



◊ * ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

Celestial Time Table for February

Feb.	EST	
2	2:00 p.m.	Mercury farthest west of sun visible for a few days about now low in southeast before sunrise.
	7:49 p.m.	Algol (variable star in Perseus) at minimum brightness.
6	6:05 p.m.	Moon passes Mars.
7	6:23 p.m.	Moon at first quarter.
14	6:00 a.m.	Moon nearest, distance 221,500 miles.
	11:38 a.m.	Full moon.
16	10:02 p.m.	Moon passes Jupiter.
17	10:00 p.m.	Pluto (most distant planet) at conjunction; distance 3,118,000,000 miles.
20	12:45 a.m.	Algol at minimum.
21	7:18 a.m.	Moon in last quarter.
22	4:16 a.m.	Moon passes Saturn.
	9:34 p.m.	Algol at minimum.
25	6:23 p.m.	Algol at minimum.
27	10:00 a.m.	Moon farthest, distance 252,600 miles.

Subtract one hour for CST, two hours for MST, and three for PST.
 Science News Letter, January 26, 1957

AERONAUTICS

Pilot's Course May Cut Private Plane Crashes

➤ A NEW KIND of pilot's course aimed at teaching private pilots to fly an airplane by instruments only in emergencies in order to cut down fatal crashes will be tested at the University of West Virginia, Morgantown, W. Va., starting next month.

Ten university students without previous pilot training will take the unusual test program. Costs will be paid by the Link Foundation, with the Civil Aeronautics Administration providing technical supervision.

Private pilots with conventional training have learned to fly solely by reference to the horizon and ground. When such pilots find themselves unexpectedly in cloud or fog, they often lose control of the aircraft because they cannot fly straight and level or make controlled turns by reference to the instrument panel.

The test course will give the ten students conventional training for a private pilot license, but will also try to teach the ability to switch readily from visual to instrument

flight under emergency conditions. The possible life-saving potential is seen in the fact that in 1955, the last year for which statistics are complete, there were 93 fatal small-plane accidents resulting from flight into bad weather.

Science News Letter, January 26, 1957

GENERAL SCIENCE

Visit to Soviet Lands No Bar to U. S. Visa

➤ SOME EUROPEAN SCIENTISTS who hope to attend future international meetings in the United States have been shy about going to Russia and eastern European countries because they fear it may hurt their chances of a U. S. visa.

Do not be afraid, Walter M. Rudolph, assistant to the science adviser in the U. S. Department of State, counsels in a letter published in *Science* (Jan. 4). Dr. Thomas J. Killian, chief scientist of the Office of Naval Research, in view of "persisting rumors," raised the question as to whether the fears are justified.

A visit to Soviet-dominated territory in itself is no ground for refusal of a visa or a delay in its issuance, the letter says, but decision on a visa is not made until after an application is made by the foreign scientist.

Science News Letter, January 26, 1957

COSMOLOGY

Cosmic Rays Boast Abundance of Elements

➤ THE RELATIVE abundance of the elements found in cosmic rays differs from that for matter in the universe, three Australian scientists reported in London.

The light elements, they have found, are more than 1,000 times as common in cosmic rays as in the universe. Elements heavier than neon are six times more abundant in cosmic rays.

From these figures, they calculate that this radiation has traveled for a few million years before it smashed into the earth's atmosphere. The scientists who determined the abundances are Drs. J. H. Noon, A. J. Herz and B. J. O'Brien of the F. B. S. Falkiner Nuclear Research and Adolph Basser Computing Laboratories, University of Sydney, Australia.

They report their findings in the British scientific journal, *Nature* (Jan. 12).

Their results were obtained from measuring the cosmic rays caught in photographic emulsions flown for about six hours at more than 110,000 feet above Texas in 1956.

The large proportion of elements heavier than neon indicates either that heavy nuclei are more abundant in the source regions of cosmic rays, which are still largely unknown, or that the mechanism by which they attain their great speeds strongly favors the heavy nuclei, or both.

Other scientists have suggested that supernovae, brilliant exploding stars, are a source of cosmic rays that might give the abundances the Australian scientists found. They also discovered definitely that lithium, beryllium, and boron are definitely present in the primary radiation.

Most cosmic rays are stopped high in the earth's atmosphere, reacting with atomic nuclei there to form secondary cosmic rays. To detect the primary radiation before it has reacted, scientists must expose their detecting instruments at very high altitudes.

The existence of heavy nuclei in the primary cosmic rays was first established in 1948.

Science News Letter, January 26, 1957

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