

along which the total phase will appear, will be a hundred miles wide, starting as the sun rises at a point on the equator north of the Solomon Islands, in the southwestern Pacific Ocean. This path, which is traced out by the moon's shadow as it races eastward, passes over some small islands in the Union and Danger groups, which are north and northeast of Samoa. Finally the path reaches the coast of Chile, near Valparaiso, and it ends as the sun is setting, at a point in Argentina, near the city of Cordoba.

Total eclipses of the sun offer astronomers a chance to make many observations which cannot be made at other times, or at least not as well. Thus, it is likely that many of them will undertake expeditions to the Pacific islands where this eclipse will be visible.

There will also be an eclipse of the moon, which occurs when the earth comes between the sun and moon, on May 3. This, however, will be only partial, with a maximum of about 15% of the moon's diameter getting into the earth's shadow. This will be visible in the western parts of the United States and Canada, over most of the Pacific Ocean, eastern Asia, Australia and Antarctica.

In 1958 Mars will again come close to the earth, not as near as it did on Sept. 7, 1956, when it was only 35,120,000 miles away, but much closer than it will come again for several years. This will be on Nov. 8, with a distance of a little more than 45,310,000 miles.

On Jan. 1 Mars is far out beyond the sun, 212,000,000 miles from earth, but until November it will be moving in. On April 1, it will be at a distance of 154,000,000 miles; July 1, 101,000,000 miles; Oct. 1, 55,000,000 miles and Nov. 1, 45,800,000 miles. At the time of its closest approach it will be of magnitude minus 1.9, or about 25 times as bright as it is now. Thus, it will be interesting to watch it during the year, as it gradually increases in brilliance.

By next autumn, many astronomers will be watching Mars, hoping to solve some of the many problems presented by this red planet.

Celestial Time Table for January

JAN. EST

3	9:00 a.m.	Earth nearest sun for year, distance 91,342,000 miles.
5	3:09 p.m.	Full moon.
8	7:00 p.m.	Moon nearest, distance 227,600 miles.
10	12:48 a.m.	Algol (variable star in Perseus) at minimum brightness.
12	9:01 a.m.	Moon in last quarter.
	9:38 p.m.	Algol at minimum.
13	12:12 a.m.	Moon passes Jupiter.
15	6:27 p.m.	Algol at minimum.
	11:00 p.m.	Mercury farthest east of sun, visible for a few days low in east before sunrise.
19	5:08 p.m.	New moon.
23	5:00 a.m.	Mars passes Saturn.
24	7:00 p.m.	Moon farthest, distance 251,800 miles.
27	9:16 p.m.	Moon in first quarter.
28	3:00 p.m.	Venus between earth and sun (inferior conjunction).

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, December 28, 1957

Books of the Week

For the editorial information of our readers, books received for review since last week's issue are listed. For convenient purchase of any U. S. book in print, send a remittance to cover retail price (postage will be paid) to Book Department, Science Service, 1719 N Street, N.W., Washington 6, D. C. Request free publications direct from publisher, not from Science Service.

AIDS TO MATERIA MEDICA AND THERAPEUTICS—J. W. Hadgraft—*Baillière*, Tindall and Cox (*Williams and Wilkins*), 5th ed., 259 p., \$3.25. Indicating to medical students the way drugs are formulated and alternative preparations available.

AIRCRAFT ANNUAL 1958—John W. R. Taylor, Ed.—*Philosophical Lib.*, 96 p., illus., \$6. Telling what is new overhead.

ANTHROPOLOGICAL PAPERS, NUMBERS 49-56—Jesse D. Jennings, Gordon R. Willey and Marshall T. Newman and others—*Govt. Printing Office*, Bureau of American Ethnology Bulletin 164, 355 p., illus., paper, \$2.75.

BASIC ELECTRICITY—Rufus P. Turner—*Rinehart*, 396 p., illus., \$6.50. Text for beginning students.

BODY WATER IN MAN: The Acquisition and Maintenance of the Body Fluids—Maurice B. Strauss—*Little*, 286 p., illus., \$7. Survey of the physiologic mechanisms by which the volume and osmotic composition of the body fluids in man are maintained in dynamic equilibrium.

THE CREATION OF THE UNIVERSE—George Gamow—*New American Library*, 144 p., illus., paper, 50 c. The third book of the author's trilogy on the sun, the earth and the universe as a whole.

ENGINEERING FLUID MECHANICS—Charles Jaeger, translated from the German by P. O. Wolf—*St. Martins*, 529 p., illus., \$11.50. Covering the methods of analysis and calculation required for the design of water-power schemes.

GOOD NEWS FOR STROKE VICTIMS—Elizabeth Ogg—*Public Affairs Committee*, Public Affairs Pamphlet No. 259, 28 p., illus., paper, 25 c. The chances for overcoming the effects of a

stroke are much greater today than they were even four or five years ago.

HELPING YOUR CHILD TO READ BETTER—Robert M. Goldenson—*Crowell*, 312 p., illus., \$3.95. What the parent can do to help his child to read and, before school age, to get him ready to learn.

How to Do AN EXPERIMENT—Philip Goldstein, Paul F. Brandwein, Gen. Ed.—*Harcourt*, 192 p., illus., \$2.60. Telling the junior scientist about scientific methods and giving him ideas for science projects and exhibits for Science Fairs.

AN INTRODUCTION TO AUTOMATIC COMPUTERS—Ned Chapin—*Van Nostrand*, 525 p., illus., \$8.75. So that people in business can understand the uses and limitations of computers.

PAPERS PRESENTED AT THE FALL 1957 RTCA ASSEMBLY MEETING—*Radio Technical Commission for Aeronautics*, illus., paper, 60 c. Discussing, among other matters, the guided missile and satellite programs and air traffic control.

PHYSICS AND CHEMISTRY OF THE EARTH: 2—L. H. Ahrens, Frank Press, Kalervo Rankama, and S. K. Runcorn, Eds.—*Pergamon*, 259 p., illus., \$10. One of an annual series of up-to-date surveys of progress in the field.

QUANTITATIVE PLANT ECOLOGY—P. Greig-Smith—*Academic*, 198 p., illus., \$6. Plant ecology is at present in a transitional stage into the quantitative outlook.

SMITHSONIAN INSTITUTION ANNUAL REPORT OF THE BOARD OF REGENTS—Leonard Carmichael, Secretary—*Govt. Printing Office*, 580 p., illus., \$4.50. Containing, as usual, a collection of articles of timely scientific interest.

STRENGTH OF MATERIALS—F. R. Shanley—*McGraw-Hill*, 783 p., illus., \$8.50. A first text in college courses in engineering and science.

THE WARBLERS OF AMERICA: A Popular Account of the Wood Warblers as They Occur in the Western Hemisphere—Ludlow Griscom, Alexander Sprunt, Jr. and Others, Eds.—*Devin-Adair*, 356 p., illus. with drawings and paintings by John Henry Dick, \$15.00. This beautiful book is intended for the beginner as well as for the serious bird student.

Science News Letter, December 28, 1957

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