

\* \* o • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

eclipse of this sort is called an "annular" eclipse, and that is what will happen in the early morning hours of Sept. 1.

The path, along which this annulus will be visible, starts as the sun is rising in southern Virginia and northern North Carolina; passes eastward and then south-eastward across the Atlantic Ocean and Africa, ending as the sun is setting in Madagascar. Over a much larger area including, as noted above, eastern U. S. and Canada, Africa and southwestern Europe, as well as the Atlantic Ocean, southern Greenland and Iceland, the moon will partly hide the sun. The nearer the point to the path of the annular eclipse, the larger will be the area of the sun that will be hidden.

**Eclipse Path Mecca**

The annular path in the United States will be the Mecca of many amateur astronomers, for while such an eclipse is not of great scientific value, it is an interesting and unusual spectacle. This part of the path on land is about 280 miles long, and about 95 miles from north to south. It begins on a line about 30 miles west of Winston-Salem, N. C. Among the places within the path are Winston-Salem, Greensboro, and Durham, N. C., Danville, Petersburg, Norfolk, Virginia Beach and Newport News, Va. Richmond is just on the northern edge, with part of the city within it, while Raleigh, N. C., is just a few miles south of the southern edge.

**Rises Partially Eclipsed**

From places within this path, the sun will already be partly eclipsed as it rises on Sept. 1, and the annular eclipse will occur shortly afterwards. The farther east one is, the higher it will be, and the better in general will be one's chance of making a satisfactory observation. Vacationers at Virginia Beach, with hotel rooms facing the ocean, will find themselves in a very fortunate position for a good view of the phenomenon. From this location the annulus will appear at 5 hours 57 minutes 37 seconds a. m., EST, and will remain visible for 2 minutes 36 seconds. From

Winston-Salem, the annular eclipse will start at 5:57:21 a. m., and will last 2 minutes 21 seconds.

The following table gives the time and extent of the partial eclipse for a number of American cities. Only at Orono, Maine, will the beginning of the eclipse occur after sunrise. Where no time is given for the middle, this also occurs before sunrise, and the magnitude of the eclipse, the percentage of the solar diameter that is covered by the moon's disk, is that for the sun at the time of rising. These data have been calculated in the Nautical Almanac Office of the U. S. Naval Observatory. (Times are local standard times.)

City	Middle A. M.	%	End A. M.
Albany, N. Y.	6:02	82	7:10
Ann Arbor, Mich.		79	7:06
Atlanta, Ga.		75	7:03
Boston, Mass.	6:02	83	7:12
Buffalo, N. Y.	6:02	80	7:08
Chicago, Ill.		71	6:05
Cincinnati, Ohio		86	7:05
Cleveland, Ohio	6:01	90	7:06
Des Moines, Iowa		36	6:04
Harrisburg, Pa.	6:01	88	7:08
Kansas City, Mo.		26	6:04
Little Rock, Ark.		32	6:02
Louisville, Ky.		79	6:04
Madison, Wis.		62	6:05
Minneapolis, Minn.		43	6:04
Nashville, Tenn.		68	6:03
New Haven, Conn.	6:02	86	7:10
New Orleans, La.		34	6:00
New York, N. Y.	6:01	87	7:10
Orono, Maine	6:04	81	7:14
Philadelphia, Pa.	6:01	89	7:09
Pittsburgh, Pa.	6:01	88	7:07
Raleigh, N. C.	5:58	95	7:06
Richmond, Va.	5:59	96	7:07
St. Louis, Mo.		52	6:03
Tallahassee, Fla.		68	7:01
Washington, D. C.	6:00	92	7:07

In watching the eclipse, precaution should be taken. That is, one should never gaze directly at the sun without some protection for the eyes. A piece of very dense, exposed photographic negative film makes a good eyeshield. Ordinary sun glasses should not be used.

**Celestial Time Table for August**

Aug.	EST	
2	5:39 p. m.	New moon
3	2:00 p. m.	Mercury farthest east of sun
4	4:00 p. m.	Jupiter, which has been moving eastward among stars, turns around and starts moving toward west
5	1:45 a. m.	Moon passes Mercury
	3:54 p. m.	Moon passes Venus
6	8:37 p. m.	Moon passes Saturn
10	7:22 a. m.	Moon in first quarter
12	early a. m.	Meteors visible radiating from constellation of Perseus
14	11:00 p. m.	Moon nearest, distance 225,000 miles
16	9:59 p. m.	Full moon
20	3:58 p. m.	Moon passes Jupiter
24	5:20 a. m.	Moon in last quarter
26	10:00 p. m.	Moon farthest, distance 251,600 miles
29	6:56 p. m.	Moon passes Mars
31	3:00 a. m.	Mercury between earth and sun

Sept. 1 sunrise Annular eclipse of sun  
 Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, July 28, 1951

**VETERINARY MEDICINE**

**Anesthesia for Animals Successful in First Use**

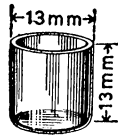
► FIRST SUCCESSFUL use of gas for general anesthesia of large animals is reported by Dr. S. A. Peoples of the department of pharmacology in the University of California's School of Veterinary Medicine, Berkeley.

Cyclopropane, the compound used in the experimental studies on cows, bulls, horses, and sheep, acts speedily and permits rapid recovery without dangerous side effects, he said.

The anesthetic may prove a distinct contribution, particularly in work with horses and bulls which present special problems, Dr. Peoples predicted in his preliminary report.

Already successful in the laboratory, the gas will be tested for practical use in further trials at the University of California, with the cooperation of clinical departments in the School of Veterinary Medicine.

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