I can’t tell you the exact date, but there was a night several years ago that marked my 1000th telescopic outing. I’m typing this not as a boast but as a reminder that some investments do pay off. Contemporary culture insists that we work and earn and save so that our future will be bright. Investment is a form of gambling and the odds of a pay-off aren’t all the same. I’m here to tell you that time spent with your universe is an investment with a guaranteed pay-off. Yes, it does pay in dollars, but that is a minor dividend compared with the other benefits.

The way to put yourself under a starry sky 1000 times is first to embrace its significance. What I see more often is folks who momentarily excuse (Continued on page 5)

Upcoming Star Parties

Public Party  June 3  Kahala/Waikele
Public Party  June 17  Dillingham
Club Party   May 24  Dillingham
Public Party  July 1  Kahala/Waikele
Public Party  July 15  Dillingham
Club Party   July 22  Dillingham
Public Party  July 29  Kahala/Waikele

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Upcoming Events:

• The next meeting is at 7:30 p.m. on Tuesday, June 6th at the Bishop Museum.

• Guest Speaker Michael Chauvin will speak on Astronomy in 19th century Hawaii
President’s Message

The weather has not been kind to our first quarter Moon star parties so far this year. Those account for much of my telescope time, so with so little good viewing time available this year, I feel like Saturn and Jupiter have raced across the sky. Saturn is already past zenith at sunset, but still worth looking at for a while longer.

We usually put Mars out of our minds after it shrinks to negligible size in our telescopes after opposition, but its rapid motion around the sky keeps it in view for a long time. It doesn’t reach conjunction with the Sun until October 22nd. As Saturn exits the Beehive Cluster (M44) this month, Mars quickly approaches, passes through the Beehive, and passes not much more than a full Moon’s width from Saturn on June 16th and 17th. Occasions like this provide good visual reminders of the different rates at which the planets move against the background stars. Jupiter is at its best in the early evening sky this month and next.

Also making an appearance in the evening sky this month is Mercury. It appears furthest from the Sun on June 20th, setting more than an hour and a half after sunset. Mercury closes a bit of the distance between itself and Saturn over the next few days as Mars races ahead. On the 26th, 27th, and 28th, the Moon joins the group. On the 27th, Mercury and Mars are the outliers, separated by about 15 degrees.

We’ll hope for better weather as summer begins and our nights are at their shortest, but even if a few clouds get in the way, June will be a good month for naked eye astronomy. Multi-object conjunctions are easy to point out and good conversation starters to get others interested in the sky.

Chris
### Observer’s Notebook—June 2006
by Jay Wrathall

#### Planets Close To the Moon
Times are Hawaii Standard Time

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 8, 04h</td>
<td>M 4.4º SSW of Jupiter (142º from sun in evening sky)</td>
<td></td>
</tr>
<tr>
<td>June 15, 13h</td>
<td>M 3.1º E of Neptune (125º from sun in morning sky)</td>
<td></td>
</tr>
<tr>
<td>June 17, 07h</td>
<td>M 0.62º SE of Uranus (101º from sun in morning sky)</td>
<td></td>
</tr>
<tr>
<td>June 22, 14h</td>
<td>M 6.0º NNW of Venus (33º from sun in morning sky)</td>
<td></td>
</tr>
<tr>
<td>June 27, 06h</td>
<td>M 5.0º NNE of Mercury (24º from sun in evening sky)</td>
<td></td>
</tr>
<tr>
<td>June 28, 03h</td>
<td>M 3.0º NNE of Saturn (33º from sun in evening sky)</td>
<td></td>
</tr>
<tr>
<td>June 28, 13h</td>
<td>M 2.2º NNE of Mars (38º from sun in evening sky)</td>
<td></td>
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</tbody>
</table>

#### Other Events of Interest
Times are Hawaii Standard Time

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 4, 19h</td>
<td>M 0.54º SSW of Beehive (53º from sun in evening sky)</td>
<td></td>
</tr>
<tr>
<td>June 11, 08:04h</td>
<td>Moon Full</td>
<td></td>
</tr>
<tr>
<td>June 15, 15h</td>
<td>Mars in center of Beehive Cluster (43º from sun in evening sky)</td>
<td></td>
</tr>
<tr>
<td>June 16, 05h</td>
<td>Pluto at Opposition</td>
<td></td>
</tr>
<tr>
<td>June 17, 19h</td>
<td>Mars 0.56º NNE of Saturn (42º from sun in evening sky)</td>
<td></td>
</tr>
<tr>
<td>June 20, 10h</td>
<td>Mercury at greatest elongation (24.9º East of the sun in evening sky.)</td>
<td></td>
</tr>
<tr>
<td>June 21, 02:30h</td>
<td>Summer Solstice</td>
<td></td>
</tr>
<tr>
<td>June 25, 06:06h</td>
<td>Moon New</td>
<td></td>
</tr>
</tbody>
</table>

#### Planets in June

<table>
<thead>
<tr>
<th>Planet</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>has an excellent evening apparition in June, reaching greatest elongation on June 20..</td>
</tr>
<tr>
<td>Venus</td>
<td>rises about 2 hours before the sun in the morning sky at magnitude -4.0.</td>
</tr>
<tr>
<td>Mars</td>
<td>low in the SW at dusk at a magnitude of 1.8. It has a very close conjunction with Saturn on June 17.</td>
</tr>
<tr>
<td>Jupiter</td>
<td>reached opposition last month and so is in excellent position for evening viewing at magnitude -2.4.</td>
</tr>
<tr>
<td>Saturn</td>
<td>shines brightly in the southwest near Mars at a magnitude of about 0.3.</td>
</tr>
<tr>
<td>Neptune</td>
<td>can be observed after midnight in Capricornus.</td>
</tr>
<tr>
<td>Pluto</td>
<td>reaches opposition this month and can be viewed all evening.</td>
</tr>
<tr>
<td>Uranus</td>
<td>rises about 5 hours before the sun in the morning sky. Will be better placed toward the end of summer.</td>
</tr>
</tbody>
</table>
President Chris Peterson called the May 2, 2006 general membership meeting of the Hawaiian Astronomical Society to order at 7:35 p.m. with twenty-eight members in attendance. President Peterson announced that this month’s Hawaii Space Lecture Series at the NASA Pacific Regional Planetary Data Center is titled Volcanic Eruption Styles on Mars. The May lecturer will be Dr. Lionel Wilson, of Lancaster University and the Hawaii Institute of Geophysics and Planetology. Tuesday, May 9, 2006 at 7:30 pm, in room 544 of the P.O.S.T. building, U.H. Manoa.

Guest Speaker for June- Michael Chauvin will be with us for the June general membership meeting. He will be reviewing his new book that outlines the history of ancient and modern astronomy in Hawaii.

Old Business
Club Bumper Stickers & Club Tee Shirts- Jim MacDonald reported that the bumper stickers will be printed by the same vendor as silk screens our club tee shirts. This is a work in progress and the general membership will be able to purchase the new light blue “summer skies” H.A.S. tee shirt as soon as they become available. Jim indicated that the design is being processed and should be complete by June. We are still pursuing the production of the bumper stickers to be sold at a reasonable price.

IFA Open House- took place on April 30, 2006. We sold 7 club tee shirts and handed out over 250 handouts for the suburban star parties, along with other handouts for school star parties, and directions to Dillingham Field for our dark sky star parties on the North Shore. We found that the club needs to purchase a new tripod for the club Coronado PST, as the current one is too flimsy and wobbly. The April 21st star show at Ko ʻOlina for Kamehameha Schools was successful. According to Carolyn Kaichi, (Continued on page 4)

Scholar to speak at June Meeting

Internationally recognized historian of Astronomy, Dr. Michael Chauvin will speak at the June Meeting of the Hawaiian Astronomical Society on

Before Mauna Kea:
Astronomy and Astronomy Education in 19th Century Hawaii

Tuesday, June 6, 2006, 7:30 p.m.
Bishop Museum Atherton Halau

Dr. Chauvin is the author of the critically acclaimed, Hokuloa: The British 1874 Transit of Venus Expedition to Hawaii. (Bishop Museum Press, 2004)
There are 3 minor nighttime showers. June is not a great month for visual meteor observation.

Wednesday, the 7th, the **Arietids**. Radiant 02h56m +24º
The maximum for this shower is about sunup. The shower is a good radio shower.

Friday, the 16th, the **June Lyrids**. Radiant 18h32m +35º
This minor shower produces less then 5 meteors an hour and is not presently on the Working List of Visual Meteor Showers.

Tuesday, the 27th, the **June Bootids**. Radiant 14h56m +48º
Rates are variable from none to about 60 or 80 an hour. If the shower returns this year it will be within 6 hours of 4 AM Hawaiian time on the 27th.

If you are interested in observing meteors contact Tom Giguere on Oahu at 672-6677 or write to:

(Continued from page 4)

at the Bishop Museum, there may be an activity night for a large group of Girl Scouts at the Bishop Museum August 12, 2006. Heads Up!

**Waimea Valley Audubon Center** - Chris Peterson and Paul Lawler helped out in showing the sky to 30 people.

**Visitors** - Educator and friend of the HAS member, Forrest Luke, Alice Ikeoka, joined us at this month’s meeting. Alice has had a long time interest in astronomy with a particular interest in meteor showers.

**New Business**

**Comet Watching** - Comet 73P-Schwassman-Wassman 3 as of May 2nd is a very pretty sight in the morning sky. The mornings of May 12, 13, and 14, the comet will be moving through Cygnus and Pegasus. It has fragmented in to multiple pieces (19 to 33 pieces), with the two largest pieces quite visible in binoculars and small scopes.

**Astronomy Day** - This year’s Astronomy Day takes place on May 6, 2006. Barry reports that we are all set to share the daytime sky on the upper level of Kahala Mall, Saturday May 6, 2006. Table and chairs will be ready for our use outside Barnes & Noble, and there will be a few parking spaces available for the solar observations.

**Hawaii State Science Fair** - Tuesday, April 4, 2006 Science Fair is over. A certificate and $50 check was presented to Philip Mosck. He also received a subscription to Sky & Tel.

**Night-Sky Network** - John Gallagher spoke briefly regarding the next NASA sponsored teleconference during which Koa Ell spoke about Hawaiian culture and astronomy. The next teleconference will feature Dr. Mike Reagan who will speak on the Hubble Space Telescope.

**Eclipse in Turkey** - Joanne Bogan

(Continued on page 6)
themselves from their priorities in order to bend their necks for a moment and say, "Oh, how pretty!" The whole visible universe takes a back seat even to city lights, among other bling things, because folks know what a city is. Familiarity counts, and familiarity with the night sky is mostly a function of invested time.

"It’s just not that important in my life," replies the bipedal life form, made of star dust, who is temporarily gifted with vision and hearing, mobility and self-determination, having spent the past few billion years as blind, disassociated minerals. "Perhaps some day I'll have the time," this life form sighs, on its way to becoming involuntary plant food, in a universe from which it can never escape. The not-that-important-in-my-life line comes directly from genetic programming, don't you know. Of all the genetically driven life forms on this planet, only we humans seem to have a chance of doing what John Dobson calls “counter-cheating our genes”.

Genetic programming cheats us by insisting that all significance comes from people: the more, the merrier. We counter-cheat our genes when we look beyond our species (and our stomachs) for meaning and context. Our best weapon in the fight is curiosity: a state of mind generally limited to adolescence in other animals. Thank goodness for arrested development!

So armed with curiosity/interest, we leave the TV and the computer and go outside to look up. What comes into play next is location, location, location. We have the automatic good fortune of living in Hawaii, for starters. Even the obsessed stargazers of the temperate latitudes don't get out with a scope 100 times in a year. If you live in Kaneohe, however, your viewing opportunities can compare with residents of Wisconsin. Oahu itself shouldn't be the stargazing island, yet more eyes are on the skies here than on the darker islands. That is because we have more eyes to work with and because chronic stargazing craves a social support network. Hence: the Hawaiian Astronomical Society. So, lucky you live Oahu, belong to our club, and can visit the dark islands in our chain with the large, portable scopes you so wisely own!

Yes, it is common to let oneself off the observing hook by pleading poverty: you think you can't afford a scope worth looking through. This logic comes from ogling glossy ads in magazines and not from the observing field. Telescopes represent an extravagance of time, not money. In Hawaii it is possible to get all your money back from all the telescopes you will ever buy. I've given this lecture too many times to repeat it here. See my award-winning (yes, Steve Overholt gave me a book for writing about what telescopes really cost) article, *Telescope Value* in *Amateur Astronomy* magazine, if you need a refresher.

Once you have managed a confluence of curiosity, interest, location, and the time necessary to get out with a scope on 1000 usable nights, well, what do you get in return? Bottom line: all the comforts of home! Expanding one's sense of home is immeasurably valuable. Bill Gates will never build a home as big as the one that stargazers inhabit. Our neighborhood of suns is best viewed after the bright one is below the horizon. No matter where you travel, and no matter how often you return to the eyepiece, isn’t it nice to be home again?
HAS Financial Report as of May 15, 2006

Initial Balance: $4,022.69

Receipts:
- Donations: $100.00
- Dues Received: $154.00
- S&T Payments: $98.85
- Astronomy Payments: $136.00
- T-Shirt Sales: $255.00

Total Income: $743.85

Expenses:
- Brochure Printing: $40.00
- Magazine Subscriptions: $73.20
- T-Shirt Supply: $169.27
- Refreshments: $7.62
- Postage: $22.50

Total Expenses: $312.59

Ending Balance: $4,453.95

This month we welcome one new member. She is Alyce Ikeoka. Our special thanks to John Sandor and Wallace Izuo for their generous donations. Also, our thanks to those renewing their membership this month. Clear skies to all!

School Star Parties
August 12, 2006 (Saturday)

spoke at length about her recent trip to the Side, Turkey to observe the April 27, 2006 total eclipse. Joanne, with the help of digital pictures, regaled members with the wonderful backdrop for a nearly perfect total eclipse. She urged members to view the pictures on APOD. The next total eclipse takes place July 2008 which will travel across China and the Western Pacific.

Telescope Workshop/ Mentoring -
Jim MacDonald went to Waikele on the last suburban star party night to help out new member, Robert Kessler to help him set up his scope and give him some pointers.

It is hoped that members will be new members and help them to be more successful with learning which scope would be best for them, helping them understand their new scopes, being happier with their choice of scope. We urge any member who may not have a scope but wishes to learn to use a scope, to come to our suburban or dark sky star parties and pair with a member. We are offering members to come and learn the use of a scope and have fun looking into the night sky. Come help share the night sky. The meeting was adjourned at 9:05 p.m. and refreshments were served.

Respectfully submitted,
Gretchen West, HAS Secretary
Gretchen West presents the HAS Astronomy prize to this year's State Science & Engineering Fair winner, Philip Mocz, a senior from Mililani H.S. for his project, **Group Analysis to Pattern Discovery in Stellar and Galactic Distributions**.