A.A.V.S.O.

SOLAR DIVISION BULLETIN.

Neal J.Heines , Editor.

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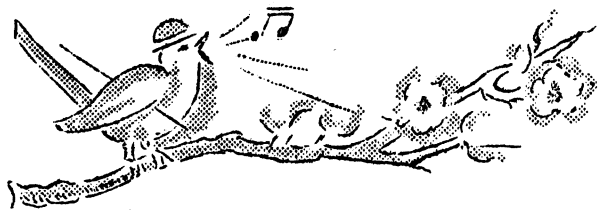

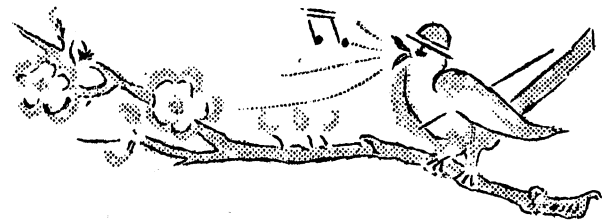

# PALOMAR SERENADE — (?)

We are very much indebted to "Tommie" Cragg of Los Angeles,California, for the following amusing incident. " The most interesting thing that happened to me since the last time was the dedication of Palomar. ----- The dedication was marvelous, but I suppose it was covered quite well in papers there, so I shall not try to recreate at this time. There was one thing that happened which was really rather amusing. All during the time the dedication speeches were going on the massive shutters were opened wide. Two gay birds got up in the sixty ton crane overhead and began to serenade each other all during the performance. No one seemed to be able to do anything about it though. But,as soon as the dedication was completed the birds flew out of the dome and nothing else was heard of them ". ( A GOOD OMEN ).

Incidently Tommie has been an observer for the Solar Division since December 1944. Shortly thereafter he was called to duty with the armed services. He had been very much interested in naked - eye sunspots,through the influence of Dr. Seth B.Nicholson at Mount Wilson. During his period of service "sans" telescope he continued this study until even now. At the peak of activity of sunspottedness during May , between the 11th and 13th Tommie counted five (5) naked - eye spots which Dr. Nicholson beleives is a record for one day count. As soon as this is determined we shall announce further. Congratulations to you "Tommie" It really pays to have patience and stick-tu-i-tiveness.

It was again recommended at the Spring meeting of the A.A.V.S.O. at Mount Holyoke College that a portion of your chairman's semi-annual report be included in the next issue of our Bulletin. We offer then , the following;

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| Membership ---------- | 94. With Research section May 1st, 161. |
| Membership Distribution ---- | 29 States,Canada,Peru,Brazil,Australia, Greece,Belgium,Sudan,England,Germany, Turkey and the Netherlands. |
| Report Blanks Issued ------- | 911. |

Reports Distributed ---------- 301 Bureau Standards,Gleissberg 99 Total 400.
Number Observations ---------- 8063 Total to May 1st,29,384 (Gleissberg 2094.)
Communications Sent ---------- 1376 " " " " 4,926.
Communications Received ----- 1119 " " " " 3,972.
Number Of S.D.Bulletins ----- 8 Editions , 1,056 Copies.
Number Of Reductions Reports Distributed, 8 Months, 859 Copies.

CONDITIONS OF THE PRESENT SUNSPOT CYCLE.

Dr.M.Waldmeier, Director of the Federal Observatory of Switzerland has set the Provisional Maximum of the present sunspot cycle at 1947.4 .

Since my last report at Harvard College Observatory on October 14th.,1947, sunspot activity slowly waned until April when there was a sudden increase in spot count. This of course,was expected, for in April and September sunspot activity is usually greatwr than in other months of the year.

The American Relative sunspot numbers of the AAVSO Solar Division from September 1947 to May 1st 1948, read as follows ; Sept. 184.6, Oct. 182.6 , Nov. 144.1 , Dec. 125.6 , Jan. 1948 , 130.1 , Feb. 107.3 , Mar. 103.8 and April 222.5 . (Zurich's Preliminary Number for April was 189.5 ).

We find in this period a drop of 80.8 , however , from the lowest point in March 1948, to May 1st., there has been a sudden increase showing a rapid rise of 118.7 for American numbers. The increase for the same period for Zurich was 93.8 .

During the present month ( May ) there has been another upward surge. The highest count for April 1948 was 189 on the 23rd., of the month. On may 11th., we had an extremely high count of 345 spots (Heines,3" Refractor ) The low count for this period, September 1947 to May 1948, occured on Monday, March 22nd., when we had two groups and three spots. ----------.

SOLAR DIVISION ACTIVITY.

The Solar Division continues its activity and projects Of observing sunspots, measuring sunspot coordinates and ares, delineation of sunspots, recording Granular Variations on the sun's surface, ( Dr.J.C.Bartlett ) , and seasonal observations of high-flying migratory birds.

In addition to the above three projects, that is , Sunspots, Granular Surface Variations, and Migratory Birds, we have added two more.

Since our last October meeting we have reported rapid changes in sunspot-pattern and other unusual details such as color in sunspots, bridges, rapid or unusual disintegration to Dr.Walter Orr Roberts at Harvard College Observatory, ( Now , since May 1st., at High Altitude Observatory, Climax, Colorado. ) Such details are reported by Air Mail direct to Dr.Roberts by those concerned. Copies of resulting correspondence by Dr.Roberts are forwarded to my office in order that a control may be made. Dr. Roberts is well pleased with the results and has written that the the work of the Solar Division is much appreciated.

The other new project is that of Prof. W.Gleissberg, Director,University Observatory, Bayazyt - Istanbul, Turkey, on Foreshortening. Prof.Gleissberg writes that if it were not for the work of the AAVSO Solar Division this project would not be possible. We have twenty-five observers participating in this project in addition to their regular sunspot work. The Project got under way on January 1st 1948. We have submitted 99 reports to Prof.Gleissberg up to May 1st., covering 2094 observations.

On January 1st.,1948 the National Bureau Of Standards started a new Formula for their Reduction reports for our observations. Complete distribution ofthe new reports was accomplished during April and May this year.
Your Chairman has given a number of Sunspot Lectures since his last report two of which were given in the American Museum Of Natural History in New York City. One for the New York A.A.A. on "Sunspots",the other, for the Junior Astronomy Club on the "Work Of The A.A.V.S.O.Solar Division.

In looking over the Reductions Reports as determined by the National Bureau Of Standards, for the AAVSO Observers, one finds, that the sunspot Relative Numbers of the said observers are consistantly higher than those of Zurich.
Thereis a definite reason for this. Investigation has revealed the following.

A communication from Dr.Waldmeier, Director of the Swiss Federal Observatory at Zurich, and Headquarters for sunspot statistics, so appointed by the International Astronomical Union, states; Quote ; " Concerning our sunspot observations there is to say that normally, that means, if the quality of the image is good, we make only one observation in the morning, otherwise we try again during the day to receive a better image. Certainly, if we receive a good image in the morning, we observe the sun more than once, in order to study the developement of the groups. But, a new spot observed in the afternoon, which had not been observed in the morning in spite of good quality of the image, is not used for our statistics, because or statistics have to be first of all homogeneous and this is only possible, if we make the observations in the same way as Prof. Wolf made them a hundred years ago." End Quote

The reasons then, for the higher values obtained by the AAVSO Solar Division are, first ; We have more visual observers than those who employ the Projection method, secondly ; The Solar Division, standard Willson Filter ( see Popular Astronomy, April issue No 4.) "Light Absorption in Colored Glass " by our Mr.H.B.Rumrill, is far superior to others; Third, multiple observations,daily, are made whenever possible.

It can be understood that there is no definite time, nor place, within belt confines, for a sunspot to make its appearance. Hence, since the sun rotates on its axis once in 27.5 days (mean value) there is a displacement in latitude of thirteen (13) degrees. It can be seen that a sunspot near either limb, one about to disappear, hte other making its appearance from the invisible solar hemisphere, and in addtion, the possibility of sunspot appearance within belt confines on the visible hemisphere, would change the values during normal Activity.

The Solar Division selects the observation, for the day, which gives the greater group count for the data to be posted to the Monthly Report form. as this has the greatest effect in the application of the Wolf Formula in the reductions process.

Whenever possible three observations are made by your chairman each day. Very seldom is the spot count the same for each observation, during normal activity, and the group count has on many occasions, three different values for the days data.

We are not trying to discredit the Zurich method nor its observers, the Zurich Numbers will always remain standard until changed by the International Astronomical union. They, the numbers, have the greatest value because of their long

uninterupted series and homogeneous nature.

The American method as now employed for reductions is taking into condiderations the generations of the future.

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The Spring meeting of the AAVSO was well attended despite the weather. Observers were there from far and near. The greatest distance traveled was that of Mr.and Mrs.Buckstaff of Oskosh , Wisconsin.

The outstanding event of the meeting was the dedication of the picture of Dr.Anne S.Young former Director of the Williston Observatory at Mount Holoyoke College. The presentation was made by a former student at the Observatory, and now on the staff of the David Dunlop Observatory, Ontario ,Canada, Dr,Helem Sawyer Hogg. Many colleahues and former students were in attendance for this grand occasion. Full details concerning this event and other activities will be found in Variavle Comments later and Sky and Telescope in an early issue, as well as Popular Astronomy.

SPECIAL TO OBSERVERS.

From the Bureau Of Standards ; Mr.Alan H.Shapley. (Communication)

" We must ask at this time for an addition to the monthly report submitted by each observer, namely that each observer figure the daily uncorredted from his observations. Thus for each day he would take 10 times the number in column "f", addit to the total in column "g" and write the sum in a new column at the right-hand margin of the form. The data in this new column will help us expedite the checking of the reports, which is now making it hard for us to adhere to the reduction schedule. The number of active observers has doubled in the last two years !

Two Solar Conclaves were held during this period. As soonas reports of these arrive they will be given in the next Bulletin.

Mr.Gordon Newkirk is to be at the Oak Ridge Station at Harvard,Mass. during the month of August.,operating the new Solar Camera there. Any one desiring to see this and other instruments are invited to come , whether on vacation in the New England area or otherwise.

STATISTICS.

The total number of observed groups for the month of May was 38.
Total number of days with spots was 31.
Zurich's Preliminary Relative Sunspot Number for May was 179.4
*The highest number, as assigned at Solar Division Headquarters on June 17th was 229. This was the group On the east limb in the north belt . This group came from the invisible solar hemisphere.

* This information is given in order that the Solar Division observers may check their group counting each month.

If you want to get the "Low-down on the High-up then subscribe to the News Bulletin of the Mt.Washington Observatory. Address , Joseph B.Dodge, Treas. Mount Washington Observatory, Gorham , N.H. Price $1.00 per year, Very interesting.

PUBLICATIONS.

The following items of lasting interest are to be found in Popular Astronomy issue, May 1948 No/5 Whole Number 555 Volume LVI

"Sunspot Epochs" ---------- Justin Schove . You must read.
" The Solution Of The Sunspot Problem." A study on the cause of sunspots. ---------- William A.Luby

"The Solar Spectrum" Lambda 6600 to 13495. Harold D.Babcock and Charlotte E. Moore. Carnegie Institution Of Washington. 95 p. Paper $1.40 Cloth $2.00 Results accumulated since 1925 are tabulated for about 7400 spectral lines.

" Radio Signal Go Farther" Science News Letter, May 15, 1948.
Interesting article on radio and sunspots.

" Year Book number 46 of the Carnegie Instituion of Washington ".
Contains the Reports of Mount Wilson including solar data for the years 1946 and 1947. Price 1.00

'Sunspot Activity During 1947. -------- Dr Seth B. Nicholson.
Publications Of The Astronomical Society of the Pacific April 1948 , Volume 60 , Number 353.

" Sabine 's Correlation Of Sunspots with Magnetic Disturbances "
This is to be found in the Journal of The Royal Astronomical Society, for March and April 1948, VolXLII number 2, Whole Number 371.n in the section OUT OF OLD BOOKS. This again is a valuable contribution made available through the thoughtfullness of our DR.Helen S.Hogg.
In this same issue you will find a paper on "The Problem Of Space Travel " by J.W.Campbell. Keep posted on atmosphere problems associated with solar disturbances.

" GLOBULAR CLUSTERS OF STARS " Helen Sawyer Hogg. This can be found

in Leaflet No.231 - June 1948. Dr.Hogg gave this in part at the AAVSO Meeting at Mount Holoyoke College, supplemented with lantern slides. Many of us are interested in Variable Stars and also the work of Dr.H.S.Hogg . This is a valuable contribution and should be read by all variable star observers.

" The Present Status of Micro Wave Astronomy " Ralph E.Williamson.
Journal Of The Royal Astronomical Society of Canada.
Issue of January and February 1948 Vol XLII , no.1 Whole nimber 370. This study involves the type of work that Miss Stahr, of Cornell University is engaged in and who presented a paper on the work being done at Cornell. If correspondence is contemplated with Miss Stahr be sure to add Department of Astronomy to the Cornell address.

"Cycles In Sedimentary Rock Deposits" associated with sunspots.
A,Foundation For The Study Of Cycles,reprint.
This is a new angle come to light.