December 79 Predictions

December 1	General meeting, Rosicrucian Planetarium, Park & Naglee, San Jose', 7:30 p.m. The speaker will be Ernie Piini and the lecture will be on a double topic: "England's Stonehenge," and "An Eclipse Over America's Stonehenge." The latter is the title of Ernie's new book.
December 3	Full Moon
December 6	The 25th. anniversary of the SJAA!
December 7	Board meeting at Phil Hermsmeyer's, 20900 Alves Drive, Cupertino. 8:00 p.m. 252-5529.
December 8	Indoor star party at the Los Gatos Red Cross building. 7:30 p.m.
December 15	SJAA Star Party at Loma Prieta.
Decmeber 19	New Moon
January 12	Indoor star party at the Los Gatos Red Cross building. 7:30 p.m.
January 12	Board meeting to be held at the indoor star party. This will be a short business meeting due to the calendar's dictating two board meetings between the December and January general meetings.
January 19	SJAA Star party at Sanborn Canyon County Park.
January 26	General meeting, Rosicrucian Planetarium, Park & Naglee, San Jose'. 8:00 p.m. The speaker this month is to be announced. Gerry Rattley is working on a number of prospective lecturers.

There has been a good deal of confusion, at least among the board members, concerning the shift in general meetings and how this affects the bulletin schedule. I would like to confuse anyone a little further by explaining what will be happening over the next two months. At the last board meeting it was agreed upon that the bulletin should remain mailed near the first of the month. However, since this editor strongly objects to putting a bulletin out over the holidays, and since there really aren't any club activities until January 12th, there will be a bulletin mailed somewhere around January 20th, which will contain the speaker for the January meeting and the complete predictions calendar for February and March. That should put the club back on schedule. Denni

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Gerry Rattley, pres. 732-0202 Denni Medlock, ed. 278-8475

!!HAPPY HOLIDAYS!!

the SAN JOSE ASTRONOMICAL ASSOC.

Observations

I don't know now many members of the club have seriously tried to observe lately but words like BRRR!! or COLD!! or WET!! could quite easily describe what the weather's been like. Add dew, turbulence and foggy and you've got a good describtion of what telescope and astronomer have had to put up with the past two new moon weekends. Due to these types of conditions the last October star party at Sanborn Canyon and the November 17th star party at Loma Prieta were dewed and frozen out, so, instead, the Los Gatos Red Cross building was opened up for impromtu gab sessions with a large turn-out both times. (Rita Miram reported to me that the Sanborn site finally cleared that night and she was there alone with her new C-8, going from object to object, wondering where everyone else was.) With this in mind it should be mentioned that if any of the close-in star parties look as if they will be shut down because of weather the Red Cross building is usually opened up and is serving hot coffee and donuts to the refugees. Best bet is to call Gerry if you're not sure of the weather conditions or the status of an indoor star party.

November 17th I don't know if anyone showed up at Loma Prieta even though the sky was only partially cloudy. Those in the know figured the dew point would probably wipe any attempt at observing out quickly and so showed up at the Red Cross, fifteen members and friends strong. Gerry Rattley presented an on-going slide show featuring star trails with some meteors, star party shots during the lunar eclipse at Loma Prieta back in September, some lunar eclipse pictures taken that night, and some slides taken during a tour of the USS Coral Sea aircraft carrier. Pete Manly showed up with his new C-90 and had it set up outside until it got too cold for anyone to function. ("Close the door!" had to be the most repeated sentence that night.) Over in the corner I sat and watched Kevin and Chris Pratt clean the surface of a 12½" mirror that has quite a history. Kevin finished the mirror and telescope in 1972, winning an award at Riverside for it in 1973. In 1975 he sold the 'scope to ex-SJAA member Don McGlauflin, who in turn sold it to SJAA member Larry Webster, who last spring sold the mirror and tube to Chris Pratt. I wonder what it has in store for it from now on out!

The club now has a new telescope, affectionately called "The Club-Owned Light Bucket." It's a 14½" f 5, donated to the SJAA by Mr. Thomas West, a member of the Tamalpias Astronomical Society who heard we were doing good things with large telescopes. Kevin and I journeyed up to Marin one night and picked up the equipment, which turned out to be a mirror and diagonal,(coatings both in fair shape), a sturdy pipe mount, and an unique wagon-like base for it. At the last board meeting it was agreed that a Dobsonian rocker mount will be made for it as a temporary arrangement so the telescope may be used as soon as possible by any club member that wishes to. Volunteers with access to wood working equipment (table saws, drills, etc.) are needed now to get this project started so by Spring it can be used for observing. If interested in helping give Kevin Medlock a call at 278-8475.

Other board meeting topics lately besides the new 14½" have been the club's attempt at obtaining the non-profit, tax exempt status, which would make all donations tax deductable. ($$$$$)

Speaking of board meetings: this club activity is open to all interested members, no exceptions. A good chance to attend one and see how this function works would be to show up at the Jan. 12th. indoor star party and join in with your ideas about how the club should be run.

Just a reminder that Ernie Piini's new book, "An Eclipse Over America's Stonehenge," may now be purchased for $3.00 from Gerry Rattley at the general meetings. A very interesting book.

Many, many thanks to two SJAA members who have made my life infinitely easier. First of all, Wolfgang Hanisch promised me a suggestion box and has furnished a nice, sturdy one that should last a long time. It can be viewed at general meetings downstairs by the coffee and refreshments. Just stuff it with suggestions or any donations for refreshments you wish to give and it will stay happy. Second thanks goes to Dave Ambrose for supplying me with many months worth of address labels. Unless you're a past or present bulletin editor you'd never know how horrible hand addressing 150 bulletins can be!

Thanks again to everyone who contributed this month. Keep it up! Articles for the January-February bulletin should be to me by January 13th. I hope everyone has a happy holiday season!

Denni

Want Ads

Wanted: 6" f/6-f/8, Newtonian on an equatorial mount. Contact Lee George, 938 Foothill Drive, San Jose, 95123. Ph: 629-2880

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An 8" Tinsley Dall-Kirkham was stolen recently from the Los Gatos area. It was in two large fiberglass cases and will be without its mount. If anyone happens to see this instrument please call Rick Gilbert at 395-1651

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For Sale: Eastman Kodak f/2.5, 7" f/.1 Aero Ektar(coated) Lens, lens cone, Graflex body and mount, with mechanical focal plane shutter (1/1000-1/500-1/250-1/125, T), assembly. Diaphragm adjustable to f/16. Easily adapted to 4"X5" plates (or smaller). Best point image formation should be between f/4.5 and f/5.4. Its large, flat field makes this an excellent choice for an astro-camera.
Lens condition---excellent
Body condition---very good
Shutter condition--very good

Make me an offer, even if it's ridiculous. If I like, it's yours. For laughs, I'll even show you the exhorbitant amount Uncle Sugar paid for (for the U.S.M.C.) in the 1940's.

Steve Greenburg
326-8614

COMET COMMENTS

As we complete 1979, we find only one comet within the reach of amateur scopes. This year has seen two comets discovered by amateurs; this is slightly below average for the past few years: 1978)7), 1977 (1), 1976 (2), and 1975 (6).

Comet Meier (1979i): Having reached its closest point to the sun on October 17, (134 million miles), this faint comet is now slowly moving away from the sun but towards the earth. In late November—early December it will swing just south of the bowl of the Big Dipper. This comet is small—about 1-2 minutes across. An ephermis follows.

Comet Meier (1979i)

Date (1979)	R.A.	Dec.	Mag.
11-18	12hr 14.4m	+54d 16'	11.8
11-23	12 03.7	53 48	
11-28	11 50.8	53 24	11.7
12-03	11 35.5	53 00	

(from IAU cir. 3413)

Comet Tails: Some 59 of the 550+ long period comets discovered since 1750 were discovered with the unaided eye. The latest was Comet White-Ortiz-Bolelli, discovered in mid-May, 1970. One of the discoveres (Ortiz) was an airline pilot, making a flight over the Pacific Ocean at the time.

"What's so amazing that keeps us stargazing, and what do we think we might see?"

Kermit the Frog

By the end of October, the number of cloudy nights so far this year in this area was 126½. This is cloudy compared to the number of cloudy nights for the <u>complete</u> years:

1975: 101
1976: 107
1977: 123
1978: 124

Don Machholz
(246-5274)

"I just ruined their star party." Gerry Rattley
"What did you do, flash them?" Denni Medlock
"I beg your pardon!" Patty Winter

SJAA MEMBER'S CORNER by Frank Dibbell

Jack Petersen tells me that he got interested in Astronomy about like everybody else. He also started like everyone else, by building his first telescope. That first telescope started out to be an 8" Newtonian of f/8 focal ratio, but ended up an f/7 (I know all about that myself). He then purchased a Celestron 8, and since has assembled an impressive collection of optical components.

Jack has two major interests in Astronomy: he likes putting components together to make sophisticated optical systems, and he likes going on astronomical field trips. At the indoor star party of November 10, Jack set up his gear, along with Pete Manly and Bob Fingerhut, that he would be taking on the upcoming trip to view the solar eclipse. Along with the C-8, he had a C-8 Schmidt camera with a C-90 mounted as a guide scope.

His most interesting field trip (to me, anyway) was the one he took with Bob Fingerhut to the Arizona desert. They both rented a motor home for two weeks, and had a fantastic time observing and photographing objects in the Southern sky. Currently Jack is preparing himself for his next field trip to view the solar eclipse. I am looking forward to at least hearing all about it, since I am not fortunate enough to be able to go. Good luck, Jack.

* * * * * * *

Fred Braniff has been interested in Astronomy since he was a kid in Liverpool. He bought himself a C-8, and is mainly interested in just general observing. He heard about our wonderful little group about two years ago from Gene Cisneros, and after attending a few meetings and star parties, joined the club. Currently he makes the crossword puzzles for the SJAA Bulletin.

Computers is another one of Fred's hobbies. He built himself an IMSAI 8080 from a kit, and has plans to hook his C-8 up to it. He also uses the computer to help him make up the crossword puzzles, so he says.

Although he does mainly observing with his scope, he has tried some astrophotography, but has a problem with "mirror slap", which he is working on. He hopes to get this problem ironed out shortly (hook the shutter up to the computer?). Then he'll start working on getting the film into the camera. Good luck, Fred.

MIRA EXPEDITION

At nine o'clock on the morning of Saturday, October 27, Bob Fingerhut, Jack Petersen and Jay Freeman rendezvoused at Pete Manly's house for a expedition to MIRA. Club members may recall from a meeting about a year ago, or from a recent article in Sky and Telescope, that MIRA stands for Monterey Institute for Research in Astronomy-- founded by several young, professional stronomers whose response to the dismal job situation in virtually all physical sciences was not despair, but a determined and so far successful effort to found and fund their own observatory. Pete Manly is a member of "Friends of MIRA", which seems to be part astronomy club and part booster organization for MIRA itself, and thereby has fairly regular contacts with some of the MIRA people.

Several items were on the agenda for this expedition. First, MIRA has possible astronomical use for small solid-state television cameras much like the one the SJAA has, and was interested in the details of the SJAA camera and its support electronics. Second, Friends of MIRA was having a star party on the evening of the 27th, and a few more amateur-size telescopes were welcome so the attendees would have plenty of chances to observe. Finally, Pete had suggested that perhaps some of the SJAA members had technical expertise that might be useful to MIRA, and might be willing to help in various ways; or at least know people who could and would help.

The expedition convoyed down in two cars, bringing a pair of Celestron 8's, a hand-held 6" Newtonian, and the SJAA's TV camera and support electronics. Shortly after eleven A.M. after only minor delays getting lost, we arrived at MIRA's shop and library, in a small building in downtown Monterey. We were met by Craig Chester and Bruce Weaver of MIRA. Pete set up the TV camera for a daytime demonstration, and we sat and talked for a while. Pete, Bruce, and Craig discussed various image detectors and their electronic fequirements. Craig and Bruce discribed some of the problems MIRA might have in publishing the results of its major project--a spectroscopic survey of the 125,000 or so stars in the Henry Draper catalog, to be performed with an electronic image detector and with digital data handling. Each star's spectrum will be described by about 8,000 "bits" of binary information, so that the entire survey will result in some one billion bits altogether. How can one publish all this information in a form which is readily inspectable by the eye, compact enough to handle easily, and precise enough that no information is lost to the user?

On the workshop bench was a handsome Cassegrain spectrograph, which will be used for the survey and which was at that time being equipped with a 512-channel "Reticon" electronic imgae detector. The spectrograph will use diverse instruments: indeed, one project that MIRA thought some advanced amatuer telescope might be willing to help out with is a rather fast, precise, two-inch aperture Maksutov camera for use with the spectrograph. They have a design and are wondering if someone might be willing to help build the optics. If you are interested, get hold of Jay Freeman for further details.

Later in the afternoon we were given a tour of MIRA's telescope, which is temporaily housed in a roll-off roof building on a not quite rural site in the hills near Carmel Valley. The thirty-six inch f/10 classical Cassegrain optics were a spare system from the Stratoscope program. The mounting is a massive fork, a welded webbedbox structure of 3/8" and 1/2" steel plate. The right ascension drive looks like a fairly conventional spur-gear system at first sight, but then you realize that what you thought was a big gear and spur at the slow end of the drive train is actually just a disc and roller--it's as though someone had taken the big gear and spur and filed off all the teeth! This system saves a lot od money--big gears are very expensive--and of course, the absence of teeth means that there's one less place for periodic error in the drive. But doesn't it slip? Well, apparently not--Bruce Weaver stated that the typical setting errors were only ten or fifteen arc seconds. Maybe all those gorgeous huge worm gears that we've been admiring for years at telescope-maker conventions aren't good for anything but decoration.

After dinner at a local Denny's (Jay Freeman ordered the Captain's Platter, remarking that Monterey is supposed to be famed for its sea food) we went to the star party, which was not held at the thirty-six inch site--not enough roon, I guess--but on the soccer field of a local school. Total attendance was perhaps one or two hundred. There were about a dozen telescopes in all, including four or five Celestron 8's, several home-made or commercially produced six and eight inch Newtonians, and a beautiful old brass refractor mounted as an altazimuth in a long, slender brass fork.

Pete and Jay set up the SJAA TV camera on Pete's Celestron 8, while Bob and Jack manned the other Celestron that was part of our expedition. The SJAA TV camera was quite a hit. Even before it got dark, and before the camera was set up and operating, we had as many as fifteen or twenty curious attendees gathered around it, asking questions and eagerly waiting for a chance to look at something. But for a while it seemed that the weather was not going to cooperate. The wind was from offshore, and low clouds were forming just inside the shoreline and drifting inland. This was very frustrating: we were set up to look at the Moon, which was mostly hidden by clouds. Every now and thenit would look as if a big break in the clouds was drifting our way, but every time, more clouds would form in it before it got to us. After a while, however, the sky cleared and we had a few hours of good observing.

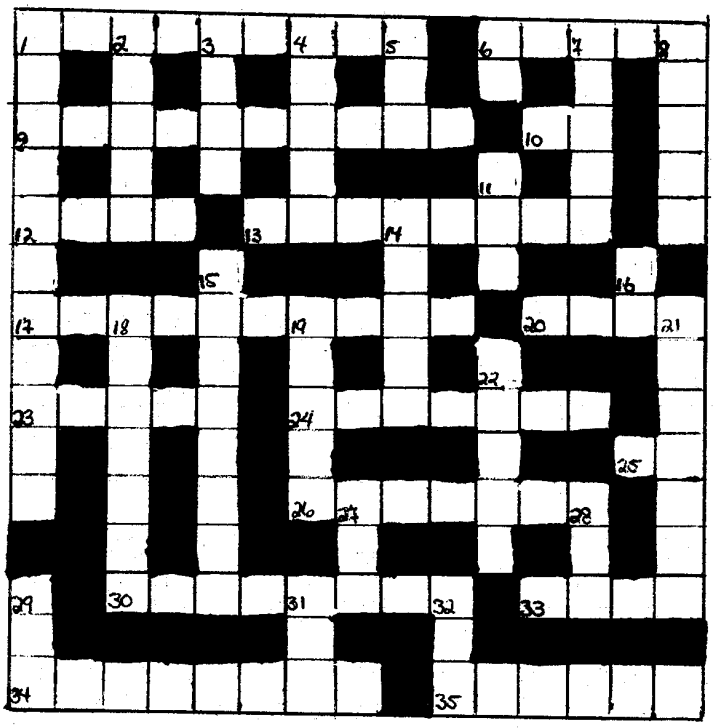
The TV camera and telescope combination makes a tremendous teaching tool! The fact of having live pictures right there next to the telescope seems to create a sense of presence, a feeling of involvement, which in this writer's opinion could not be duplicated by the best of slides or photographic prints, and perhaps not even by live television from a remote site. Furtermore, the image is bright enough to show clearly, you can be sure it's in focus, a lot of people can watch at once, and you can point thingsout unambiguously on the oscilloscope screen. Freeman and Manly took turns pointing out the differences between the smooth, dark lunar maria and the chaotic, heavily cratered highlands, explaining how crater counts could be used to determine the relative ages of different terrains, describing elementary geologocal features of craters, and pointing out one Apollo landing site whose location Freeman happened to remember. We also looked at a double star--Mizar--and a few bright stars. All this was very popular with the star party attendees.

The observing session was supposed to wind up at ten-thirty, and sure enough--precisely on schedule, the clouds rolled back in. The SJAA expedition struck camp and expedited back to the Bay Area, arriving at Los Gatos in time to catch the hangers-on from the Hallowe'en party, at Sambo's. I hope that any future contacts between the SJAA and MIRA will prove as interesting and fruitful as this one was.

Jay Freeman

SKYWORD PUZZLE #5

by Fred Braniff



Across

1. Refractor or reflector
6. Human lens
9. Moon's oscillations
10. Greek letter
12. Cygnus
13. One hundred millionth of a centimeter
17. Stopioonip
20. In songs sometimes blue
23. A visual impression
24. Star in the Pleiades
25. M
26. Planet
30. Time
33. Sea
34. Type of telescope
35. Earth

answers next month.....

Down

1. Constellation of one across
2. Balance
3. The sun
4. Belt
5. A long time
6. Circumference divided by diameter
7. Light refractor
8. Moon
11. Short river
14. Type of meteorite
15. A minor planet
16. Has volcanos
18. Earth & Mars
19. A moon of a planet
21. Owl, Ring
22. Rotates backwards
27. At the apex of a pyramid in the Great Seal
28. Greek letter
29. Aries
31. P
32. Short hare

"How would you like to be launched off the catapult on the Coral Sea?"

Bobby Fingerhut

"That sounds like a threat."

Jack Zeiders

WATCHING THE SATURN-WATCHERS

The scientists at Pioneer Saturn Mission Control are staring at their computer screens like Las Vegas torists in front of one-armed bandits. What they don't want to see is a field of dollar signs--the computer's ironic way of saying they've just lost a multi-million dollar spacecraft. Pioneer 11--NASA's plucky little planet explorer--is about to dart past the rings of Saturn. Theoretically, it will pass outside them, but no one on Earth knows quite how far out the rings extend, and at 70,000 miles an hour, a piece of ice and rock no bigger then a pebble could destroy Pioneer.

In an alcove-cum-TV studio at one side of the room, NASA's Larry King is describing the scene for a world-wide audience. It's Saturn-day, September 1, a few minutes before nine in the morning. The expected ring-crossing time is 9:02 a.m. PDT, but the scientists here at Ames Research Center in Mountain View are giving the event a two-minute leeway on either side, and won't consider the crossing successful until 9:04 has passed safely. Project Manager Charles Hall says later he didn't allow himself to relax until fully eight minutes past the official window.

Over at the Space Sciences Building, nearly a hundred journalists are equally attentive to their screens--the TV monitors that allow them to peek over the shoulders of the mission controllers at the data streaming in from Pioneer. It's 9:00; we're in the window, and Pioneer's normal output of letters and numbers is still on the screen. Actually,we're awaiting a past-tense event: Pioneer crossed Saturn's ring plane at 7:36 a.m. PDT, but it taking eighty-six minutes for the bits of information to make their way through nearly a billion miles of emptiness to the waiting receiver dish in Spain.

Just after 9:01 now, and Larry King is counting down the seconds to the predicted crossing time. He reaches zero, and the usual data are still on the screen, but the scientists and press people remain silent. If it doesn't make it, a few reporters are thinking, I'll have a splashy story---and the rest of the weekend off. But it's impossible not to wish Pioneer well. Originally intended only to explore Jupiter before tumbling its way to infinity, Pioneer 11 was redirected towards Saturn a few years ago, and will now give us our first close-up looks at the beautiful rigned planet before joining Pioneer 10 as one of the first artificial objects to leave our solar system. The Pioneers: only nine by nine-and-a-half feet big, alone in space except for radio contact with their small home planet, listening to instructions and beeping back their responses. Pioneer 10 now out past the orbit of Uranus; in 1987 it will cross the hypothetical boundary of our solar system--the orbit of Pluto--and continue towards what we call the constellation Taurus. Pioneer 11 is going in an almost opposite direction. And each of them carrying a small gold plaque with a message from the people of the third planet from Sol, just in case someone finds one of the little travelers. It probably won't happen, of course, but it seems only to polite to introduce ourselves just in case. I read a science fiction

story recently in which an ambassador from the planetary system of Epsilon Eridani shows up on Earth and mentions that she's brought with her something that appears to be ours, and would we like it back: one of the Pioneers, found in the middle of nowhere by an Eridani patrol ship. A charming goodwill gesture, even if it never happens.

But back to Saturn, and back to the blue-and-white planet across the sun from it. It's 9:02 at Ames, and the screens in Mission Control are still giving out good news; but has Pioneer actually gone past the rings yet? We don't know for certain. And at this point, it's a wonder we're receiving anything: the sun is almost directly between Pioneer and us, and who knew it would send out a violent electromagnetic storm just a few days before Pioneer's Saturn encounter? But, amazingly, we can still hear Pioneer's tiny transmitter through the hash, and the instruments are working beautifully. Charles Hall and the Pioneer team have been happy to be getting anything, so they're overjoyed at the wealth of data they've been receiving on Saturn's magnetic and radiation fields, on its atmosphere, of its mysterious moon Iapetus. And photographs: back-and-white ones taken at different wavelengths to bring out various details on Saturn's disk; color shots of the planet with the rings almost edge-on; and breath-taking color photos of the rings themselves: those razor-thin rings, tens of thousands of times wide as they are thick, so ethereal and fragile-looking--but it would take only one little snowball outside their predicted limit to cripple Pioneer.

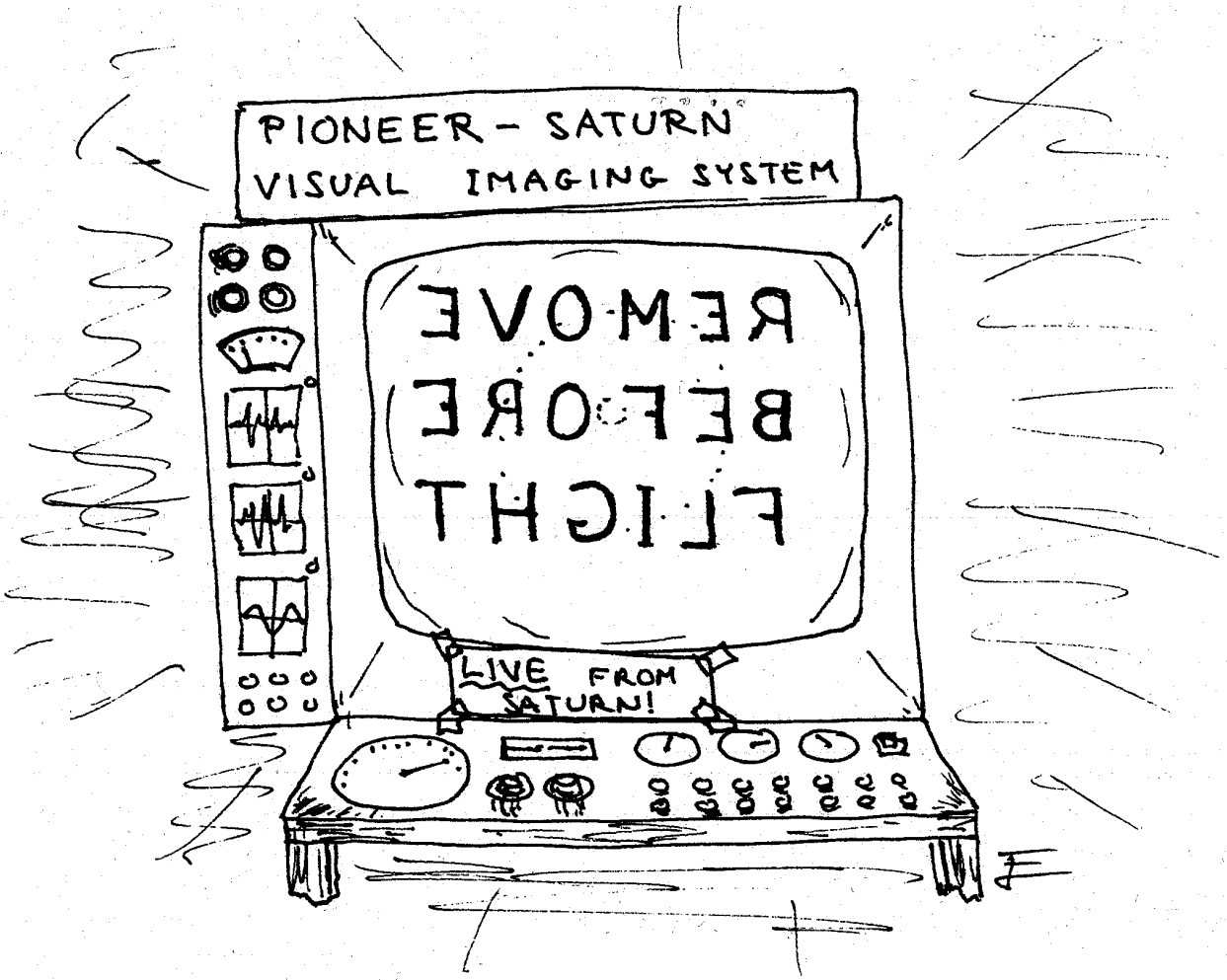
Coming up on 9:03, and there's a growing feeling at NASA that it's going to be all right. An accident could happen at any time, of course, but Saturn's gravitational field has attracted virtually all nearby material into the constantly-shifting bands around its middle, so the rest of the vicinity is almost empty--or so the scientists hope.

And now Larry King is telling us it's 9:04, and the computer screens haven't changed: still the same reassuring mixture of letters and numbers; no dollars signs. "We made it," someone in Mission Control says loudly, and applause and a few whoops are heard there and in the press room. It's not a wild reaction; it's not like watching Apollo 17 blaze into the Florida night and inwardly chanting "Go! Go! Go!" After all, we can't actually see this milestone; Pioneer can only take still photographs, and even that was impossible in the split second it took to pass Saturn's rings. The human reaction this time is more a sigh of relief, a happy feeling that a small emissary from Earth is being given a warm welcome by a neighbor as it heads for the stars.

Patty Winter

"What's wrong with that being a quote? It's just as bad as all the others."

Gerry Rattley



The brightest stars in order of decreasing apparent magnitude, from last month's star scramble by Doug Buettner.

Sirius	-1.58	Rigel	0.34
Canopus	-0.86	Procyon	0.48
a Centauri	0.06	Achernar	0.60
Vega	0.14	b Centauri	0.86
Capella	0.21		
Arcturus	0.24		

I wonder how many people know what the eleventh brightest star is....

"I promise by Christmas I will learn to play 'Jingle Bells' on my harmonica."
Wolfgang Hanisch

"I have no expensive vices and I'm not married, but I guess that's all inclusive."
Jay Freeman