



The Refractor

The Bulletin of the Eastbay Astronomical Society

Founded in 1924 at Chabot Observatory, Oakland, California

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The Total Solar Eclipse of 26 February 1998:

An EAS Members and Friends Night

Saturday, 11 April 1998, 7:31 p.m.

Chabot Observatory

4917 Mountain Boulevard, Oakland

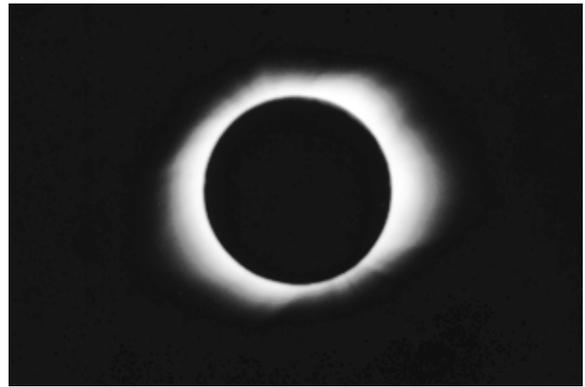


3rd Contact Diamond Ring from Venezuela, by Carter Roberts

We are going to do something a little different this month. Since some of you will have spent the day listening to speakers at LHS, we decided to have a "Members Night" and hear and see all about the total solar eclipse that darkened portions of the Caribbean and South America on 26 February. So far we haven't heard of anyone who was clouded out but, as usual, it was a close call for Conrad. Those who went to the eclipse are encouraged to bring us your memories and images. We will go as long as needed to let everyone share this event with us.

Those who have never seen one can't understand why some people will do almost anything to see a total solar eclipse. Those who have will understand immediately the comment heard in Venezuela "That was the best \$500 a minute I have ever spent." This eclipse had very nice polar brushes, coronal streamers out about 2° and Mercury and Jupiter very close to the Sun—within the field of a 200mm lens. One such photograph even shows sigma aquarii at magnitude 4.82! Confirmed speakers as of press time are Carter Roberts (13 is not an unlucky number!), Conrad Jung, and Mike Reynolds who has promised some interesting stories about observing with the Second Man on the Moon.

The meeting will go as long as necessary to



Corona from Aruba, by Conrad Jung

accommodate all who went to the eclipse. Encourage your eclipse chasing friends to attend. There will not be a Dinner with the Speaker this month. It also appears that we won't have any home-made cookies since the Cookie Queen is under the weather in Hawaii.

25th Anniversary Astronomy Day Saturday, 2 May 1998

More than 25 years ago, EAS member Doug Berger, then President of the AANC, suggested a day when those who love astronomy would bring astronomy to the public. Thus began an event that is now celebrated across the U.S. and Canada. This year it will be held on 2 May.

The EAS will be working with COSC staff members on an ambitious schedule of activities at Chabot plus at least one other site and will need many volunteers to help out.

- Chabot will be open from 1 to 5 p.m. and 7 to 11 p.m.
- The Telescope Makers' Workshop will be open both in the afternoon and evening with demonstrations of mirror grinding, polishing and testing. Paul Zurakowski will be coordinating the TMW.
- There will be an exhibit of different kinds of telescopes in the Space Science Classroom. If you have an unusual or homemade telescope you would like to exhibit or even a fairly common one that visitors should see, please contact Conrad Jung.
- The Planetarium will have a modification of the popular Sky Tonight show. It will be given twice

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during the afternoon and again at 7:30, with a fourth showing if necessary. Tickets will be half price for Astronomy Day.

- We also want to have telescopes set up outside the Observatory. During the afternoon these could show the Sun in white light through a filter and also by projection. A scope exhibited inside during the afternoon could be set up for use in the evening if desired.
- We will need people to give tours of the Observatory and explain plans for relocation.
- During the afternoon an H α view of the Sun will be available through Leah. Rachel will show Venus, the Moon or a bright star. A variety of objects will be shown during the evening.
- The Starry Nights Gift Shop will be open and have a 10% discount in addition to the various discounts now offered. We hope to have food available somewhere on site with even a solar cooker to burn hot dogs.

Please contact Conrad Jung, Don Stone, Carter Roberts, or Betty Neall to volunteer.

RTMC time again... The 30th annual Riverside Telescope Makers Conference will be held Memorial Day weekend, Friday-Monday, 22-25 May at Camp Oakes near Big Bear Lake in the San Bernardino Mountains. Our Telescope Makers Workshop is always well represented there. If you need information or a registration form check out their web site at <http://home.sprynet.com/sprynet/hrmeyer/rtmchome.htm> or call (909) 948-2205.

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Note: This issue of *The Refractor* was prepared by Carter Roberts. The Editor should not be blamed for any errors or departures from normal.

Editor's Note: This month, instead of a "Constellation of the Month" we retell, as our sky lore, the ancient Hawaiian legend of "**How Kana and Niheu Brought Back the Sun and Moon and Stars after They Had Been Taken Away.**" Could this story have been an interpretation of an early eclipse of the Sun?

They had been taken away by Kahoa'alii [Kah-hoe-ah ah-lee'ee], and the people of the world would have been left in cold and darkness if Kana [Kah'nah] and his brother Niheu [Nee-hay'oo] had not gone to find the Sun, the Moon and the Stars and bring them back.

The story begins with Niheu. Once when he was crossing the Big Island of Hawaii he heard about Kahoa'alii's man. He was of tremendous size and he was a tremendous power. Kahoa'alii kept the people fishing and cooking for him so they had no time or energy for themselves. When Niheu, knowing this, encountered Kahoa'alii's man, he flung his great club and knocked him over. When Niheu came to his grandmother Uli's house and told her what he had done, she became greatly afraid, for she knew trouble would come.

"Go find your brother Kana," she ordered. "We will need his help." But first she took a long rope and tied it to the post of her house. The other end she took down to the seashore and tied it to a great rock. All the people and Niheu, too, wondered at what Uli did. Niheu went off to find Kana.

Meanwhile, Kahoa'alii had heard what had happened, and he swore to punish not only Niheu, but also all the people of Hawaii. Said he, "Now I will take away the Sun and the Moon and the Stars from their sky and leave the people in cold darkness. Only where I am will there be warmth and light."

Niheu found Kana, and as they walked toward their grandmother's house, suddenly the Sun was taken out of the sky and there was darkness. But the brothers stumbled along; they struck against the rope that Uli had strung up, and they were able to follow it to their grandmother's house. When they arrived they found Uli sitting before a blazing fire.

"You are the only two in all the world who can bring the Sun, the Moon and the Stars back into our sky. Kahoa'alii has taken them away, and you must go to where Kahoa'alii is. Go straight to the place where the Sun used to rise in. The fine rain will fall on you and the cold will get into your bones. But go on and on until you find an old woman who sits at the bottom of a cliff. Luahine-kai-kapu for that is her name is my sister, and she is blind. Tell her that you are Uli's grandchildren, and she will direct you to the land where Kahoa'alii rules.

The brothers began their long journey. The rain fell; and the cold chilled them until at the place called Kahakaekaea, Niheu lay down and died. Kana wrapped

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Reynolds (W)rap

by Dr. Mike Reynolds

Executive Director, COSC

Chabot Observatory and Science Center will announce plans in April for its 1999 August 11 Total Solar Eclipse expedition. Billed as the "Pre-Opening Chabot Observatory Gala," this trip will be as spectacular as last February's eclipse trip on the cruise ship Dawn Princess (more on that at the April EAS meeting!).

(For more information please call Dr. Mike Reynolds at 510-530-3480 X14.) And prepared to be dazzled!

Chabot Construction Status Report

A lot of activity has taken place since the rejection of the first construction bids last February. Most of the activity for re-bid has taken place around redesign issues and preparing architectural documents to go back out to bid.

Work continues on the early site package. Rain (thanks, El Niño!) has delayed the completion of the North entrance road and staff/volunteer parking lot. However the contractor for the work, Gallagher and Burk, believes that they will have this phase completed by the end of March. Anyone for a star party at the new site?

The Chabot Observatory & Science Center Board of Directors has discussed at some length what portions of the complex to go out for re-bid. The following Phase 1 construction plan for re-bid was approved by the Chabot Board of Directors:

- the East Building in its entirety;
- foundation for the West Building;
- someway to get from the East Building to the observing area and telescope; and
- one (1) telescope.

The East Building is the largest of the two main buildings, at around 50,000 sf. It includes the Planetarium, Large Space Theater, Labs, Exhibit Space, Gift Shop, and Cafe.

The deferred West Building will include the Challenger Center, Teachers Research Center, Computer Lab, Virtual Science Center control, Library, Exhibit Space, Meridian Transit Telescope, Workshops, and staff offices.

The plan also calls for the location of the Challenger Center "in some space." Options include portables of some type on the West Building Foundation or relocation in the East Building.

The Board had lengthy discussion over which tele-

scope to initially install. The consensus of the Board, Executive Director, and Director of Astronomy was to move the 20-inch Brashear Refractor (Rachel) and phase in the 8-inch Clark (Leah) and the 36-inch reflector.

To make certain we have the money in hand to accomplish the Phase 1 tasks as outlined above, we have asked contractors to bid both the 20-inch and 8-inch telescopes. However we expect that the bids will be such that they will allow for the construction of the 20-inch.

The decision to initially locate the 20-inch refractor over the other two telescopes was based on several things:

- the balance of the new Zeiss planetarium on one end of the facility and the 20-inch on the opposite end;
- the simply-impressive look of the 20-inch;
- the value of the 20-inch as a telescope; and
- the need to move the 20-inch out of its current site as soon as possible (forbid the thought that we might suffer a major earthquake on the Hayward Fault as we waited to move the 20-inch!).

[Editor's note: The chamber for the 20-inch telescope is almost threetimes as large as that for the 8-inch—a major consideration when more than 200 people come out of the Planetarium on a cold windy night.]

We will finalize negotiations for the observatory (dome and cylinder) shortly after opening the bids for construction.

Chabot conducted a pre-bid meeting on 17 March to review the bid process with potential general contractor bidders. Five (5) general contractors were present at that meeting: four of the group that initially bid the project and a new contractor who had been initially pre-qualified to bid the first time. The bids will be opened on 7 April 1998 and awarded with a proceed order on 17 April 1998. This timeline puts us in a position to have the exterior substantially completed by the end of 1998 and Phase 1 open by the end of 1999.

If potential sources of funding materialize (more on that in the May *Refractor*), Chabot would be in a position to bid the rest of the complex, referred to as Phase 2, and see a completion date close to, if not the same as, Phase 1.

Even though we were very disappointed in the initial bids, we understand the construction climate in the Bay Area (right now, it's very hot and projects are coming in 20-40% over estimates). We believe we have a solid plan, one which will see this project move ahead in a very positive manner.

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his brother's body in Ti leaves and laid him under a loulou palm. When Kana at last came to the place where Luahine-kai-kapu sat at the bottom of a cliff, he said, "I am Uli's grandson, and you must show me the way to Kahoa'alii's country." But the old woman sadly said, "I have no eyes and cannot show you the way."

Then Kana instructed Luahine-kai-kapu to lie down under a coconut tree. Kana took two young shoots from the tree and struck her in the eyes. The woman began to rub her eyes from the pain and as she did so she cried out that she could see.

The old woman sent Kana on a true path to Kahoa'alii's country. She set a wind at his back to help him on. Kana crossed the border into Kahoa'alii's country, and, hiding, watched his foe. Kahoa'alii would lift up a great stone that covered a hole in the sky. He would take food up in his hands and feast with his attendants. Then they went put things into his hands. First there were things to eat; Kana flung them away. Then there was water; Kana emptied it. Again he put in his hands and was given birds. These Kana let fly around. Among the birds was a single cock, which settled down beside Kana. Then his hands were filled with Stars, and Kana flung them into the sky where we see them still. Next the Moon was put into his

hands and Kana put the Moon into the blue sky, and it stayed there, giving light. Finally, Kana reached down and was given the Sun, which he held up to brighten the sky.

The cock crowed. Hearing this, Kahoa'alii rushed out of the house, intent to kill. But he soon realized Kana's power and was afraid. Kana demanded that Kahoa'alii give him the Water of Life, and also a canoe. With the Water of Life Kana was able to return to Kahakaekaea and restore the life of Niheu. Then together in the canoe the brothers returned to grandmother Uli's house in Hawaii. They saw the Sun in the heavens, and the Moon following the Sun, and the Stars with the Moon. And never again were these bright lights taken out of our sky.

✓ Check out our Web Sites at:

<http://www.silcon.com/~eas>

<http://chabot.cosc.org/eas>

- ✓ The latest copy of *The Refractor* with images in color. (this issue will be added after our Editor returns.)
- ✓ Information about the **Eastbay Astronomical Society**
- ✓ Great astrophotos by EAS members.

If you have photos you would like to have displayed on our Web page, please submit a .gif file, .jpg file or a color print to the Refractor Editor, Ellis Myers. Phone (925) 284-4103.

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