ECLIPSE

The Newsletter of the Barnard-Seyfert Astronomical Society

Celebrating our 76th Year in 2004 **August 2004**

Membership Meeting, August 19, 2004

The next membership meeting of the Barnard – Seyfert Astronomical Society will be held at 7:30 pm at the Adventure Science Center.
Long range planning committee Chairman Dennis Williams will make a presentation on suggested vision and future goals for the BSAS. The presentation will be followed by a general discussion of all members as to the club's future projects.

FROM THE PRESIDENT

Joseph M. Boyd, Jr.

You will be getting this issue of the Eclipse a little earlier than usual, inasmuch as our editor, Bill Griswold, will enter the hospital for knee surgery about the time we would normally start working on our articles. He expects to be in rehab for two or three weeks, so all of us are pitching in to help him get this issue written before his surgery. Several suggestions were made for alternative procedures, including setting him up with a laptop in the hospital or in his rehab room, installing a wireless connection in the room, holding all committee and board meetings in his room while he is there (surely the hospital wouldn't mind), installing a telescope in his room so he could do observing through the window, and several other equally outlandish ideas. Seriously, we all wish him well on this surgery and we will make sure that he does not forget us while he is in Southern Hills Medical Center.

The efforts of many of our members paid off at our regular July membership meeting as was evidenced by the large number attending the event. Light pollution is a problem not only for astronomers but also for city planners, landscape architects, illuminating engineers, street and security light engineers, environmentalists, health providers, and those interested in wildlife. We were fortunate to have representatives of almost all of these fields at the meeting to hear Scott Davis of the International Dark Sky Association tell about the undesirable results of uncontrolled and unnecessary outdoor lighting. I want to personally thank past president Powell Hall and the other members of our Dark Sky Committee, as well as program chair John Harrington for arranging the program. In addition we appreciate the efforts of Glenn Johnson, vice president of the Middle Tennessee Section of the IDA, in setting up an extensive display on good and bad lighting.

Plans are coming along well for the 2004 Tennessee Star Party (TNSP 04), which is scheduled for Friday through Sunday, September 17-19, at Camp Nakanawa, between Cookeville and Crossville. The registration form can be downloaded from our web site. A new feature this year will be giving a discount in the registration fee to members of the BSAS. Another new feature is the waiving of the registration fee for anyone, BSAS member or not, who will bring a telescope of 20 inches or greater and will agree to let everyone there have the opportunity to look through it. I understand that we have one 25 inch scope already promised.

For almost two years now, the Long Range Planning Committee has been meeting and working to recommend a five year plan of action for the BSAS. The Committee will present its findings and recommendations at our August membership meeting. Their recommendations will include what equipment the BSAS should have, setting up an office for the corporation, outreach programs, and club viewing and social activities. Input from our members has been requested a number of times, and several suggestions have been made for consideration by the committee. I know you will want to hear this program. The goals and objectives should be submitted to the membership for consideration and approval.

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Book Review: Parallax The Race to Measure the Cosmos

by Robin Byrne

This month I am forgoing my usual birthday article format to review a book that I recently finished reading. The book is "Parallax The Race to Measure the Cosmos" by Alan W. Hirshfeld, and it is one of the most compelling scientific books I've read in a long time.

It begins with the original quest to observe the parallax of stars to determine whether Earth is stationary (as the majority of people believed), or if it does move around the Sun. If we move, then the stars should appear to shift in position as we swing from one side of the Sun to the other. Techniques of the time prevented anyone from observing a parallax, and the thought of the stars being so far away that a shift would be too small to measure was unthinkable.

We then meet some familiar figures, such as Tycho Brahe and Galileo Galilei. We learn about their lives, along with some tidbits that I had not heard before. There is even a very interesting historical aside about the invention of glass, eyeglasses, and, ultimately, the telescope. However, still no parallax to be found.

The last section of the book leads up to the combination of observers skilled enough to detect the small shifts, with telescopes designed well enough to be used for such fine work. We learn about the lives and accomplishments of Thomas Henderson, Friedrich Bessel, Joseph Fraunhofer, and Wilhelm Struve, all of whom will play important roles in finally measuring the parallaxes of the nearest stars.

What made this such a wonderful book to read, however, was not as much the story about how to measure parallax, but the lives of the people who brought us through all the failures and successes. Hirshfeld has a very enjoyable writing style, and he obviously did a lot of research about each of the people whose lives he shares with us. He provides some nice historical context for each story with information about what else was going on in the world at the same time. Interspersed with the historical accounts are personal reminiscences from Hirshfeld's life that led to his becoming an astronomer, which add another dimension to the story.

No matter how well acquainted you are with the history of astronomy and the measurement of parallax, this book is guaranteed to include something that will surprise and delight you. So, what are you waiting for? Go read "Parallax The Race to Measure the Cosmos" by Alan W. Hirshfeld. You won't regret it.

MAGAZINE SUBSCRIPTIONS FOR BSAS MEMBERS

We are always able to accept requests for new and renewal yearly subscriptions to SKY AND TELESCOPE and ASTRONOMY from our members in good standing.
The current yearly rates are as follows:
SKY AND TELESCOPE: $32.95
ASTRONOMY: $29.00
Checks or Money Orders should be made out to the Barnard Seyfert Astronomical Society (BSAS) and sent to the following address:

BSAS
P. O. Box 150713
Nashville, TN 37215-0713

DUES INFORMATION

On your Eclipse mailing label is the expiration date for your current membership in the BSAS. There will be a two month grace period before any member's name is removed from the current mailing list. You will be receiving a number of warnings informing you that your membership is expiring.

Dues per year are $20.00 Regular (1 vote); $30 Family (2 votes); $15.00 Student (under 22 years of age)(1 vote); $15 Seniors (65 years or older)(1 vote); $25 Senior Family (65 years or older)(2 votes). Please call President, Joe Boyd, (615) 386-3134 if you have questions. Dues can be sent to:

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THE ECLIPSE NEWSLETTER
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BSAS Logo
Tony Campbell

Lawnchair Astronomy - The Southern Summer Sky

By JanaRuth Ford

August evenings offer some of the finest Lawnchair stargazing of the year because the richest part of our Galaxy is on display during these summer nights. The Milky Way abounds in bright stars and can be traced across the sky from the northern "W" of Cassiopeia through Cygnus, The Swan, and Aquila, the Eagle, to Scorpius and Sagittarius in the south. Tour the summer Milky Way with low-power, wide-field eyepieces. Strong magnification will spoil the view. In fact, binoculars are superb for sweeping through the Milky Way starclouds and observing glittering star clusters and bright nebulae.

Look due south in August, not far above the tree line, for a centaur, the half-man and half-horse of Greek mythology. This is the constellation Sagittarius, the Archer, which dates back to antiquity and represents the centaur Chiron ready with his bow and arrow. Don't "see" a centaur? Only those with gifted imaginations usually see it. The Archer's bow and arrow in the top right corner of the constellation look more like a teapot, which is much easier to find in the night sky than the centaur. The teapot asterism is actually hard to miss. Five stars outline the teapot. Four stars on the left mark the handle and three stars on the right form a triangular spout. The Milky Way looks like steam drifting up from the spout across the night sky. Above the spout is a concentrated "puff" of steam formed by the jaw-dropping Great Sagittarius Starcloud. The central region of our Galaxy lies in Sagittarius. It is a busy and fascinating area for Lawnchair astronomers to search for celestial treasures.

Messier objects 8, 20, 17, and 16 form "Nebula Row" above the teapot. M8, the Lagoon Nebula, is a faint patch of light to the unaided eye and seems to float just above the spout of the teapot. This is an emission nebula that contains an associated star cluster. Check it out with binoculars. Almost straight up is M20. Known as the Trifid Nebula, it is an emission and reflection nebula with brighter areas separated by dark dust lanes that seem to divide it symmetrically into three parts. A bit farther north is M17, the Swan Nebula, also known as the Omega or Horseshoe Nebula. It is a molecular cloud region of massive star formation. Not far above the Swan is M16, the Eagle Nebula. This emission nebula contains an open star cluster consisting of hot, young stars. M24, the Small Sagittarius Starcloud lies just below the Swan Nebula. To the left of the dome of the teapot is M22, a great globular star cluster consisting of some half million stars.

The Archer's arrow points toward Scorpius, the scorpion. This is one of the most ancient and magnificent of all the constellations. With its long curving tail and stinger, it actually looks very much like its namesake. The plane of our Milky Way Galaxy passes through the stinger of the scorpion, which is marked by the star Shaula. Just above and to the left of the stinger are two open star clusters, M6 and M7. Both are visible in binoculars. M6 is known as the Butterfly Cluster and is twice as far away as M7, which is often referred to as Ptolemy's Cluster. The brightest star in Scorpius, Antares, marks the heart of the scorpion and dominates the southwestern sky. Just west of Antares is M4, a spectacular globular star cluster that is 5,600 light-years away, the nearest globular cluster to Earth. On a line between Shaula and Antares is Barnard 50, a dark or absorption nebula named for Nashville's own Edward Emerson Barnard.

Antares is a bright red supergiant, 600 light-years away, that can be mistaken for the red planet Mars. The Greek name for Mars is Ares. "Antares" means the "rival of Mars" and was so named because these two rival each other in color and brightness. Also called Alpha Scorpii, it is actually a binary star. The primary star is red and the secondary is startlingly green. Stellar colors are most vivid when adjacent stars are strong in color contrast and are best seen in the telescopic views of some double stars such as Antares or the blue and gold Albireo in Cygnus. On a good "seeing" night, a 10-inch or larger telescope is necessary to observe the emerald sparkle alongside the ruby giant of Antares. Some, however, claim that the green color is simply due to a contrast effect with the red giant and there are no green stars. Green is just about in the middle of the visible spectrum. Even though there are many stars that emit their peak electromagnetic radiation at a green wavelength, they are also emitting radiation over a broad range of wavelengths, including all visible wavelengths. These colors are all combined in the human brain resulting in the color white. So, theoretically, one should never see a green-looking star. However, according to Fred Schaaf in *The Starry Room: Naked Eye Astronomy in the Intimate Universe*, during a lunar occultation of Antares when the Moon was in front of the red primary star and the secondary star was briefly visible by itself, it still appeared distinctly green!

Libra is a diamond-shaped constellation to the right of Scorpius. Originally, its two brightest stars, Zubeneschamali, which means the northern claw, and Zubenelgenubi, which means the southern claw, marked

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Barnard-Seyfert Astronomical Society
Minutes of a Regular Meeting of the Board of Directors
Held On Thursday, July 1, 2004

The Board of Directors of the Barnard-Seyfert Astronomical Society met in regular session at the Jefferson Square Club House in Nashville, Tennessee on July 1, 2004. A sign-in sheet was passed around in lieu of a roll call. President Joe Boyd declared a quorum to be present and called the meeting to order at 7:50 P.M. Board members Joe Boyd, Tony Campbell, JanaRuth Ford, Bill Griswold, John Harrington, and Pam Thomas were present. Board members Mike Benson, Powell Hall, Kris McCall, Lonnie Puterbaugh, and Jill Thompson were absent. In addition to members of the board, Assistant Secretary Bob Rice and Outreach Chair Heinrich Tischler were also present. The minutes of the previous regular board meeting held on June 3, 2004 were approved as published in the July 2004 issue of the *Eclipse* newsletter.

Joe Boyd encouraged everyone to write or email Warner Parks Superintendent Bob Parrish to express support for the parks' proposed no-lights policy.

Mentoring Committee Chair JanaRuth Ford reported that the BSAS had completed five NightSky Network events for the quarter and had qualified to receive a prize from NASA for this effort. She also reported that the committee had received a NightSky Network program test kit on distances in space and the composition of galaxies. Ms Ford noted that the CD based manuals for this program comprised 131 pages.

Pam Thomas said that she would post a notice in the *Member Forum* on the BSAS' website inviting attendees to bring a picnic lunch to the members-only equipment party scheduled for July 11 at Crockett Park at 3:00 PM. Ms Thomas encouraged everyone to bring their equipment to learn more about it. She also noted that those attending would be encouraged to stay for the star party following the 7:00 PM concert. Heinrich Tischler said that he would bring iced tea to the equipment party.

BSAS Webmaster Tony Campbell played a recording of the informational message on the BSAS' new telephone service at (615) 252-4091. This service is intended to serve as the central communications hub for details regarding the Society's meetings, star parties, and other activities.

Finance & Budget Committee Chair Bob Rice announced that this committee would meet in mid August or early September to draft a 2005 budget for presentation to the newly elected board at its first meeting in October.

JanaRuth Ford announced that the American Astronomical Society had established a registry for amateur astronomers to potentially team up with professional astronomers on projects for scientific research. This effort recognizes the fact that many amateurs now own and have considerable ability using sophisticated equipment (i.e., in imagining, photometry, etc.) formerly available only to professionals. Tony Campbell offered to post this information on the BSAS' website. This program will also be announced at the July 15 membership meeting to inform members who might want to participate.

Program Committee Chair John Harrington announced that Scott Davis, Chief Operating Officer and Technical Manager of the International Dark Sky Association (IDA), would present an overview of the International Dark-Sky Association, including the IDA's philosophy about the importance of responsible outdoor lighting at our July 15 membership meeting. Mr. Harrington suggested that, since the BSAS was flying Mr. Davis in from Tuscon, Arizona, we should allot more time than usual for both his presentation and a following Q&A session. With regard to publicizing this program, he suggested that the BSAS Publicity Committee develop press announcements and contact other astronomy clubs. Joe Boyd stated that BSAS Dark Sky Committee Chair Powell Hall would contact the Metro Planning Commission and possibly invite engineers from the Nashville Electric Service. Pam Thomas offered to contact the *Nashville Scene* and *The City Paper*. Mr. Harrington said that he would post an announcement on the TN Astronomy Group website.

Mr. Harrington also announced that a speaker for the August meeting had not been found. JanaRuth Ford suggested that BSAS member and attorney Mary Boyd might be willing to give a presentation on dealing with children at star parties. Ms Ford also suggested a pre-recorded presentation of the latest Hubble Space Telescope images.

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Meeting of the Board of Directors, continued from Page 4

TNSP 2004 Committee Chair Bill Griswold announced that they were working on a registration form similar to the one used last year. Mr. Griswold noted that an extra meal for lunch on Saturday had been added for 2004. He also suggested that the committee consider giving BSAS members a registration discount; this matter will be taken up during future committee discussions. Mr. Griswold said that he was willing to supply a computer to be used on site during TNSP registration. Tony Campbell suggested using a printout for registration verification. Jana Ruth Ford passed out a draft announcement that could be used on the TN Astronomy Group's website. John Harrington reported that he had no definite speaker commitments yet. Bill Griswold suggested Paul Lewis from the University of Tennessee. The committee will meet next Thursday, July 8 at 7:30 PM at the Jefferson Square Club House. Joe Boyd said that he would confirm these arrangements.

Joe Boyd reported that BSAS member and Austin Peay State University (APSU) Professor Dr. Spencer Buckner had asked the Society for a letter of intent to provide presentations and programs at APSU's future observatory and meeting location. Mr. Boyd explained that this request was in connection with APSU's applying for a National Science Foundation PREST (Program for Research and Education with Small Telescopes) grant to fund these facilities along with a 32-inch telescope. He further noted that the number and frequency of such presentations would be left to the BSAS' discretion. JanaRuth Ford moved that the BSAS draft such a letter and John Harrington seconded this motion, which was passed by a unanimous vote. Joe Boyd stated that he would write the requested letter of intent.

At Joe Boyd's request, JanaRuth Ford announced that she would be teaching physics and astronomy labs at Middle Tennessee State University starting in August 2004.

Joe Boyd commented that the BSAS still did not have a logo or a mission statement. JanaRuth Ford offered to email a statement for the board's consideration that she had previously written in connection with the BSAS' membership application to the NightSky Network. With regard to a logo, after some discussion the board favorably gravitated toward the stylized SCT symbol designed by Tony Campbell that headlines the BSAS' website home page. Pam Thomas moved that a recommendation for this symbol to become the official BSAS logo be posted on our website's *Forum* for member discussion. JanaRuth Ford seconded this motion that passed by a unanimous vote.

Joe Boydºrecommended that a nominating committee be formed to develop a slate of candidates for the upcoming election at the September membership meeting, and that the board should select the committee membership.º The following were nominated to be on the committee: Bill Griswold, Pam Thomas, JanaRuth Ford, Powell Hall, Glenn Whelan, and Steve Wheeler.º As President, Joe Boyd would serve as an ex-officio member of this committee.º Pam Thomas moved that these be selected as the nominating committee.º The motion was seconded by John Harrington, and the motion passed by a unanimous vote.
º

Joe Boyd recommended that, since some questions were raised at the June membership meeting about the cost of the BSAS' Astronomical League membership, the board should carefully investigate and evaluate the pros and cons of renewal in 2005.

Membership Chair and *Eclipse* Editor Bill Griswold announced that, due to anticipated surgery in August, he needed all articles to be turned in early and would require assistance with the delivery of copy to the printer. Both Pam Thomas and John Harrington offered to help.

Pam Thomas recommended that the BSAS order a sample of 250 free business cards to be handed out at star parties and other events from web-based VistaPrint. Except for a line of vendor advertising, the displayed samples were judged to be acceptable by the other board members. Bill Griswold moved that the BSAS purchase 250 cards without the advertising at a slight additional charge. John Harrington seconded this motion that passed by a unanimous vote.

There being no further business, President Boyd declared the meeting adjourned at 10:15 P.M.

Respectfully submitted,
Bob Rice
Assistant Secretary

Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held on Thursday, July 15, 2004

President Joe Boyd called the meeting to order at 7:41 P.M. at the Adventure Science Center and welcomed new members and visitors. Kris McCall announced that that the Adventure Science Center had received the Astronomical Leagueís ìBest New Ideaî award for their Astronomy Day presentation earlier this spring. Ms McCall thanked the BSAS for its participation during this event. Joe Boyd announced that Mike Benson, our Astronomical League Correspondent, would attend an Astronomical League meeting next week.

Program Committee Chair John Harrington thanked the audience of close to 60 persons for attending and introduced Scott Davis, Chief Operating Officer and Technical Manager of the International Dark-Sky Association, who presented a program on ìLight Pollution, the IDA, and the Solutions.î Mr. Davisí presentation touched on the basics of good lighting, a proposed model lighting ordinance, and what individuals could do to promote better community lighting practices. Mr. Davis, who was flown into Nashville from Tuscon, Arizona by the BSAS, interspersed his comments and computer graphics with amusing sound effects to emphasize important points. Mr. Davis answered questions from the audience following his presentation.

President Boyd recalled the meeting to order at 9:02 P.M. Mr. Boyd pointed out that Nashvilleís lighting ordinance was about two sentences long and hoped that it could be improved. He also mentioned Warner Parksí proposed policy to eliminate lighting on the ball fields at night.

Mr. Boyd announced that the BSASí NightSky Network project needed volunteers to try out a pilot program. Mentoring Committee Chair JanaRuth Ford further explained that five volunteers were needed for a ìTelescope Treasure Huntî at the August 13 star party at Warner Park. These volunteers would train their telescopes on five different predetermined astronomical objects. Then observers (primarily youngsters) who would have just received instruction about these types of objects would look through the telescopes, identify the objects, and be rewarded for finding the ìtreasures.î

Lonnie Puterbaugh described how JanaRuth Ford, a trained science and astronomy educator, had taught and guided some 13 children during a recent star party in his cul-de-sac. Mr. Puterbaugh related that, following the star party, one of the mothers commented about the enthusiasm for science and math that Ms Fordís effort had induced in the children. The mother then sadly noted that similar interest certainly wasnít being developed at school.

Joe Boyd announced that BSAS members would set up telescopes for public viewing this Sunday evening, July 18, at Crockett Park following the scheduled concert. Webmaster Tony Campbell announced that details and directions were posted on the BSAS website.

Joe Boyd announced that Powell Hall had 2005 ìDeep Space Mysteriesî astronomical calendars from Kalmbach Books, the publishers of Astronomy Magazine, for sale at $9.00. Mr. Hall then described and displayed the calendars.

John Harrington announced that he would have one of the BSASí two Johnsonian equatorial tables set up for a demonstration following the meeting. Mr. Harrington pointed out that this table was available free as a loaner to BSAS members and that it would provide automatic tracking for dobsonian telescopes.

Pam Thomas announced that the TNSP, scheduled for September 17-19, needed volunteers for the registration table, the snack bar, the saloon, and as ìfloatersî who would be assigned as needed. Ms Thomas pointed out that there would be more amateur speakers this year giving ìhow toî presentations. She also noted that BSAS members would receive a $5.00 registration discount. Bill Griswold and Bob Rice announced Robert B. Hoge as the first TNSP 2004 registrant. Tony Campbell reminded everyone that information about TNSP 2004 was available on the BSAS website including detailed directions from any location via a link to Yahoo mapping.

Joe Boyd announced that a special board of directors meeting would be held next Tuesday evening at 7:30 PM in the Jefferson Square Club House. There being no further business, the President declared the meeting adjourned at 9:24 P.M.

Respectfully submitted,
Bob Rice
Assistant Secretary

EQUIPMENT LOAN PROGRAM ESTABLISHED

The BSAS Board of Directors has established the official policy and regulations for the operation of the equipment loan program. The Society has several pieces of equipment, including a 4.5 inch Dobsonian, an 8 inch (203 mm) Dobsonian, two equatorial platforms for use with Dobsonian and other telescopes, and a go-to scope. Members wishing to borrow the equipment must sign a loan agreement, which recites that the borrower has read the resolution set out below, has taken the required instruction on the use and care of the equipment, and agrees to be responsible for the timely return of the equipment without loss or damage. Only members in good standing are eligible to participate in this program. Those wishing to borrow any of the equipment should call Lonnie Puterbaugh at 615-661-9540 to schedule an appointment to pick up the equipment. The following is the resolution:

RESOLUTION ESTABLISHING EQUIPMENT LOAN PROGRAM

PREMISE A. One of the many benefits of membership in the Barnard-Seyfert Astronomical Society (BSAS) is access to a variety of telescopes and other astronomically related equipment that are part of the inventory of the BSAS Loan Program, which (1) allows members who do not own or have access to a telescope to borrow one for astronomical observing and for educating the public about astronomy, (2) allows members who do not own or have access to certain astronomically related equipment to borrow such equipment for use in astronomical observing and for educating the public about astronomy, and (3) allows members who would like to upgrade their astronomical telescopes or equipment to borrow a number of different types of telescopes and/or equipment and compare them before making the difficult decision about what to purchase; and

PREMISE B. This Equipment Loan Program can be particularly beneficial to novices, who not only want to become familiar with the sky but would also like to learn something about the variety of different amateur telescopes and equipment available today and compare them before making that difficult decision about what to purchase for their first telescope or astronomical equipment; and

PREMISE C. The BSAS presently has available a variety of such telescopes and equipment and is actively pursuing the acquisition of additional telescopes and equipment either by purchase or donation; and

PREMISE D. It is desirable that the BSAS adopt a policy for determining how and under what conditions the members of BSAS may borrow the telescopes and equipment available for loan, what person or group has the authority to make decisions regarding the loans, and how and for what purpose the telescopes and equipment will be used; and

PREMISE E. For the purpose of this resolution, the term “astronomical equipment” may hereinafter be construed to include both telescopes and other items of astronomical equipment.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Barnard-Seyfert Astronomical Society that:

(1) There is hereby established an Equipment Loan Program (the “Program”) for the Society, which shall be carried out according to the terms and conditions set out in this Resolution. The Premises set out above shall be considered as an integral part of this Resolution and of the terms and conditions provided.

(2) The Program shall be set up and carried out by the Equipment and Facilities Committee of the BSAS. The day to day administration of the program may be delegated to the Chair of that Committee, who shall have the authority to determine, subject to any restrictions or provisions set up by the Committee which do not conflict with this resolution, eligibility of members to participate in the Program and the extent to which they may participate. The Chair of the Committee will be known as the Equipment Chair, and may appoint another member of the Committee to act as Equipment Chair during the absence of the Chair.

(3) One of the principal purposes of the Program shall be to train the BSAS members in the use of various types of astronomical equipment, so they may use and demonstrate such equipment at various public events, as well as at outreach programs in schools, civic organizations, churches, and organizations for young people, including, but not limited to, the Boy Scouts, Girl Scouts, and the Civil Air Patrol cadet program.

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Equipment Load, continued from Page 7

(4) The Program is designed to work similar to a library book loan. A member can check out a piece of astronomical equipment for a two month period. At the end of the two month period, the borrower is obligated to return the astronomical equipment. If no one else has reserved the particular astronomical equipment, the member may renew the loan for an additional two months. During the period of the loan, the member borrowing the astronomical equipment shall, unless excused in advance by the Equipment Chair, make a reasonable effort to attend public events or outreach programs in which the entire membership is asked to participate, and to bring the loaner astronomical equipment to help demonstrate the universe to the public. Failure of a borrower to comply with this requirement shall result, in the discretion of the Committee or the Equipment Chair, in requiring the borrower to return the astronomical equipment at once. The Equipment Chair shall have the authority to demand return of the astronomical equipment at any time when he or she considers it to be needed by the Society. The Equipment Chair shall also have the authority and the duty to inspect all borrowed items at the time of their return, to determine their overall condition and to determine whether there is any damage other than ordinary expected wear.

(5) Only a member in good standing, who has been a member for at least two months and whose dues are fully paid up, may participate in this Program. However, the Equipment Chair may, in his or her discretion, waive the two month requirement when he or she considers that such is in the best interest of the Society.

(6) The Equipment and Facilities Committee shall adopt a Loan Agreement form which shall set out a description of all items to be borrowed, shall provide full information about the borrower which will be needed by the Equipment Chair to locate the equipment, and shall contain a statement that the borrower has read this Resolution and agrees to be bound by its terms. At the time of borrowing, the member shall sign the Loan Agreement, by which the member agrees to be responsible for taking care of the items borrowed and to protect the items from theft or any damage which is beyond expected wear. In order to accomplish this, the Loan Agreement shall include, in substantially the following language, a provision acknowledging the responsibility set out above:

> I, the undersigned active member of the Barnard-Seyfert Astronomical Society (BSAS), agree to borrow from the BSAS the equipment listed above, and in consideration for this loan, I agree to be held liable for any theft or any damage that is beyond normal expected wear which occurs during the time of the loan and while it is in my possession. I also agree to immediately pay BSAS any expenses required to reimburse BSAS (1) the amount required to replace the equipment, if it is stolen or destroyed, or (2) the amount required to repair the equipment for any damage which occurred. If the equipment is rendered unrepairable, a condition to be determined by the Equipment Chair of the BSAS, I agree to pay to BSAS the cost of equivalent equipment. The payments and reimbursements required herein shall be made by me within one month. I agree to be responsible for all legal fees and costs accrued by BSAS in carrying out the terms of this agreement.

(7) Astronomical Equipment which is loaned to a member for the purposes set out above in Premises A and B will not require a rental unless such equipment is kept by the member for more than the two terms set out above. After that time, the Equipment Committee may, in its discretion, charge a monthly rental not to exceed Five Dollars ($5.00) for items totaling Five Hundred Dollars ($500.00) in value, and Ten Dollars ($10.00) for items totaling Seven Hundred Dollars ($700.00), such value to be determined by the Equipment Committee. This fee may be waived in the discretion of the Equipment Chair when demand for borrowing the equipment is nil or the imposition of such a charge would not be in the best interest of the BSAS. In addition to the above, the Committee may, in its discretion, impose a monthly rental, regardless of the time the item is borrowed, not to exceed Twenty Dollars ($20.00) per month for any individual piece of equipment that has a replacement value of Eight Hundred Dollars ($800.00) or more, including but not limited to an Equatorial Platform. All such funds shall be paid into the BSAS treasury, and shall be fully accounted for by the Treasurer. It is recognized that in some circumstances, it may be in the best interest of the BSAS to have members keep custody of certain BSAS owned equipment, in order to have the equipment available for use at public and educational events and to provide a place to keep the equipment safely. In such circumstances, it would not be appropriate to charge the members for performing this service for the BSAS, and the Equipment Chair would have full authority to waive rental fees.

(8) The Equipment and Facilities Committee is authorized to establish requirements for eligibility of mem-

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Lawnchair Astronomy, continued from Page 3

the enormous pinchers to the right of the scorpion. The Romans later redefined the stars in this region as being the constellation Libra, the Scales of Justice, rather than the western part of Scorpius. Zubenelgenubi, also known as Alpha Librae, is a wide double star that can be split with binoculars. Zubeneschamali, also known as Beta Librae, is the top star of the diamond making up Libra. It is a fairly bright star that is often said to be green in color. Most green stars, such as the secondary star of Antares, are associated with a red giant companion. Beta Librae is a single star, however. Check it out on your next Lawnchair tour and see what color you observe!

FROM THE PRESIDENT, continued from Page 1

One of the advantages to membership in the BSAS is the opportunity to participate in our equipment loaner program, which makes available telescopes, equatorial platforms, eyepieces, and other items for use. This is a great opportunity to try out various types of equipment, in order to compare different types of telescopes or other equipment to help you decide what you want to purchase for yourself. Some of the available equipment has been purchased by the Society, but much of it has been donated. Lonnie Puterbaugh, the Equipment Chair, is running out of room in his observatory, and would like to have the items used rather than just being stored. If you do not own a telescope, or if you own one and would like to see for yourself what a different type or larger scope would be like, this is your chance to try something new. If you are interested, you can call Lonnie at 661-9540 to set up a time to borrow the equipment. However, before any piece of equipment is loaned out, whether simple or complex, you must be trained in its use. Lonnie will be glad to take care of that. The resolution setting up the equipment loan policy is published elsewhere in this Eclipse.

After the recent membership meeting, someone came up to me and said he would like to be given something specific to do in the Society. He said he had not been asked to do anything in quite a while. Several months ago I tried to call all of our members to ask them if they would like to serve on a committee or otherwise, and pointed out that I wanted every member of the BSAS to feel a part of the Society. I was not able to contact a few, but most seemed glad to be asked, even if they preferred not to participate actively at the time. When we have new members, it has been my goal to call each one to welcome the person to the Society and to ask if he or she would like to serve in some capacity. I realized the other night that we need to once again offer each member a chance to serve, either on a committee or on some project, such as TNSP 04 or a social event. If you would like to take a more active role, please contact me at 386-3134, and I will be only too happy to see that you are offered some responsibility.

We are having a great year with many activities. Thank you for your cooperation and participation. And be sure to come to the various activities; it is a great way to get to know your fellow astronomers better.

Equipment Load, continued from Page 8

bers to borrow certain astronomical equipment, under which members wishing to borrow the equipment must either demonstrate the knowledge and ability to use the equipment properly or to take courses prescribed by the Committee to become familiar with, and knowledgeable of, the use of the equipment. The courses should be established and operated in cooperation and conjunction with the Mentoring Committee, and should be staged so that as a member steps up from one level of complexity of equipment to a higher level, the member will be completely trained in how to use and take proper care of the equipment and will further be able to explain the purpose and general working of the equipment to the public. A procedure for certification of the members for completion of the above requirements shall be set up and used.

(9) In view of the time and effort that will be required by the Equipment Chair in carrying out his/her duties in loaning the astronomical equipment, the Equipment Chair is authorized to appoint an Assistant Equipment Chair, and to delegate to the Assistant certain duties; however, the Equipment Chair shall remain responsible for the proper performance of the duties. The Equipment Chair shall keep records of all astronomical equipment for which he/she is responsible, including but not limited to the identification and serial numbers, securing and maintaining signed Loan Agreements, recording the dates of loan and the expected dates of return, as well as the actual dates of return.

Activities and Events

August 1 — 31, 2004

8/1 Neptune 5˚ N of Moon; Vesta stationary
8/2 Conj., Moon & Uranus; Algol at minimum
8/5 BSAS Bd. Of Directors, 7:30 p.m. at Jefferson Sq.
8/6 Neptune at opposition
8/7 LAST QUARTER; Mars at aphelion
8/11 Venus 8˚ S of Moon
8/11-13 Perseids Meteor Showers, (peak on 8/12); Conj., Moon & Venus
8/13 Star Party, Warner Park, 8:00-10:00 pm; Conj., Moon & Saturn
8/16 NEW MOON; Conj., Mars & Mercury; Algol at minimum
8/17 Mercury 6˚ S. of Mars; Venus greatest western elong.
8/19 BSAS meeting, 7:30 p. m. at Adventure Science Center, Speaker: Mrs Mary Boyd
8/23 FIRST QUARTER
8/24 Venus, gr. Elong. Rises about 3.5 hours before the Sun
8/27 Uranus at opposition
8/28 Neptune 5˚ N of Moon
8/29 Uranus 4˚ N of Moon
8/30 FULL MOON
8/31 Juno & Pluto stationary; Conj., Saturn and Venus

September 1 — 30, 2004

9/1 Venus 1.9˚ S of Saturn; Mercury stationary; Venus 9˚ S of Pollux
9/6 LAST QUARTER
9/7 Moon at apogee (404464 km or 251322 miles)
9/9 Mercury greatest elongation W (18˚); Saturn 5˚ S of Moon
9/10 Mercury 0.06˚ S of Regulus; Venus 7˚ S of Moon
9/11 Saturn 7˚ S of Pollux
9/12 Mercury 4˚ S of Moon
9/13 Vesta at opposition
9/14 NEW MOON
9/15 Mars in conjunction with Sun
9/17-19 **TNSP 2004 at Camp Nakanawa near Crossville TN**
9/21 FIRST QUARTER; Jupiter in conjunction with Sun
9/22 Equinox; Moon at perigee; Jupiter in conjunction with Sun
9/23 Mercury at greatest heliocentric lat. N
9/24 Neptune 5˚ N of Moon
9/25 Uranus 4˚ N of Moon
9/28 FULL MOON (the Harvest Moon)

Note: all dates & hours according to Central Time

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