Nuland, Jack Zeiders, my wife, Shea, and I.

If nothing else could be said about the star party, it could be said that it was quite cold, and after we all commented (at least once) on how cold it was, Norm decided that it was too cold and the seeing too poor to set up, so he left. The seeing wasn't great, but we were able to see Jupiter's red spot and some other interesting objects. One such object was an 18" f/1 infrared mirror that Kevin Krisciunas turned over to Penny for her to do something with - salad bowl?

Everything went well until about 11:30, and then we were clouded out. I turned in after an after an "indoor star party" with John Rhodes, Jack Zeiders, and Jim Van Nuland in John's motor home. Jack loaned Shea and me his propane heater (without which we would have frozen) and then he left. Jim and John must have left after I dozed off.

All was quiet until about 3:30 A.M. It sounded like it was starting to rain, so I went out to bring my mount in only to discover that it was snowing! I had known it was cold, but I wasn't ready for snow. Well, that was enough for me - we left. It certainly felt good to get home to a nice warm bed.

"The acoustics in here are somewhat queer and, in some places, even queerer."

Dr. Gregory about the Rosicrucian Planetarium

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General Meeting by Cathy Pinheiro

Last month's general meeting on Feb. 3 at the Rosicrucian Planetarium witnessed an excellent turnout of club members and guests. It appeared as though most of the seats in the back section of the planetarium were filled, as both members and guests received an excellent presentation by Jack Brode of the Mt. Diablo Astronomical Society on the moon watch programs conducted in the 50's and 60's. These programs were about people going out on star parties to observe not just celestial objects but also the space satellites which orbit the earth.

However, before the evening's program was able to begin, our fearless leader and club president opened the meeting with quite a long list of announcements. To begin with, he told us that the following two Red Cross indoor star parties would be devoted to pre-eclipse discussion and planning arrangements. Along the same line, the March 17th Red Cross would be somewhat of a general meeting, at which people who had attended the eclipse would be able to share with others their slides and information that they had obtained.

Other things of interest that Gerry mentioned were: The Aldebaran Graze, to occur on March 4, is somewhat more important than other grazes because it is occurring so close to the time of the eclipse, which will help with further information on the orbit of the moon. Astronomy Day for this year falls on the same day as our April 7 general meeting. Therefore, since both of them occur at the Rosicrucian Planetarium, our club's program for that month will be Astronomy Day. Telescopes will be set up outside, while possibly some type of program inside the planetarium itself will be conducted.

At the WAA meeting which Gerry attended in Fresno, Kingsley Whiteman of the East Bay Astronomical Club was awarded the G. Bruce Blair Award for this year. The dates for this year's Riverside Telescope Maker's Conference have been set once again for the Memorial Day weekend, May 26-28. The dates for this year's WAA conference were also announced - August 15-18, at the University of Portland, Oregon.

To wind up the evening's program, Susan Lowd's new son, Jeremy Andrew, who had remained perfectly quiet during the entire evening, finally decided that he was hungry and was not afraid to let the rest of us know about it, either.

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"What are we doing Friday night, LATE Friday night?" Kevin Medlock

Question of the month: Why do we do all of our observing in the visible light spectrum?

"I can't afford more expensive type equipment." Debrah Moore

"It's what you can see." Larry Webster

"Sometimes you have to look in the darkness to see what you want to see." John DeGrange

"It's the only light you can see with the naked eye. The one amateur astronomers use because more expensive equipment is otherwise needed." Charles Ingebretsen

"Because our eyes aren't big enough to see infrared nor small enough to see ultraviolet."

Chris Pratt

"Because if we didn't we'd be in the dark." Norm Wild

Next month's Question of the Month is: Where were you and what did you do on the morning of February 26th?

ELEMENTARY SCHOOL STAR PARTIES --

Thrice since the last BULLETIN, the SJAA has conducted star parties at elementary schools to supplement a school's short course in astronomy.

One such occasion was February 2nd at Oak Elementary School in Los Altos where twenty 2nd and 3rd grade children and about a dozen parents got a grand look through five SJAA telescopes at the spectacular 1st-quarter moon, Jupiter, and several FFN's.

Jupiter however wasn't the only bright object out that evening. Pete Manly recalls his amazement when one 7 year old girl said, "I can see the rays which come from the crater Tyco."

What Pete found out later was that the students had just completed three 2-hour sessions at the Lawrence Hall of Science in Berkeley--part of a seminar for Mentally Gifted Minors (MGM) sponsored by a Santa Clara County organization called LYCEUM.

These kids had studied the solar system, lunar crater formation, constellations, spectral dispersion, and had even built a simple telescope. One of them asked yours truly if Jupiter's moon Io is larger than the Earth...

I deftly referred them to Jim Van Nuland whom I hope told him that no planetary satellite is as large as the Earth, but that Io, Ganymede, and Callisto (Jupiter), Titan (Saturn), and Triton (Neptune) are larger than our Moon...and Callisto is just barely larger than the planet Mercury. (You DID tell them that, didn't you Jim?)

The other two star parties were conducted at Wilson Elementary School in Cupertino. Gerry Rattley gave an excellent slide show in the classroom while parents and children filed past eight or more SJAA telescopes. (Some day I'd like to see that slide show!) I remember seeing John Cincotta, Bob Fingerhut, Jack Zeiders, Jim Van Nuland, Ralph and Suzanne Lowd, Jack Peterson, Pete Manly, Chris Pratt, and Bruce DeGraff. (Hope I didn't forget anyone.)

Pete Manly put on a superb show when he premiered his newly-completed interface to the club's TV camera. Coupled to his 9-inch Celestron through an adapter machined by Kevin Medlock, the camera was picking up an image of the 9-day old moon and displaying it on Pete's oscilloscope.

Image quality was excellent, and several people had no difficulty picking out the Straight wall and the crater Birt (both require reasonably good conditions for viewing). Fantastic demonstration, Pete.

And a good showing by the SJAA!

--John Rhodes

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"Jack and Gerry are the kind of guys who have to dress up to look casual."  
Anonymous

'Twas a stellar evening, February 5, at Wilson Elementary School in Cupertino. The occasion: my very first star party. When we arrived about 8 o'clock, things were well underway. While my dad was setting up his telescope, I decided to meet some of the fellows.

John R., Bobby, and Jim were showing other future astronomers such sights as Jupiter, Saturn, the moon, and a double cluster. Across the parking lot I met Chris, Jack Z., John C., and Jack P., and saw the Orion nebula in one of their scopes.

I was too late for Gerry's slide show, but Pete and Bruce showed me their CID camera in operation. Before long, all the other young astronomers had left, and most of us were clustered around the CID camera. The electronics discussion was a little beyond me, so I found myself drifting off.

A good party, but none of those sights can beat the Milky Way.

Jeremy Lowd, SJFAA

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"I can get away with saying anything I want." Debrah Moore

For the first hour the February 10 indoor star party appeared to progress normally - astrophotography was actively being discussed, solar eclipse plans seriously being made, mirrors being ground and polished with a noticeable background noise, and telescope designs being shown off. Nowhere in this pleasant scenario was there a hint of the secret plans being undertaken in the back room for a surprise party for Kevin Medlock.

Unaware that he had actually driven his own cake down to the meeting, hidden in the back of the blue van, Kevin obliviously immersed himself into the surrounding conversations, never noticing Penny Pinschmidt and Cathy Pinheiro taping little yellow messages all over the room while I sat in the kitchen engineering more madness. Even when Ed Schell rang his cowbell for everyone's attention while the cake was being brought out, candles lit, Kevin had to be pulled away from his conversation with Norm Neinchel and pushed, uncomprehending, into the main room so we could all sing happy birthday (both versions, traditional and Jay Freeman style).

Since the club was to give him "Atlas of Deep Sky Splendors" as a birthday gift, we figured it was too nice a present for him to get so easily. He was going to have to work for it. Atop the cake was a little yellow note telling him he would have follow a trail of clues before he could get the prize. The clues were spread all over the Red Cross building - in the refrigerator, in the soft drink machine, behind the chalkboard, by the clock, etc. With a little help from his friends (all of us by that time had figured out where the next one should be), Kev Super Sleuth scientifically tracked down each clue until he came face to face with his birthday present sitting in broad room light in the bookcase.

Thoroughly surprised and enjoying it muchly, Kevin stood speechless as our club photographer Wolfgang Hanisch, clicked away. Meanwhile, the rest of us gastronomical gourmets were slicing into the cake. Many thanks again to those who helped me in the dastardly deed.

By Denni Medlock

February 17, 1979

As of mid-Feb., only one comet has been discovered this year. It is a faint one, but I'd like to tell you about it, as I will do for every comet discovered or recovered this year.

Comet Kowal (1979a) - Plates taken on the evening of Jan. 26 with the 48" Schmidt telescope at Mt. Palomar revealed this 17 mag. object. It was found near the Cetus-Aries border, and is expected to become fainter as it gets further from the sun. The discoverer is Charles Kowal who also discovered several other objects including the "far-out" mini planet, Chiron.

Comet Tails: Through the end of 1978, there are 658 known comets, 113 of them are periodic (returning), 285 have parabolic orbits (non-returning), and of the remaining 260, 162 have "oscillating elliptical orbits" and 98 have "oscillating hyperbolic orbits". This information is from the "Catalogue of Cometary Orbits" available from the following address: Central Bureau for Astronomical Telegrams, Smithsonian Astrophysical Observatory, 60 Garden Street, Cambridge, Mass. 02138. It costs \$4.00 and is compiled by Dr. Brian Marsden.

Don Machholz, 356-7727

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"I understand that a cold camera and a Celestron 8 are requirements for joining SJAA."  
Norm Wild

ADS      ADS      ADS      ADS

FOR SALE - Equatorial mounting and pier, \$20.00 or offer. Brad Carlson, 34R Sierra Madre Hall, Cal Poly, San Luis Obispo, Calif. 93407. (808) 546-3875

GIVE AWAY - 12 volt battery - slightly used.

DONATION WANTED - 35mm slide projector. Any old variety junker will do.

John Rhodes (415) 969-2615

DONATION NEEDED for very poor penny-less editor. A good used or new brief case that's bigger (but not too heavy) than the one I've got. Penny Pinschmidt 356-4330 or 356-4336

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"I wouldn't know what to do with a -----CENSORED----- if I had one." Wolf Hanisch

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Each year, in the month of March, the American Red Cross has a membership and fund drive. To be a member, the only thing you have to do is give the Red Cross one dollar (or more). In light of our use of the Los Gatos Red Cross building for indoor star parties, I believe that everyone who attends indoor star parties should donate at least one dollar and become a member. There are few reasons why anyone should not give that one dollar. If someone can't afford that, call me (356-7498) or take me off to one side and speak to me privately. We have ways to get around that problem. I will have the envelopes to send in at all meetings during the next month.

Ed Schell

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"I don't know if I dare touch you after you licked Gerry." Wolfgang Hanisch

"We reorder chaos." Kevin Medlock

"I have plenty, I don't need to reorder." Jack Zeiders

"I like the sun." Ed Schell

"Now that we both can do it in the dark....." Denni Medlock

"I'll wait 'til summertime." Jack Zeiders

"The Lowd's baby is quiet and that is apparent happiness." John Rhodes

2/17/79

To the Editor:

I appreciate your story and the thank you. It was the best thank you a friend and a teacher could receive. I know that your words will encourage many people to join the ranks of telescope makers. There is so much more a person walks away with than a telescope; the chance to make new friends and the feeling of accomplishment in a craft.

I am always willing to share what my experience has been in this hobby with people. Over the years, many of the people I have known have also shared this equally, some of it in different areas of amateur astronomy. The Bay Area has always been the best for telescope making. Many of the telescopes have been built by one with the help of many.

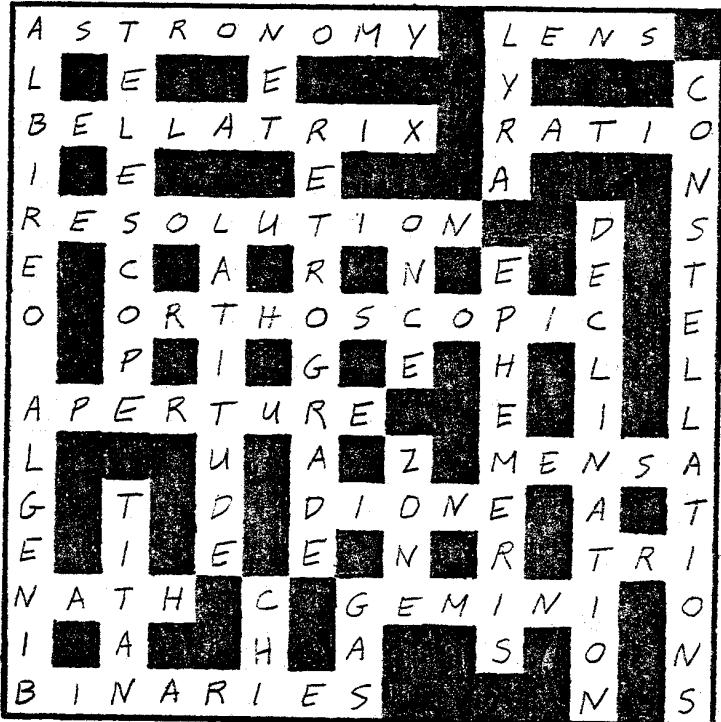
What makes this hobby so special is the enjoyment of making it here on earth, but with the beauty of being able to reach for the stars.

Again, thank you and, as always, happy starry nights,

Bob Schalck

Jupiter  
Great Red Spot  
On meridian

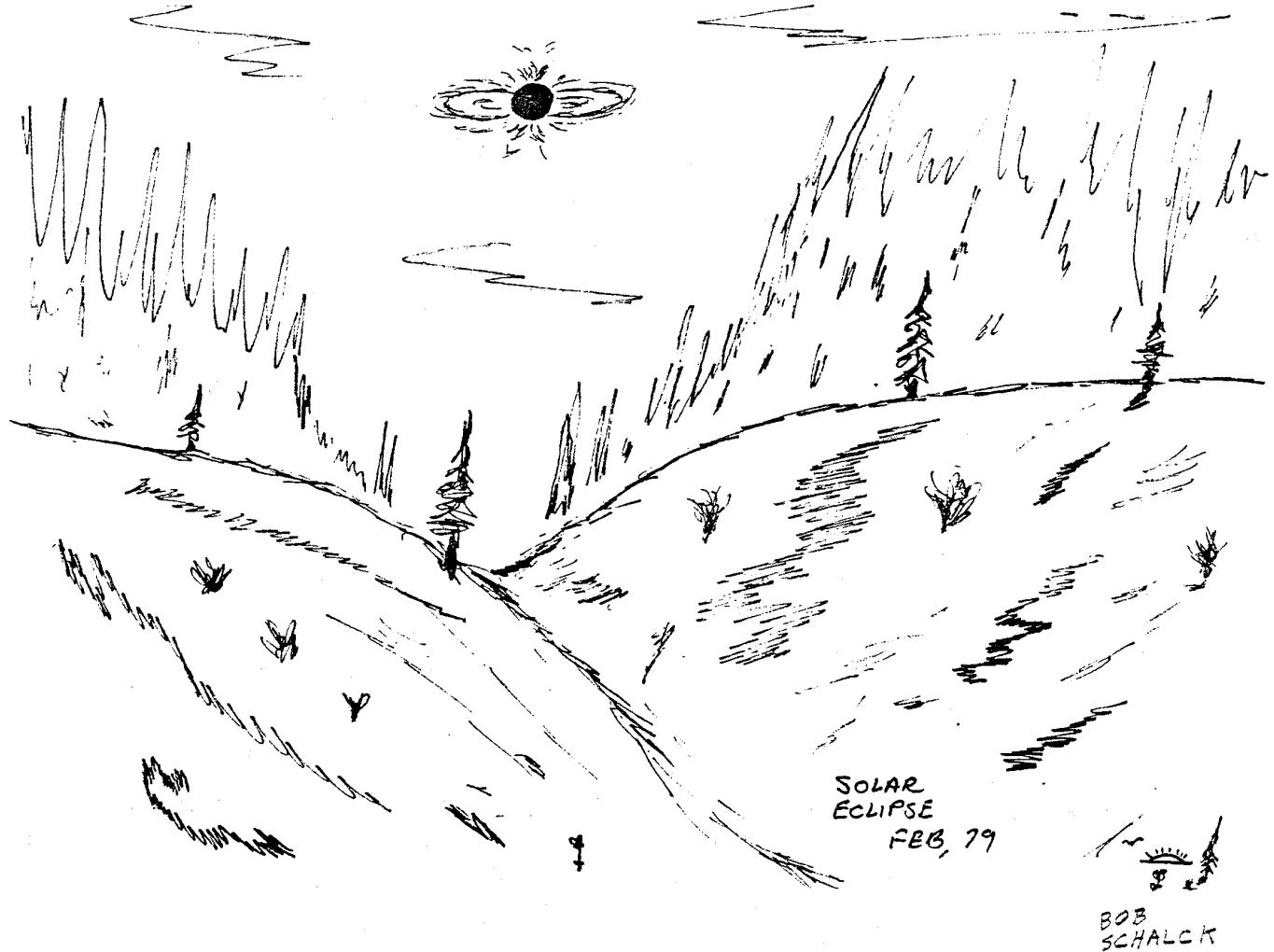
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16 8:15 PM  
18 2:00 AM  
18 9:52 PM  
20 11:35 PM  
21 7:21 PM  
23 1:10 AM  
23 9:18 PM, PST  
25 11:43 PM, PDT  
26 7:33 PM  
28 1:25 AM  
28 9:16 PM  
30 10:54 PM  
Apr 2 0:34 AM  
2 8:19 PM  
4 2:09 AM  
4 9:59 PM



Answers to last month's  
Sky Word # I crossword  
puzzle by Fred Braniff

# II next month

Jim Van Nuland  
371-1307



SOLAR  
ECLIPSE  
FEB, 79

BOB  
SCHALCK

### Life

Oh mystery of emptiness  
The sudden spark of fire

Infinity - togetherness  
The reaches of desire

A golden drop of pure concern  
It fell through flaming worlds

It rang a tone so high and clear  
Combining greatness far and near

To come about as Life.

By Wolfgang Hanisch