The drive, through some of the New England states, to the Fall Meeting of the A.A.V.S.O. , was a vista to behold. The rolling hills resplendent in color and beauty will long be remembered, but longer still will be remembered, the color and interest manifested at the meetings at Harvard College Observatory on October 10th., 11th.,and 12th.

The complete details of these gatherings will be forthcoming in the future issue of VARIABLE COMMENTS which will be written this year by our solar observer Mr.Cyrus F.Fernald of Wilton,Maine, the top Variable Star observer and A.A.V.S.O. Council Member, having been elected to full council membership on October 10th.

The salient facts of the Solar Division Report are here brought to your attention at the request of the retireing president of the A.A.V.S.O. and it's Recorder, Dr. Charles H.Smiley, of Ladd Observatory, Brown University and Mr.Leon Campbell,respectively.

SOLAR DIVISION COMMITTEE.

Dr.Donald H.Menzel	----------	Harvard Observatory.
Mr.H.B.Rumrill	----------	Berwyn, Pa.
Rev. and Mrs. Kearons	----------	West Bridgewater, Mass.
Dr.J.C.Bartlett Jr.	----------	Baltimore, Md.
Neal J.Heines (chairman)	----------	Paterson N.J.

PERTINENT DETAILS.

Membership, Observing Section ---------- 94.
Affiliations, Research Section ---------- 30 Total 124.
Geographical distribution of the above, 24 states of the United States, 4, Provinces in Canada, Peru, Brazil, Australia, Greece, Belguim, South Africa, and England.

Total Number of Observations to September 1st.,1947,	------	21,321.
Total Number Of Communications sent " " "	------	3,550.
Total Number of " received " " "	------	2,853.

The observations of the A.A.V.S.O. Solar Division, were reduced to a preliminary Relative Sunspot Number by the National Bureau Of Standards, Dr.J.H.Dellinger, Chief; with Dr.A.G.McNish, Department Head, and the actual work in charge of Mr.Alan H.Shapley and Miss J.Virginia Lincoln.

The Preliminary Relative Sunspot Numbers, for the period since the last Solar Division Report to the A.A.V.S.O., rendered at Hood College,Fredrick,Md., last May 1947, and as determined by the National Bureau of Standards are as follows;

April	-----	142.1	June	-----	159.6
May	-----	205.1	July	-----	163.4
			August	-----	205.2.

CONDITION OF THE PRESENT SUNSPOT CYCLE.

We are witnessing a very active sunspot cycle. Already, in the period of ascendancy from minimum to maximum, three of the four largest known groups,

ever observed, have made their appearence. That of January 29th.,1946, was 200,000 miles in length with an area of 4900 millionths of the sun's surface. On July 19th., 1946 a large group made its appearance and length developed of 150,000 miles with an area of 3950 millionths of the suns surface. On February 5th.,1947 a new group was observed whose length reached 200,000 miles, with an area of 5,400 millionths of the suns surface during it's third transit. Four transits were made by this group.

The previous largest group on record was first observed on December 3rd.,1925, It had a length of 160,000 miles and an area of 3700 millionths of the suns surface.

At Mount Wilson Observatory, the mean number of sunspot grpups observed daily in May 1947 was 16.8. The largest monthly mean in their records. The current cycle has had more spots per month than the last cycle at the same phase relative to minimum.

The Zurich Provisional Sunspot Relative Number for May 1947 was 206.5. The only cycle that has surpassed the present one, so far, wasthe one when in May 1778 a height was reached showing a value of 238.9.

The mean sunspot number in June 1947, although it was less than in May, was as great as in the most active months of the past cycle when the maximum occured in 1937.

From all indications, up to the present time, it is beleived by some that we have passed the maximum portion of the present cycle. We cannot, however, declare maximum until sometime later.

At a recent conference held at the Harvard Club in New York City where a portion of the Solar Division Research Section was present, Dr.Harlan T.Stetson declared that certain activities in the ionosphere were indicative of a post maximum. It seems possible that in the future sunspot maximum can be determined by ionospheric activity as well as sunspot activity.

Although we have had phenomenal sunspot groups prior to maximum it is also beleived that even greater phenomenal sunspot-groups will make their appearance sometime in 1948 and in the first half of 1949.

To date, the mean belt activity, for both the north and south belts remains close. There have been periods when both belts varied greatly in group count such as at the present time, September 1st.,1947, very little activity exists in the south belt.

During the month of August 1947, there was almost a continuous chain of spots across the solar disc in both belts. It was a sight to behold.

By applying the method of three months moving averages (up to Sept.1,1947) there is still no downward movement in the curve projected.

Most Magnetic storms, and Radio-Fade-Outs have, so far, been of moderate intensity only, which is the usual occurance in the period from minimum to maximum in the sunspot cycle. It is to be expected that we will experience the greatest intensity in these storms in 1948 and early 1949. Only one Magnetic storm of great intensity has occured so far, that was the storm of March 1947 which was the most severe storm in 75 years.

The Sanford -LLosh phenomena, mentioned in my last report at Hood College, of extra activity at 180 degrees longitudeopposite a relatively quiet zone still exists this year. It is to be hoped that research will delve seriously into this problem in the future.

From the reports received fro Dr.J.C.Bartlett Jr., who heads our Solar Granulations study, we find that great activity and intensityexisted in the granular surface of the sun, in, and since May 1947. It will be interesting to watch the activity declared, from now on, to minimum.

The Prelininary Relative Sunspot Numbers as determined at the National Bureau of Standards from the sunspot observation of the observers of the AAVSO Solar Division for the Past eight months are as follows;

January	-------	118.1
February	-------	128.4
March	-------	135.5
April	-------	142.1
May	-------	205.1
June	-------	159.6
July	-------	163.4
August	-------	205.2

Zurich's number for September 1947 was 175.5 . This drop is beleived to be a fluctuation and not part of a continuous downward trend in the sunspot curve of activity.

SOLAR DIVISION ACTIVITY.

The Solar Division continues it's projects of observing sunspots, measureing sunspot-coordinates, and areas, delineation of sunspots, recording granulation variations on the suns surface, and seasonal observations of high-flying migratory birds.

The Solar Division Bulletin has served well as a medium to foster new membership in both the observing and research sections.

The greatest increase in membership, however, was due to the activity at the Astronomical League convention held in Philadelphia July 3rd., 4th., and 5th., 1947.

There has been a substantial insrease in the number of "A" observers as can be seen in our reductions reports from the Bureau of Standards in Washington.

Requisites for the qualification of entrance into the "A" group involves the following method; A new observer passes into the "A" group in the fourth month if 75% of the days are given and if the average deviation of his observatory constant is less that 15% of his four months mean constant.

The mean variation of our monthly Prolinimary Relative sunspot number and that of Zurich's Provisional Sunspot Number for the Past eight months is -1.3 .

We recently have been able to interest an instrument maker, in the Pettit Monochromator and work has been started for the first instrument for the Solar Division.

A new project is in the process of formation which shows great possibilities. Three Dimensional Photography of Sunspots. This work is under the supervision of Mr.Andrew Kosma of Union, New Jersey. Mr.Kosma is on the faculty of the Stevens Institute of Technology also in New Jersey.

The Solar Division's sunspot observers conclave held in July at Milton,Mass. was very sucessful. We are indebted to Mr.Harold B.Chase whose idea it was and to Dr.Albert Navex of the Milton Academy , for carrying out all the details.

We have received and accepted and invitation from the New Haven Amatuer Astronomical Society, through Mr J.J.Neale, to hold another such conclave next year. Details for this conclave will be taken care of by Mr.Neale and subsequent announcements will appear in a future issue of our bulletin.

Mr.Edward H.Pilsworth of Battle Creek Michigan, plans a similar conclave in the near future for those in his area and is busy arranging details.

Future plans for standardization of sunspot and other photospheric records are under consideration. A compiled report, by your chairman, who is a member of the International Astronomical Union, and is on the Solar Commission,was sent to Dr. M.Waldmeier at Zurich at his request. Those who participated in the reccomomdatins and suggestions are as follows; Dr.Harlow Shapley, Dr.Donald H.Menzel, Dr.Harlan T.Stetson, Dr.J.Q.Stewart, and Mr Alan H.Shapley of the Bureau of Standards as well as your chairman.

A report on the Activity of the AAVSO Solar Division was read by your chairman at the Astronomical League Convention in Philadelphia in July 1947.

Dr.Charles P.Olivier of the Flower Observatory,Upper Darby , Pa.,presented to the Solar Division his records of sunspot observations which were made between the years of 1901 to 1921. Arrangements have been made with the National Bureau of Standards to compile these oobservations for publication at a later date.

Dr.H.L.Yeagley, of Penn State, who this past summer made tests on the Navigation instinct of Carrier Pigeons was supplied with predictions of possible magnetic storm caused by sunspot activity, by your chairman. We are indebted for this contact, to Mr.William Mullens also of Penn State Faculty and who is now a member of the AAVSO and the Solar Division.

Recently September 25th.,1947 a conference on Solar Relations was held at the Harvard Club at New Yrok City by some of the members of the Solar Division Research Section. Those participating were , Dr.Harlan T.Stetson,Dr.Carlos Gartia Matta, Dr Bernhard Duell, Mr.Hale Pulsifer, Mr.Walter G.Bowerman,Mr.E.R.Dewey, Dr.Ellsworth Huntington,Mr.Emery Radwany and Heines. We were the guests of Mr Radwany.

Dr.Stetson was appointed Moderator and discussions terminated at midnight. Each person represented a special field, namely, the inosphere,Radio, Biology, Economic Trends, Economicsm sunspots and other photospheric disturbances, Statistics, Rythmns and Geophysics.

The discussions were limited to Solar and Terrestrial Relationships and were very enlightening. Dr.Duell, recently brought here from Germany by a Government Research bureau told of the many Biological experiments and research projects in Europewhich were found to be apparently related to the eleven year sunspot cycle.

Future conferences by the same and other groups are planned.

Arrangements have been made with the National Bureau of Standardsto publish the existing records of solar data as devised by your chairman.This data when published will be distributed to the Solar Division Research Section and others interested in Solar Research.

The following Papers supplied by the Solar Division were read at the AAVSO meeting on October 11,1947.

1. Note On The Foreshortening Of The Sunspots And The Decrease Of Their Number Toward The Limb.
   Prof. William Gleissberg , Instanbul,Turkey.

2. The Hydrological Cycle. Franklin J Ryder.

3. Science or Modern Astrology. H.Luft.

4. Spherical Projections of Sunspots. Dr.W.L.Moore.

Advance copies of Dr.Stetson's Sunspots In Action have been released, be sure to obtain a copy of this from your book dealser after the first Of November.

Also Dr.William F.Peterson's book, Man, Weather, Sun. will appear at about the same time order this as well.

Mr.James hillebrand of Detroit,Michigan, who is now at Notre Dame University devised a very simple chart for use with projection of sunspots. We will try to include this in our next bulletin or supplement.

Dr.Walter Orr Roberts of the Harvard Observatory at Climax, Colorado, where the Coronagraph, the only one in the western hemisphere, is in use requests some special dat from observers of the Solar Division. This office is waiting for an Outline from Dr.Roberts and the project will be described in a very early bulletin.

Dr.Edwin R Dewey's Book,Cycles mentioned several times in this Bulletin has become a top seller in the list of Technical Books. There is an abundance of wealthy material for the solar student in this book . Your library is not complete without this research tool.

Reprints of Mr.H.B.Rumrills Paper, "Physical Characteristics Of Sunspots" will be mailed very shortly.