

the Spectrum

BUFFALO ASTRONOMICAL ASSOCIATION INC.
BUFFALO MUSEUM OF SCIENCE
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F E B R U A R Y 1 9 7 1

FEBRUARY MEETING: For our meeting on February 12, 1971 (8:00 PM) we welcome Dr. Frederick R. West, who will present a lecture on "Double Stars." Dr. West is Assistant Professor of Astronomy at the State University College at Buffalo. He received his Ph.D. in Astronomy at Indiana University (1964), was Research Scientist at the NASA Ames Research Center in California (1964-66) and Assistant Professor of Astronomy at the University of Florida (1967-69) before coming to Buffalo. He is a member of the American Astronomical Society and a Research Associate of the Museum's Kellogg Observatory. He is the author of "Photographic Photometry of the Galactic Clusters M 37 and NGC 2420" (Publ. Goethe Link Observatory, Indiana University, #75/75) as well as a number of other articles. B.A.A. members will be familiar with his name from his valued contributions to the SPECTRUM. His main astronomical interests concern visual and spectroscopic binary stars. It is our great pleasure to welcome DR. WEST!!

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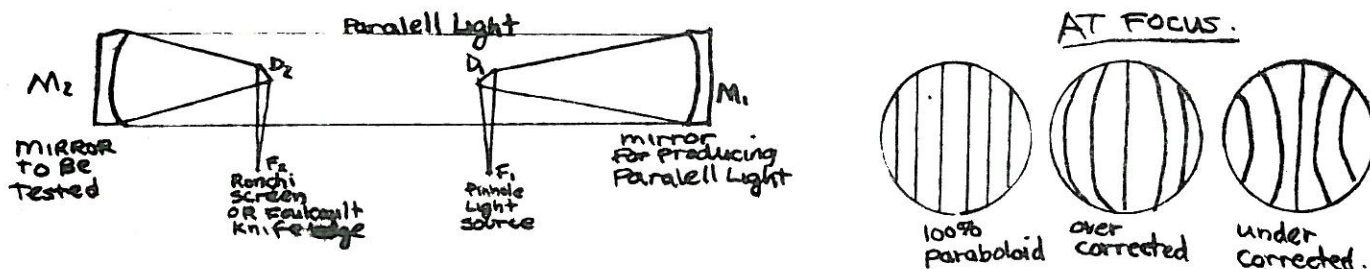
* Report on the B.A.A. Instrument Section Meeting, December 18, 1970.*
By Warren Steinberg.

Another lively meeting of the Instrument Section was held on the evening of December 18, 1970, at the Museum of Science. Three complete telescopes were tested at this meeting: Rudy Neuhauser brought two well-made telescopes, his 6-inch Maksutov and his first six inch Newtonian (which he started 35 years ago!). Bill Parker brought in a nice 6-inch rich field telescope, small enough to cuddle in his lap. With Ed Lindberg and Rudy Buecking's seasoned proficiency at testing we used not only the Foucault and Ronchi tests, but also the Null method. The Null or at focus testing can be easily used to test for the true paraboloid figure on a finished or nearly finished mirror. Instead of looking for curved lines when testing at the radius of curvature with a Ronchi screen, we are looking for perfectly straight lines for a 100% paraboloid when testing at focus with a Ronchi screen. A Foucault test at focus would show a uniform darkening of the whole mirror. A number of the members present agreed to the feasibility of the Null test, but added that it requires a good stable collimation system.

Among the discussions going on were: the "truth in advertising" of some optical companies (guaranteed 1/25th wave, etc.) who perhaps do try hard to make the best optics, but at times they send to the buyer a mirror below par. The best procedure is to test the optics yourself immediately upon arrival, or to bring them to one of our meetings where our members would give their critical eye to them. Rudy Neuhauser told of sending back a diagonal five times until the sixth one came back good enough for use (and after some strong language was used in the fifth returning letter to the company). Before the meeting got under way. Rudy Buecking described the off-axis telescopes he is building and his efforts to produce one free of color. Ron Poling also discussed the lack of clear skies during this time of year for his ventures into meteor photography. And there was the usual discussion of the lack of observing sessions at our association's Newstead Observatory. Ernst Both peeked in for a few seconds

halfway through the meeting - - so why don't you stay longer next time, Ernst, maybe we can get you to make one of those thingamajigs we were testing? (I doubt that - I am just content to use them. eeb).

Even though the attendance was small (Rudy Buecking, Ed Lindberg, Rudy Neuhauser, Bill Parker, Ron Poling, and Warren Steinberg) we all enjoyed the informative topics discussed and the joke-filled informal atmosphere throughout the meeting.



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* THE SKY OVER HONEY-HOUSE OBSERVATORY * By Darwin P. Christy, Jr.

With the beginning of the past year we again started a calender of the sky conditions at our Honey-House Observatory. Since optical observing had become rather discouraging over the years, we decided to find out just how much time could be spent observing the night sky in this area (Tonawanda, N.Y.). We have kept records now for the past three years and plan to continue to do so in the future. Already before we started these records we turned to radio astronomy. Optically we had less than one third of the year with good observing conditions, but with radio astronomy we found that we could observe 24 hours a day, seven days a week all year round - provided there is no failure in the equipment.

We present our results in table-form with the top horizontal scale indicating visibility from 0 to 5. The definition of this scale is as follows: 0=complete cloud cover; 1=haze, ground fog, high intensity of street light reflection, search lights present; 2= smog, high haze; 3=scattered haze, low intensity of street light reflection; 4=clear skies but haze toward the horizon; 5=no apparent contamination of the air, completely clear to the horizon. We try to check the sky conditions once each evening - generally there was always one of us here and on the rare occasions when this was not the case, we had faithful neighbors recording the information we needed. We also checked on a number of mornings and sporadically during the nights we observed certain phenomena such as comets, occultations, etc.

SCALE	0	1	2	3	4	5	
MONTH							
JAN	18	5	2	4	2	0	
FEB	11	5	4	3	4	1	
MAR	14	7	4	1	4	1	
APR	8	5	4	7-	3	3	
MAY	12	4	4	5	5	1	
JUN	11	4	4	2	8	1	
JUL	14	5	1	6	4	1	
AUG	10	3	4	6	6	2	
SEP	16	2	3	4	2	3	
OCT	17	0	3	4	5	2	
NOV	19	1	3	3	2	2	
DEC	23	3	0	4	0	1	
total	173	44	36	49	45	18	365

The numbers to the right of the months and below the scale numbers are the number of nights for each scale. The total at the bottom shows the following: 173 evenings were suitable for those amateurs who prefer not to lose any sleep; 44 nights for the die-hards, the optimistic or the eye-strainers; 36 of 365 nights were good for those who pursue lunar and planetary work; 49 allowed deeper studies into double stars and

some variable stars; 45 nights were designed for those who care to photograph the heavens; only 18 nights were as perfect as they get in this area - but unfortunately, as so often happens, some of these could not be utilized because we were somewhere else (we used only 16 of these, but of these we used about 50% of the entire night).

Well - there is always 1971 and a hope for better observing conditions, perhaps conditions even good enough for deep-sky photography. We cannot change those sky conditions which nature gives us, but perhaps we can prevent man from making these worse through his pollution.

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* ERATOSTHENES AND THE SIZE OF THE EARTH * By Kurt Erland

FOR SALE: LOW PRICE!
6-inch, f/6 reflector and
Edmunds equatorial mount with
clock drive. Daniel Smith
Phone: NF 4-0570

Editor's note: Eratosthenes of Cyrene lived from about 273 B.C. to about 192 B.C. In imagination Mr. Erland interviewed him on the occasion of his 80th birthday, shortly before he died. We present here a transcript of this imaginary interview.

Question: "Can you tell us something of your background and education?"

Answer: "Well, I was born in Cyrene, one of the cultural centers of Cyrenaica, which, as you undoubtedly know, is located west of Egypt. I studied at the New Academy of Athens, under the Grammarian Lysanias and the Poet Callimachos."

Question: "What were your fields of concentration?"

Answer: "Actually, I was interested in a number of fields. My main concentration was in philosophy, but I did study mathematics and also the sciences."

Question: "When and how did you come to Alexandria and when did you become chief librarian?"

Answer: "I was called here during the third or fourth year of the reign of Ptolemaios III (=about 244 B.C.) who appointed me Tutor to Prince Philopator and Alpha (= Senior Fellow) of the Museum. I became chief librarian after the death of Zenodotos (=about 234 B.C.)"

Question: "There is a story making the rounds that your fellow scientists gave you the nicknames Beta and Pentathlos. Is this true, and if so, what do these terms mean?"

Answer (chuckling): "Yes, this is true, and I find it rather amusing now, although years ago it was somewhat upsetting. Beta means number two, or second-rate. I suppose my fellow Geometers and Mathematicians considered my contribution as second rate because I did not become a specialist in any one area. As to Pentathlos, you may know that this term is applied to athletes who have distinguished themselves in five games. Metaphorically it is similar to what you call Jack-of-all-trades. You must realize that Hellenic science has become highly specialized and many of my fellow scientists view with great contempt anyone who dares to be interested in a subject other than the one he specialized. Basically, I think that those who call me Pentathlos are merely jealous of my accomplishments."

Question: "You have written a book entitled Anametresis tes ges (=On the Measurement of the Earth) in which you show that the Earth is not only a sphere but a sphere with a circumference of 250,000 stadia or about 25,000 miles. Can you tell us something about the method you used?"

Answer: "I assumed the Earth to be a sphere, and further, that the Sun was, for all practical purposes, infinitely far away so that light coming from the Sun would strike the Earth in parallel rays. Once when I had occasion to vacation in Syene, which is due south of Alexandria and on the same meridian, I observed the Sun to be in the Zenith on the first day of summer. Now I knew that at the same time in Alexandria the Sun was 1/50th of the circumference of a circle south of the Zenith. If the Earth was a sphere, then these two localities would be 1/50th of its circumference apart, and once I knew their separation in terms of some distance measure,

I would merely have to multiply this measure by 50 to obtain the circumference of the sphere. Then, as is now commonly known, you divide this circumference by Pi (the number 3.14..... discovered by my friend Archimedes) and you obtain the diameter of the sphere." (to be concluded in the next issue of the Spectrum.)

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SPY AND TELL * * By working diligently several Saturdays in the fall at Newstead Observatory, Richard Janas, Ed Lindberg, Warren Steinberg, and Thad Toporczyk patched the leak in the roof, at last * * * Ed Lindberg gave his talk, "The Story of Stellafane, at the Montreal Center (RASC) on November 12th *** Bill Chambers spoke to the Lockport Astronomical Society on "Image-Tube Intensifiers" *** Richard Janas graduated from Canisius College (Economics) * * * Amy and Ron Clippinger are the proud parents of Jon Josef who arrived Dec. 27th, weighing 8 lb, 6½ oz. The Clippingers have taken up country living in Cambria Center * * * The Christy's 20 ft Radio Telescope dish met disaster caused by wind gusting to 50 mph - actual damage to the dish is, thank goodness, slight; a new 12.5-inch blank is on order at the Honey-House Observatory to be turned into an f/5.6 mirror by Sept. 1971 (HOPE) *** John Riggs is a student at the University of Arizona, still after those deep-sky objects (443 observations, 150 in Arizona) *** Fred Price was the narrator for the X-mas Pageant at St. John's Episc. Church. For the last couple of months he has carried the Processional Cross. Comments Dr. Price: "I've never had so many crosses to bear since going to St. John's." *** The Rabes are getting settled in their new home in Clarence * * * Edith Geiger thinking big (telescopically) these days - from 12-inch to 16-inch * * * Bob Burdick patiently waiting for his Maksutov optics, also starting on a 12-inch Cass. *** Bill Gehrke also patiently waiting for his 8-inch Cave Deluxe *** Walt Semerau just finished making a 6-inch achromat with some phantastic focal length * * *

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