

BATTLE POINT ASTRONOMICAL ASSOCIATION

P.O. Box 10914, Bainbridge Island, WA 98110

Website: <http://bicomnet.com/ritchieobs/>

Ritchie Observatory, Battle Point Park,

Bainbridge Island, Tel. (206)842-9152

Public Tours:

The 2nd & 4th Saturdays 2-4 pm or
by special appointment.

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1993-1997

Don't let your subscription lapse. If your address label is red it means this is your last issue.

If so, get in touch with Rik Shafer at
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Battle Point Astronomical Association News, Issue 47

November - December 2001

CALENDAR OF EVENTS

(All events at Ritchie Observatory,
Battle Point Park unless otherwise noted.)

November

November 2-4: Taurid meteors

November 4: Mercury and Venus only 0.6 degrees apart.

November 6: Telescope construction team, 7 pm. Jupiter 1.7 degrees south of Moon.

November 7: BPAA Board Meeting, 7 pm.

November 8: Asteroid 2001TC45 near-earth flyby, 0.075 AU.

November 10: Observatory tours, 2 to 4 pm.

November 13: Astronomy image processing, 7 pm.

November 16-18: Leonid meteors.

November 17: Beginner session, 6 pm. Star Party, Nautical Twilight 5:43 pm.

November 20: Telescope optics, 7 pm.

November 24: NO tours due to Thanksgiving Holiday weekend.

November 26: Mars 0.8 degrees south of Uranus.

November 28: Asteroid 4 Vesta at opposition (magnitude 6.5).

November 30: Saturn 0.5 degree south of Moon.

(Cont. on p 2)

December

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11. Seeing Stars

(Cont. from p. 5) Try looking through the finder. On some scopes, due to the design of the mount, the finder is so close to the tube, and in so awkward a position, that it's difficult to use. You may want to use a unit-power, red-dot finder (like a Telrad or EZ Finder or Rigel or Daisy) instead; if there's one of those at the star party, you should find an opportunity to try it out. Owners of these unit-power finders tend to be strong proponents of their usability, especially for beginners, so most of them will let you take a peek.

If, by lucky chance, you should find someone willing to actually let you move the scope from object to object, and you're not all thumbs, then by all means avail yourself of the opportunity! Let the scope owner teach you how to move the scope. Make sure that you don't force anything; many mounts have clamps and clutches that prevent the scope from slipping when the scope is fixed on an object, and you can damage the mount if you try to move it again without releasing these. Ask yourself if you find it easy to move the scope in the direction you want.

Lastly, if there is any chance of meeting up with these people again, why not join the astronomy club? If you've narrowed your choices down to a couple, ask people about how they feel about their scopes, from the purchase to the maintenance to how often they use them. You may need help after your new purchase, and the club members are often just the ones to assist you. You can also get some tips on where to go buying your scopes. Dealers that come highly recommended by club members often cost a little more, but what you get with the extra cost is the assurance that there'll be someone there to help you if misfortune strikes and you have a problem with your new scope. We have star party tips on our web site, <http://bicomnet.com/ritchieobs/pages/starpart.htm>. Here are some "do's and don'ts":

Don't shine a flashlight at anything. This holds especially if it's a dark-sky party, as opposed to one that takes place in a city. You may find it disorienting in the dark, but flashlights ruin the dark adaptation of others. Red flashlights, although used by amateurs to protect their night

vision, are still too bright when shined directly at people and scopes. Don't do it.

Don't park in front of the observatory; save the space for those with heavy equipment to unload or who have trouble walking.

Do bring warm clothes. Even in summer.

Do be aware of your car headlights. Try to arrive before dark.

Make sure your face and hands are clean. In the normal course of using a scope, these body parts are likely to come in accidental contact with optical surfaces. If they're not clean, they will not only leave dust on the lenses, but those lenses may get scratched, and grease is damaging to optical coatings.

And a final "Do": Do make it known if you're interested in buying a scope. You will get much more information from club members if they know you're researching purchases. You may get more than you want at first, but it's easier to whittle away the facts you don't need than to make up ones you don't have.

only be what you make it. If there is something that you would like to see, make it happen! BPAA has a long history of people getting together to follow their interests.

It is easy to join our email group. Just send me an email with your name and I can enroll you. Alternatively, you can request to join online via yahoo (www.yahogroups.com) and request to join BPAA), and I will reply to verify your identity (our email group is limited to BPAA members only).

Paul Below, bpaa-owner@yahogroups.com,
or aurorae@sprynet.com

For updates, remember to subscribe to the email list!

NEWS BRIEFS

DARK-SKY

Dear Fellow Dark-Sky lovers and Light Pollution Fighters:

We're pleased to announce the second Northwest regional meeting of the International Dark-Sky Association. This year's meeting will take place on Saturday April 13th, 2002 at the Haggart Observatory, Oregon.
(see <http://depts.clackamas.cc.or.us/elc/haggart/home.htm>.)

The Haggart observatory is located about 12 miles south of Portland. Please mark your calendars.

CLOCK DEDICATION

As many of you may know, I have been involved for the past year with the restoration of the Jorgen Nelson street clock in downtown Bremerton. There's a photograph of the clock here. I think it looks great but I am not the most

objective observer!

The clock was dedicated at 5 pm November 2 at the Kitsap Museum on 4th St. in Bremerton. This also coincided with the Bremerton First Friday Art Walk. Come see it.

Paul Middents

MARS ODYSSEY

The first image from Mars Odyssey is online. It is an infrared image showing temperatures near the Martian South Pole. Depending on your email system, you may have to cut and paste this link a couple of times to get the entire thing (if it is split between multiple lines). Or you can go to their web site and drill down to the image.

Here's the image:

<http://mars.jpl.nasa.gov/odyssey/gallery/latest/latest2001/01oct31.html>

Here's the Mars Odyssey image gallery:

<http://mars.jpl.nasa.gov/odyssey/gallery/index.html>

Paul Below

REPORTS & ARTICLES

WINDS OF CHANGE ON THE BPAA BOARD

by Mac Gardiner

Next January's Annual Meeting and election of Officers will feature new faces and a new organization, occasioned by BPAA's new needs and opportunities, and also the impact of "maturity" on the officers. Three officers are retiring from Board membership, and one is reducing his scope of duties. Mac Gardiner will retire from the position of Chairman of the Board and President of BPAA at that time.

Jim Young will retire from the Education Board chairmanship, but intends to remain active on specific aspects of its expanding and time demanding program.

Jim Vaughan will retire as Chief Scientist and also intends to follow specific interests.

John Rudolph will give up his position as Vice President, but will continue as Facility Director. His interests in Archaeoastronomy will

continue.

Paul Below is nominated for Chairman and President. He is more than qualified for the job, and his fine performance as Operations Director give him the background for direction of our BPAA. His current job of Operations will be split up into more manageable positions.

The nominees for the new board are:

Chairman and President: Paul Below

Vice President: TBD

Secretary: Rik Shafer

Treasurer: Eric Cederwall

Facilities Director: John Rudolph

Publications: Anna and Bill Edmonds

Education: Mike Walker

Website Manager: Bruce Muggli

Events: Harry Colvin

Special Interest Groups: TBD

We are actively searching for a nominee to the Special Interest Groups. The position description of this task illustrates both its importance, and the problem that we are having in filling the job of Special Interest Groups Director (SIG).

We have a need for a regular meeting that will bring the general public into the BPAA. This could be on the second Wednesday that was formerly used for the monthly lecture. The meeting would be a general business meeting and could feature some activity such as a lecture.

The Director would conduct the meeting and have enough authority to allow certain decisions to be made in the general meeting. For instance, there should be a budget for at least small items. The Director would also be in charge of the SIGs.

Right now there are three Special Interest Groups (SIGs) active in the BPAA. The telescope building group has constructed a 16-inch DOBS and is starting on the design of a 20-inch

focus for archaeoastronomy. With the reorganization of the Board of Directors and our intent to involve more of the membership in activities of their interests, it seems appropriate to invite any readers of the BPAA Newsletter to communicate with me so that we can hold a meeting to discuss this idea.

DISTANCE

by Doug Tanaka

While reading Chet Raymo's book, "An Intimate Look At the Night Sky", the thought occurred to me that almost all amateur astronomers are drawn to the hobby from a very basic need to know about the Universe - and more specifically, what our place is within it. Fundamental to that knowledge is knowing how far away things are.

The basic unit of astronomical measurement is the light year. We're so familiar with the term - when we say something like, "The Andromeda Galaxy is 2 million light years away," or, "The Hercules Cluster is about 160 light years across," we have a feeling for relative distance or size, but can we truly understand what this distance or size means? For example, we know that a light year is the distance that light travels in one year, and that light travels 186,282 miles per second in a vacuum. But to understand the light year, we first need to understand how fast 186,282 miles per second really is. What do we compare that kind of speed to? What if we compare it to someone who we know is really fast, say, Ichiro Suzuki? Well, the comparison doesn't work at all, because, compared to the speed of light, Ichiro Suzuki isn't any faster than Lou Piniella (although, for that statement to be true, we begin to realize that the speed of light really MUST be fast!). So, while the light year is a very convenient term - and the only real measure that works for "Universal" distances - I think a better feel for distances comes from scale models.

The planet walk around our observatory at Battle Point Park gives a good example and a feel for the distances of the planets. In his book,

Chet Raymo also has a good example of distance and scale. Using common objects and a football field, he starts by having us imagine a small grapefruit, representing the Sun, on the goal line. On the four yard line would be a fleck of sugar representing Mercury, on the seven yard line would be a grain of salt representing Venus, and on the ten yard line, another grain of salt, representing the Earth. On the fifteen yard line would be another fleck of sugar for Mars, on the fifty yard line a pea for Jupiter, and at the end of the field, a smaller pea for Saturn. Uranus would be a peppercorn at the end of a second football field and Neptune, another peppercorn, would be at the end of a third football field. Pluto would be a mote at the end of a fourth football field. The binary stars, Alpha Centauri, the closest stars to the Sun, would be a pair of grapefruits one thousand miles away.

Just how vast the distances are at this scale took on a new meaning when I stopped to think that, as fast as light is, it still takes over eight minutes to go from the Sun, at the goal line, to the Earth, at the ten yard line. Ten yards in over eight minutes! I've seen banana slugs move that fast. It would take about 5.5 hours to reach Pluto, four football fields away, and 4.3 years to travel the one thousand miles to Alpha Centauri.

However, while this little twist in thinking about scale made me think about the light year in a different way, I can't really say I have any better feel for how big "160 light years across" really is. The only thing I'm sure of is that Lou would take twice as long as Ichiro to get to Alpha Centauri.

Activities on the archaeoastronomical front during September and October mostly involved the Wallula Stone. The Chief (and only) archaeoastronomer has been trying to determine where the artifact once lay in the vicinity of Wallula Gap. I postulated that there must have been a standing stone to cast a sharp shadow on the prone Wallula Stone. Earlier this year Frank Anderson and I discovered what might have been this gnomon. Standing near the highway, at a break in the basalt cliffs, in a grassy meadow that sweeps up to a saddle in the ridge to the south, stands a six-foot high monolith of basalt with a flat top, the north edge being almost a straight and sharp line except for some very old notches. This seems a likely candidate to cast a shadow in the mid-day.

Having constructed a plywood replica with a full size print of the upper facets of the Wallula Stone glued to it, it was possible to lay this replica in front of the gnomon and watch the shadow move along the notched spine of the Stone as well as on the inscriptions themselves to see if there was a purposeful correlation.

On the Summer Solstice, the shadow did not reach the stone, but on September 21, the Equinox, the shadow matched the midline of the "sash" glyph, and crossed the spine to match a line on the east face quite exactly. It is interesting to note that the "fringe" has the 1,2,3 short lines, a center long line and 4,5,6 short lines; this is the same count that is found on the Agate Pass Petroglyph Stone here on Bainbridge Island. These lines may represent the full moons of a complete year. One can count from one end to the other and back, and the centerline will represent both of the equinoxes.

I asked Paul Middents when the sun would fit exactly in the saddle, and he predicted from my shots of azimuth and altitude, that the full disk of the sun would rest in the saddle on October 20 at about 10:45 AM. A dash down to the site on Oct. 20 allowed me to witness this event and take photographs even though the sky was thinly overcast. It is not far from Halloween, which astronomically is significant. It is possible that just the very

tip of the sun would appear and disappear in the saddle from the gnomon on this date. One should not have anything else to do but pursue these intriguing possibilities. Alas, if a person wants to eat regularly, archaeoastronomy is not a career to be cherished.

It is probably difficult to imagine the effect from these descriptions, but this last Sunday, October 28, I presented both the Agate Paooint petroglyph stone and the Wallula Stone sites as a slide show on the invitation of the Bainbridge Island Historical Society at Island Center Hall. There was a good turnout, and there was considerable interest expressed in these two sites. While there are still tantalizing bits of missing evidence to confirm that the original site has been found, I am convinced that this standing stone may have indeed been the original site of the Wallula Stone which has been moved from Portland to Pendleton, OR where it is now the centerpiece of a very fine veterans' memorial honoring members of the Confederated Tribes who have served the Country since the signing of the Peace Treaty.

Several attendees to my presentation showed enough interest to inspire me to suggest that an Archaeoastronomical Club be formed under the BPAA umbrella. There is not, at this time, an organization in the Northwest that can provide a

DOBS. Following that will be the design and construction of the 26" mirror system.

Star Parties is a multiple SIG. The Beginners' Sessions are under Bruce Muggle, Paul Below, Terry Hubbert and Harry and Diane Colvin.

The Robot Club consists of a group of 10 to 17 year-olds building robots and learning about electronics and computer programming.

Two groups are currently dormant. They were 1), the Journal Club consisting of those interested in discussing current scientific events; and 2), the monthly lectures by BPAA members, University Staff, and prominent scientists and technologists.

In addition to these, are 3), the Planetarium Group, dedicated to producing a flexible planetarium for Observatory and local school use; 4), the ISS-AT Program dedicated to the construction and use of an amateur telescope as part of the International Space Station program. This program is very active at the national level, through the Astronomical League. Although BPAA initiated this program, currently Mac Gardiner is the only BPAA member; 5) the Archaeoastronomy Program sparked by John Rudolph; and 6) the Lighting Standards Program directed toward promoting darker skies through municipal lighting ordinances controlling the extent and coverage of residential, commercial and governmental lighting systems.

Other important positions not on the Board or SIGs are the following: Ritchie Telescope Manager, Don Trantow; Portable Telescope Manager, Terry Hubbert; Chief Docent (TBD); Computer Systems, Dave Warman; Landscape Manager (TBO); Library, Cathy Koehler, and Archivist, Helen Gardiner.

STRANGER IN A STAR PARTY

By Paul Below (adapted from an article by John Steinberg. Continued from the first installment in Issue #46.)

Once you've caught a glance of a favorite ob-

ject in the sky, ask someone to point out where it is above you (if you don't already). Try to judge if you're the sort of person who would enjoy navigating the night sky on your own, or if you need the assistance of digital setting circles (DSCs) or GOTO. If you already have a pair of binoculars, make sure you bring those along. If you can find the object (or at least the location in the sky where it is) through the binoculars, you're probably well suited to star-hopping. DSCs and GOTO (read an explanation of how they work) are useful and entertaining, but they do add to the cost of the telescope, so there's no question you can get more scope for your money if you can find your way by star-hopping.

Of course, it's not all about you--you should find out about the equipment too! After looking through a few scopes, you may have decided on which set of optics you like the best. But what about the steadiness of the view? That depends a lot on the quality of the mount and tripod, if any. When testing one out, it's a common tactic to rap the tripod and see how long it takes for the vibration to settle out. A couple of seconds is typical. If it takes 5 seconds or more, the mount/tripod is probably insufficiently strong or stable to support that particular scope.

Scope owners don't always take kindly to people rapping on their tripods, however, so here's an idea you might try--ask them where the focus knob is. Even if the image is perfectly in focus for you, try racking the focus in and out. Is it relatively easy to get the image to stop shaking enough for you to focus, or does it shake so much that you have to let go, wait for the image to steady, adjust the focus again, let it go, rinse, repeat? Keep in mind that you will get better at this, but it is a measure of the mount and tripod's stability. (Cont. on p. 10)

PROGRESS on the SPACE STATION AMATEUR TELESCOPE

After a year or so hiatus, the ISS-AT program is getting back in high gear. Astronomical League president emeritus, Orville Brettman, has assumed direction of the program and is doing an excellent job. He has built up an organization of 20-30 key people in the country, including Richard Berry whom many of us know from his telescope and CCD background, and Don Parker, head of the Planetary Objects Special Group. (he has produced the highest resolution amateur planetary astrophotographs to date).

Key to the League's part in the program is the running of the ground-based component of the full system (Delivery Modules). That includes organizing the inputs from all amateurs, scripting the programs that the space unit will follow, receiving and processing the photography, and collating and filing the results. To test this out, the program has procured the necessary telescope system, internet interface servers, and controlling gear. They are just starting to run the full system on remote, and when fully checked out, the system will be installed in a telescope farm at the Winer Observatory near Sonorita, Arizona. They have a 12" Meade OTA on a Bisque 1100S mount, feeding two CCDs (ST9 and ST5). The equipment and software has been donated by corporate donors. All members of the team can now access the system through internet.

As a collateral benefit, they plan a program permitting K-12 education, within funding limits, getting experience with eager customers!

This goes along with the procurement of the Space unit, which is currently in specification status. If all works out, and that unit is up on the ISS around 2006, the ground based equivalent will serve us as a pre-space checkout of programming, as well as a means of modeling and correcting any anomalies that show up.

Any of you who wish to become involved in what is now a challenging and exciting program should contact me.
Mac Gardiner

BPAA Financial Report for month of September 2001

BALANCE SHEET:	\$	
Current Assets	19,264	
Fixed Assets	235,126	
Total Assets	254,388	
Liabilities	-0-	
Equity	250,823	
Total Liability/Equity	254,388	

PROFIT & LOSS:	\$ Sept.	\$ YTD
Income:		
Contributions	3,608	8,507
Membership Dues	80	2,250
Other	21	1,984
Total Income	3,709	12,741

Expense:		
Administration	-0-	1,836
Program	-0-	2,199
Utilities	47	424
Total Expenses	47	4,459

Net Income (Loss) **3,662** **8,282**

Eric Cederwall, Treasurer

FACILITY DIRECTOR'S REPORT

For some time the Ritchie Observatory has needed a proper roof and drip edge. A chronic leak at the roof access structure has resisted all attempts of a cure. Many alternative roofing systems were considered including mineral covered roll roofing applied by volunteers. The final and best solution seemed to be to have a vinyl roofing material with a non-skid walking surface applied over the the roofing material to prevent accidents.

Hanley Construction Inc. was selected and two cheerful and very competent workers showed up on schedule. After several days, the roofing was applied, with the vinyl running up the side of the dome foundation, up the sides of the stair access structure, over the base plates of the steel railing, together with a proper metal drip edge all around the perimeter. After the application, a heavy rain fell, also right on schedule, to test the work. I am happy to report that there is now no rainwater dripping down the walls and spoiling the finish of the gypsum wall board. We can now proceed to repair the water damage and so the observatory will again be acceptable for our visitors.

John H. Rudolph, Facility Director

BOOK REVIEW: By Doug Tanaka *An Intimate Look At the Night Sky*, by Chet Raymo

I have to be honest and say that when I was first given this book to read, I was pretty skeptical about whether I would like it or not - rather like someone eating sushi for the very first time. Also, as often happens in first-time sushi encounters, the first bite did little to alleviate the skepticism.

My first impression was that the book started slowly, but oddly, that too many subjects were being covered in too short a time. Starting with what is up in the winter sky, we moved to the Big Bang and then to astronomy in ancient Egypt. Luckily, I didn't give up on it, and I started to realize a pattern was being set up. I was beginning to like it.

The book is well written, but what I liked the most was its nested, chronological structure, and its use in tying together a lot of information. There are four main sections labeled for each of the seasons, starting with Winter. Along with a description of what is in the sky at the start of the year, we also learn what was happening at the start of the Universe, as well as a history of the

beginnings of astronomy. The only other book I can think of that has as wide a range of subjects is Burnham's Celestial Handbook. For example, we learn how Eratosthenes combined the number of footsteps from Syene to Alexandria with the fact that, in midsummer, a person could see the reflection of the sun at the bottom of a well, to figure out the diameter of the earth - and get it right!

Through the seasons the book tells us how stars are born and how they die - and a history of the bits of information that allowed us to know how they burn. Interspersed among the charts and descriptions of what's prominent in the night sky through the year are facts about the planets, eclipses, comets and meteors, galaxies, and theories about life in the Universe. As the year and the book ends, in Autumn, there is a good chapter on how the Universe will end.

As much as I liked the book, I don't think it's for everybody. If you're a no-nonsense sort of observer who just wants to go out and see things, you'll be very disappointed with the star charts. Those interested in the history or the latest advances in astronomy will feel the author only covers the tip of the iceberg. Science and physics enthusiasts, well, they shouldn't be reading any books that have the word "intimate" in the title anyway.

I would, however, recommend the book to anyone who likes good writing and wants to experience the breadth of astronomy, whether you're an experienced observer or a novice. I would also recommend the book to anyone who likes to "feel" the subject of a book. Astronomy is a difficult subject to do that with, but Chet Raymo comes about as close to doing it as anyone can. The only other author of astronomy I can think of who wrote with any sort of passion was, again, Robert Burnham, Jr. The title, "An Intimate Look At the Night Sky", really does ring true, and I'm happy to say I ended up thoroughly enjoying it. Pass the wasabi.

ARCHAEOASTRONOMY
by John Rudolph