

26TH ANNUAL REPORT OF THE DIRECTOR OF THE AAVSO
FOR THE YEAR ENDING SEPTEMBER 30, 1957

It gives me great pleasure as Director of the AAVSO to present to you this 26th Annual Report of the work of the Association for the year 1956-57. As the AAVSO grows, the work at headquarters grows also. It has been a very busy year, but a very profitable one. Financial matters, of necessity, are of prime importance. Our grant from the National Science Foundation, reported on last year, was for two years and runs to the spring of 1958. This grant is to help with the expense of carrying on the current work on variable stars, and compiling observations and light curves.

The contract with the Office of Naval Research was due to be completed in the spring of 1957. Upon our application, the contract was renewed and extended for another year, with added funds to complete preparation for publication of observations made during 1954 and 1955.

The Office of Naval Research does not allow funds for printing costs, therefore other sources had to be found for money to publish the AAVSO Quarterly Reports. We applied to the Bache Fund of the National Academy of Sciences and, through the great kindness of the chairman, Prof. E. B. Wilson, and his committee, we were given enough money to pay for printing Quarterly Reports 19, 20, and 21.

The contract with the National Bureau of Standards for the Solar Division has been renewed for another year. This contract is for the preparation of the American Sun-spot numbers, and helps with the printing of the Solar Bulletin, instruction of sun-spot observers, and the collection and reduction of solar observations.

Endowment Fund. Our Endowment continues to grow, as our Treasurer's report shows. Cash contributions from our members have ranged from twenty-five cents to one hundred dollars -- all very much appreciated. A major contribution to the Fund was received in the form of two lots of shares of International Business Machines stock. These were given by an anonymous friend, through the efforts of our Secretary and Chairman of the Endowment Fund Committee, Clinton B. Ford. Lewis J. Boss has continued to give to the Fund all money received from the sale of the Photoelectric Photometry Handbook, which he has had printed at his own expense. Robert Dunn has continued to do the same thing with the group photographs he takes at AAVSO meetings. He makes the prints and mails them, and gives all proceeds to the fund. The Mayall and Mayall revision of the Olcott Field Book of the Skies is sold to members and friends at the regular bookstore price, and the author's discount is given to the Fund. The cost of publishing Leon Campbell's book "Studies of Long Period Variables" has been paid off, and all proceeds from the sale of it go to the Fund. Orders for it are still received on the average of about two per month.

The list of subscribers to our publications has grown. We had 10 for the year 1955-1956, and for the year 1956-57 we had a total of 25, including one subscription to our special services. Some of these subscriptions were retroactive to 1955-56.

Requests for Information. Many requests come in for information concerning the work of the AAVSO and astronomy in general. During the year we sent out nearly 400 replies, ranging from a note in answer to a specific question, to a kit containing a mimeo letter of information about the AAVSO and its divisions, simple instructions for observing variables with some practice charts, lists of books and atlases, and sample copies of Sky and Telescope which are very kindly supplied by the Editor, Charles A. Federer. We feel that junior scientists should be encouraged to keep up their interests in astronomy, and so far 17 of them have requested the advanced kit for 50%.

Membership. Our membership is increasing each year, and we now have a total mailing list of about 600. About 100 of these are foreign exchanges, and a few people who contribute observations but for various reasons do not pay dues. We elected 30 annual members at the 1956 Annual meeting, and two members transferred to sustaining. At the Spring 1957 meeting, we elected 11 annual members and approved 16 transfers from annual to sustaining, and one transfer from life to sustaining.

I am very sorry to report the death of two of our members: Henry Morris Russell of Princeton, New Jersey, and Paul Stevens of Rochester, New York.

Special Contributions from Members. The work of determining 10-day mean values of the observations made by members of the Variable Star Section of the Royal New Zealand Astronomical Society has been continued by Mrs. Phoebe Haas. These observations are of great value for the mean light curves, and often fill in gaps left by our observers.

Newton Mayall helps in drawing light curves for publication, and also supplies us with glossy prints for reproduction, and with large blueprints of the curves for exhibition purposes. He also keeps us supplied with many useful and necessary items, from paper clips and pencils to an air-conditioning unit to make our office liveable during the hot weather.

Roy Seely, in collaboration with Edward Oravec and Richard Hamilton, has continued his work of drawing charts for new variables to be added to our observing program.

Library. During the year, the Charles Y. McAteer Library has received 28 books, 158 publications, and 314 pamphlets, circulars and reprints. Among the books, some early Americana were gifts of Anton Kovar, and some modern astronomy books were gifts of Helen Stephansky and the Mayalls. Several books were received from publishing houses in partial payment for using our membership list.

The lantern slide collection is being reclassified as time permits, and the variable star section is nearly ready to be listed. We hope slides can be made more readily available to members in the near future.

Publications. Quarterly Report 19 was distributed in the spring of 1957. It contains the results of about 64,000 observations on 658 variable stars, made by 121 observers. For the long period variables and other stars with slow changes, 10-day mean values are published. A weight on an arbitrary scale of 5, assigned by the Director, is printed instead of the number of observations. For SS Cygni and other rapidly changing variables, individual observations identified with the observer's initials are printed. All individual observations have been microfilmed, and copies may be obtained at cost by anyone who wishes them. A key list of observers is printed in each quarterly.

The copy for Quarterly Report 20 has been typed and is waiting for proofreading. No. 21 is now in preparation and will contain 10-day mean values of observations made during the 400-day period from February 26, 1954 to April 1, 1955.

Two AAVSO Bulletins were issued during the year: No. 14, the 1957 Annual Predictions of Maxima and Minima of the Long Period Variables, containing predicted dates of 527 maxima and 513 minima for 390 long period variables; and No. 15, Bi-Monthly Predictions of Variable Stars for the AAVSO, by Walter Scott Houston, plus a list of variables needing observations, and a sheet of News from AAVSO'ers around the

world. The BI-Monthly Predictions were computed by Mr. Houston from Bulletin No. 14 and the mean light curves in Leon Campbell's "Studies of Long Period Variables." They were printed as an insert feature of the Great Plains Observer.

Variable Star Notes were published in each of the 6 issues of the Journal of the Royal Astronomical Society of Canada. The Journal editor kindly gives us a few reprints of the Notes.

Two numbers of the AAVSO Abstracts were published, covering the papers presented at the meetings of October 1956 and June 1957.

Annual Summary of Observations. During the fiscal year of 1956-57, 633 reports of variable star observations were received, an average of 53 reports per month. These reports contained 46,238 observations from 123 observers. Two of the observers, Gunnar Darsenius and S. C. Venter, spent 6^h 34^m, and 2^h 40^m respectively, on constant watch of the flare stars.

Eighteen observers from 12 countries outside the United States contributed 28% of all the observations. The other 72% came from 105 observers in 28 states.

Table I lists the countries in alphabetical order, with the number of observers and total of observations from each.

TABLE I - COUNTRIES

Country	No. Observers	Total Obs.	Country	No. Observers	Total Obs.
Argentina	1	534	Mexico	1	1805
Australia	2	144	South Africa	3	7134
Canada	3	424	South, Rhodesia	1	552
Germany	1	48	Sweden	1	666
Greece	1	278	Taiwan	1	203
Italy	2	1108	U.S.A.	105	33288
Jamaica	1	54	13 totals	123	46238

Table II lists the states in the same manner. New York State again has more observations than any other. Nearly 9000 of their observations were made by members of the Observing Group of the Amateur Astronomers Association, and the Junior Astronomy Club.

TABLE II - UNITED STATES

California	13	3533	Massachusetts	2	43	Ohio	8	2619
Connecticut	3	3342	Michigan	2	99	Oklahoma	1	69
Florida	2	123	Minnesota	1	2074	Pennsylvania	3	41
Georgia	2	1098	Missouri	1	1872	South Carolina	1	43
Illinois	12	1084	Montana	1	141	Texas	2	126
Indiana	3	87	New Jersey	6	165	Virginia	2	63
Kansas	3	206	New Mexico	1	7	Washington	2	359
Kentucky	1	4	New York	22	*11012	Wisconsin	6	327
Maine	2	4713	*8974 from AAA and JAC			Wyoming	1	12
Maryland	1	10	North Carolina	1	16	28 totals	105	33288

Reports were received regularly, each month, from the following 19 observers: Robert Adams, Curtis Anderson, James Breckinridge, Gunnar Darsenius, George Diedrich, Cyrus Fernald, Clinton Ford, Richard Gemberling, Ferdinand Hartmann, Reginald de Kock, Allen Montague, Francis Morgan, Edward Oravec, Patrick Parker, Leslie Peltier, Frederick Pilcher, Patrick Rizzo, David Rosebrugh, and Leonard Solomon. Six observers: Thomas Cragg, O.M. Erpenstein, Frank Kelly, G.B. Lacchini, Francis Price and Lelf Robinson, missed only one month each; 4 observers sent reports in 10 times, 3, 9 times; 2, 8 times; 7, 7 times; 6, 6 times; and 76 sent in reports 5 times or less during the year. Observations can always be used if they are sent in before a Quarterly Report for the period has been printed, but we are especially grateful to the observers who send them regularly, even though they may not have many observations. One of our services to astronomy is to have an up-to-date plot of each variable under observation by the AAVSO members, and this can be done only when we receive current observations each month.

Twenty-six new observers sent in their first reports during the year; 16 of them sent 2 or more reports, and we hope they will continue and become our good observers of the future. Table III contains the list of observers arranged in order of number of observations received during the year. Our "Ace of the Year" once again is Reginald de Kock, who made the fine total of 6,257 observations. Following close after him is Edward Oravec, with 5,712 observations. This year Eddie made more than de Kock did last year; but de Kock was very busy too, and increased his total even more this year! Once again in third place is Cyrus Fernald with 4,710; fourth is Thomas Cragg with 2,271; fifth place is Clinton Ford with 2,078; and sixth is Curtis Anderson with 2,074 observations. A wonderful record of fine observations from all of them.

TABLE III - AAVSO OBSERVERS

1. Reginald de Kock, South Africa	6257 S	25 Leonard Solomon, Brooklyn, N.Y.	340 S
2 Edward Oravec, Tuckahoe, N.Y.	5712	26 Richard Gemberling, Spokane, Wash	337
3 Cyrus Fernald, Wilton, Maine	4710 S	27 Charles Aronowitz, Brooklyn, N.Y.	335
4 Thomas Cragg, Inglewood, Calif.	2271 S	28 Patrick Rizzo, Brooklyn, N.Y.	329
5 Clinton Ford, Suffield, Conn.	2078 S	29 Philip Seldon, Dayton, Ohio	301
6 Curtis Anderson, Minneapolis, Minn	2074	30 Herbert Beidler, Chicago, Ill.	288
7 Robert Adams, Neosho, Missouri	1872 S	31 Constantin Chassapis, Athens, Gr.	278
8 Domingo Taboada, Puebla, Mexico	1805 S	32 Philip Goldenblatt, Bronx, N.Y.	278
9 Ferdinand Hartmann, St. Albans NY	1639	33 Chang-Hsien Tsai, Taipei, Taiwan	203
10 David Rosebrugh, Meriden, Conn.	1255	34 Ralph Buckstaff, Oshkosh, Wisc.	175
11 P.O. Parker, Griffin, Georgia	1090	35 O.M. Erpenstein, Millbrae, Calif.	173 S
12 G.B. Lacchini, Faenza, Italy	1060 S	36 Claude Carpenter, Romoland, Calif	170 S
13 Leslie Peltier, Delphos, Ohio	1018 S	37 M.D. Overbeek, Germiston, SoAfrica	170 S
14 C.J. Renner, Castalia, Ohio	962 S	38 James Breckinridge, Cleveland Ohio	154 S
15 Lelf Robinson, Sylmar, Calif.	715 S	39 Charles McPherson, Edgar, Montana	141
16 *S.C. Venter, Pretoria, So. Africa	707 S	40 Frank Kelly, Binghamton, N.Y.	135
(2 ^h 40 ^m AE Aqr)		41 Frederick Pilcher, Topeka, Kansas	133
17 *Gunnar Darsenius, Goteburg, Swed.	666 S	42 Wayne Lowder, Pelham, New York	123
(6 ^h 34 ^m flare stars)		43 Dan Taulman, Fort Worth, Texas	120
18 Arthur Pearlmutter, Kew Gardens NY	631	44 Jeremy Knowles, Hollis, New York	114
19 R.H. Bicknell, Shamva, So. Rhodesia	552	45 George Diedrich, Elyria, Ohio	108
20 Carlos Segers, Buenos Aires, Argen.	534	46 Jerome Wyckoff, Ridgewood, N.J.	102
21 Paul Skaritka, Bronx, New York	532	47 Stephen Maran, Brooklyn, N.Y.	97
22 Allen Montague, Oak Pk, Illinois	529	48 Christine Culp Rosenfield, Mich.	93
23 Francis Price, Queens Village NY	513	49 Albert Sharpless, SoMiami, Florida	92
24 Francis Morgan, Verdun, Canada	363	50 Mark Howarth, Newcastle NSW, Austr.	81

51	George Hein, Bronx, New York	74	88	Hans Isenberg, Chicago, Illinois	19
52	Wallace Byrd, Coalgate, Oklahoma	69	89	Robert Cunningham, San Jose, Calif.	17
53	Walter Houston, Manhattan, Kansas	66 S	90	Robert Hanawalt, Connersville, Ind.	17
54	I.P. Debono, Sydney, Australia	63	91	Margaret Mayall, Cambridge, Mass.	17
55	Russell Kofoed, Lincolnwood, Ill.	63	92	M.V. Barnhill, Wilmington, N.C.	16
56	Tim Hunter, Arlington Hts, Ill.	59	93	Edgar Paulton, Brooklyn, New York	13
57	Carl Fowler, Aurora, Illinois	58	94	Robert Jacobson, Sheridan, Wyoming	12
58	Lancaster Hiatt, Arlington, Va.	57	95	F.J. Brinley, Baltimore, Maryland	10
59	Norman Hutchings, Victoria, Canada	56	96	Robert McGovern, Harvey's Lake, Pa.	10
60	E.C. Melville, Kingston, Jamaica	54	97	Jane Shelby, Teaneck, New Jersey	10
61	Edward Halbach, Milwaukee, Wisc.	52 S	98	Carole Usakowski, Brooklyn, N.Y.	10
62	Kenneth Walko, Elyria, Ohio	50 S	99	Mary Churns, Brooklyn, N.Y.	9 S
63	Mario Ancarani, Faenza, Italy	48	100	Carl Cleary, Skokie, Illinois	9
64	Ronald Royer, Pacific Palisades, Cal	48	101	Phillip Scholly, Norwalk, Conn.	9
65	Vincent Thurn, Hagerstown, Md.	48	102	Leonard Abbey, Decatur, Georgia	8
66	George Herbig, Mt. Hamilton, Calif.	45 S	103	Richard Wend, Milwaukee, Wisconsin	8
67	Frank Welker, Chicago, Illinois	45	104	Margaret Houston, Manhattan, Kansas	7
68	James Carlisle, Spartanburg, S.C.	43	105	Charles Ricker, Albuquerque, N.M.	7
69	William Glenn, New York, N.Y.	41	106	Paul Garnant, Kalamazoo, Michigan	6
70	Robert Percy, Indianapolis, Ind.	40	107	Leonard Gordon, Norfolk, Virginia	6
71	Tom Osypowski, Milwaukee, Wisconsin	37	108	George Lovi, Lakewood, New Jersey	6
72	A.R. Ball, Milwaukee, Wisconsin	35 S	109	Kenneth Wayland, Henderson, Texas	6
73	Kenneth Woltzenhoffer, New York NY	34	110	Joseph Anderer, Chicago, Illinois	5
74	Donald Charles, Pleasant Hill, Cal.	33	111	Franklin Loshde, Edmonton, Alberta	5
75	Robert W. Miller, Miami, Florida	31	112	Robert Johnson, Chicago, Illinois	4
76	Ray Berg, Dyer, Indiana	30	113	Joe Miller, Beverly Hills, Calif.	4 S
77	James Wolfe, Pittsburgh, Penna.	30	114	Dale Panke, Louisville, Kentucky	4
78	Stephen Bieda, San Jose, Calif.	29	115	Gerald Schultz, Lincolnwood, Ill.	4
79	Francis Reynolds, Potsdam, N.Y.	27	116	Robert Brown, New Milford, N.J.	3
80	John Turtle, Newton Ctr, Mass.	26	117	Walter Reeves, Portland, Maine	3
81	Elizabeth Socha, Brooklyn, N.Y.	24	118	Tom Roderick, Cuyahoga Falls, Ohio	3
82	DeLorne Diedrich, Elyria, Ohio	23	119	Martin Sloan, Escondido, California	3
83	J.G. Goodsell, So. Pasadena, Cal.	22	120	James Styczynski, San Jose, Calif.	3
84	Maxwell Kimball, Glen Ridge, N.J.	22	121	Edward DeGennaro, Bronx, New York	2
85	William Mebius, Verona, N.J.	22	122	John Clarke, Palmerton, Penna.	1
86	Morgan Thomas, Winslow, Wash.	22	123	Eugene Lonak, Chicago, Illinois	1
87	Tom McFarland, Milwaukee, Wisc.	20 S			

During the year 1956-57, we had 3 observers with more than 4500 observations each; 3 between 2000 and 2500, and 7 between 1000 and 2000 each. These 13 observers made 32,841 observations, or 71% of the total. We are in need of more observers who can devote much time to observing, for if any of these 13 observers should drop out, our light curves would be sadly lacking observations. Of course it would also help to have another 100 or more observers who could make between 500 and 1000 observations each year.

Twenty-five of our members made the "Inner Sanctum" this year, by observing the faint variables of 13.8 magnitude or fainter. The minimum phases of our light curves are being very much better observed these last few years.

The observations are quite well distributed over the variables on our program. Many more stars have been added, until now I keep current plots of the light curves of approximately 900 variables. Some of the stars are on special programs taken on by groups of observers, such as the study of many bright red variables and suspected

variables by the New York group under the leadership of Edward Oravec. These stars are being studied spectroscopically at some observatories and it is very important to have some knowledge of their light variations.

Other Activities. The reports from the chairmen of the other divisions of the AAVSO show activity on all sides. The Solar Division under Harry Bondy is starting a very interesting program of recording solar flares by a radio astronomy technique developed by David Warshaw, in addition to their regular program of compiling American Sunspot Numbers.

The Occultation Division under Sarah Hill has had a successful year. George Diedrich, Chairman of the Nova Search division, would probably not consider his year successful, for there has been no bright nova, but he is compiling valuable statistics of negative observations. The Telescope Committee Chairman, John Welch, has been busy with the instruments belonging to the AAVSO. Several loans of instruments have been made, and more requests will be filled soon.

You have all heard of the fine work of the Chart Committee, under the Chairman, Richard W. Hamilton, who is now doubling as our President.

The Photoelectric Photometer Chairman, Lewis J. Boss, reports an increased interest in PEP work. A fine paper giving results of PEP observations of the eclipsing variable δ Herculis was published in the "Publications of the Astronomical Society of the Pacific."

Personnel. The AAVSO is very fortunate in its assistants. Helen Stephansky continues as our only full-time assistant, and has the responsibility of many phases of the work in headquarters.

Once again, with the financial aid from the National Science Foundation and the Office of Naval Research, we have been able to have the part-time services of Florence Campbell Bibber. Her experience gained in helping her father with his publications is of value to us today. We were also able to have John Gaustad do some work for us during part of his spring vacation time.

During the last two weeks of our fiscal year, we have had the fulfillment of a long-time desire -- that of having the director of a fellow society visit our headquarters. It has been our privilege to have Mrs. Frank M. Bateson, Director of the Variable Star Section of the Royal New Zealand Astronomical Society spend some time in the office discussing our mutual problems and plans for even better cooperation in the future.

I take this opportunity to express our deep appreciation for all the helpful understanding and support we receive from the officers, members, and friends of the AAVSO.

Respectfully submitted,

October 3, 1957

MARGARET W. MAYALL, Director