



Hydrogen seems to be by far the most abundant, but sodium, potassium, iron, titanium and cyanogen have also been found. This work is part of a long series of researches that clearly show that interstellar space is not nearly as empty as once thought to be.

Celestial Timetable for October

- Oct. EST
- 1 4:26 a.m. Algol, variable star in Perseus, at minimum brightness.
 - 8:00 a.m. Moon nearest, distance 225,100 miles.
 - 3 7:15 a.m. Full moon.
 - 4 1:14 a.m. Algol at minimum.

- 6 5:18 a.m. Moon passes Jupiter.
 - 10:03 p.m. Algol at minimum.
 - 10 2:33 p.m. Moon in last quarter.
 - 11 3:00 a.m. Saturn in line with sun.
 - 13 5:00 a.m. Moon farthest, distance 251,500 miles.
 - 18 5:42 p.m. New moon.
 - 21 6:07 a.m. Algol at minimum.
 - 9:31 a.m. Moon passes Venus.
 - 24 2:56 a.m. Algol at minimum.
 - 5:44 a.m. Moon passes Mars.
 - 26 11:44 p.m. Algol at minimum.
 - 29 1:00 a.m. Moon nearest, distance 228,400 miles.
 - 8:33 p.m. Algol at minimum.
- Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, September 27, 1952

SANITATION

Purifying Drinking Water

► **HIGH-PITCHED SOUND** waves kill germs so effectively that they can be used to purify water and sterilize milk, Miss Lillian A. Russell of the Illinois State Water Supply told the American Chemical Society meeting in Atlantic City.

The sounds used are ultrasound of high intensity and a million vibrations per second. This is far beyond the range of the human ear, which is deaf to any frequency above about 16,000 cycles per second. Ultrasound is made by vibrating a quartz crystal in a high frequency electrical field.

Miss Russell predicted that instruments will be developed that will supply sound sterilization practically in water purification and in the dairy industry.

The waste from atomic furnaces could be used to purify water and sewage by treating them with radiations, Prof. Cecil G. Dunn, Massachusetts Institute of Technology, reported. About a day of exposure to a millicurie of cobalt such as used to treat cancer will sterilize contaminated water.

However, a mere ten seconds of exposure to irradiation from a Van de Graaff generator will do the same cleansing.

Drinking water, swimming pools, and even rivers and sewage could be made safe by such atomic radiations.

For use in mass sterilization of apparatus and material such as would be necessary in germ warfare attack, ethylene oxide can be used quickly and without damage from corrosion, Saul Kaye and Bernard F. Surkiewicz of the Chemical Corps Biological Laboratories, Camp Detrick, Md., reported. Whole rooms can be sealed with plastic films and used as sterilization chambers.

Science News Letter, September 27, 1952

MEDICINE

Acute Leukemia Studied With V.F.W. Grant

► **TREATMENT OF** more children with acute leukemia by chemotherapy will be speeded by a \$15,000 research grant made to the Children's Hospital of the East Bay by the Ladies Auxiliary of the Veterans of Foreign Wars, Oakland, Calif.

Dr. Luigi Luzzatti, medical director, and Dr. William B. Chew plan to evaluate further the results of the use of folic acid antagonists, which have been demonstrated to be important in treating acute leukemia, a cancer-like disease of the blood.

Science News Letter, September 27, 1952

ENGINEERING

Machine to Reduce High Price of Eggs

► **THE HIGH** price of eggs may take a tumble, if engineering experiments now under way at the University of California at Los Angeles prove successful.

P. F. O'Brien, assistant engineer, is trying to develop a machine that will eliminate the specialized labor involved in candling or grading eggs.

"Much of the high cost of eggs these days is due to the amount of specialized labor involved in candling or grading eggs," Mr. O'Brien points out. "If a machine can be designed to do this automatically, eggs would be much cheaper."

One of the objectives of his research is the design of such a machine. The machine would be designed to examine the internal structure of the egg, which largely determines the egg's grade.

Another important aspect of the study is devising a method to detect Pseudomonas infection, which causes "sour eggs," particularly prevalent on the West Coast.

The infection may be detected in white eggs with ultraviolet light. However, it is extremely difficult to spot it in brown eggs due to the color of the shell. Mr. O'Brien is experimenting with a form of radiation that will cause only the infection to fluoresce.

Science News Letter, September 27, 1952



3 INCH EQUATORIAL

Ideal for amateur astronomical research
Objective: Coated 78mm (3") diameter, 1200mm (47.2") focal length. f/16.
Eyepieces: 200x, 133x, 96x, 67x, 45x.
COMPLETE with equatorial mounting and slow-motion controls, setting circles, tripod, eyepieces, sun projecting screen, view finder, star diagonal, erecting prism system, etc., fitted wooden cabinets.
 Express collect. **Only \$435**

OTHER UNITRON REFRACTORS

2.4 INCH EQUATORIAL..... \$225
 2.4 INCH ALTAZIMUTH..... 125
 1.6 INCH ALTAZIMUTH..... 75

All Instruments Fully Guaranteed
 25 percent deposit required on C.O.D. shipments.
 Send check or money order or write for illustrated literature to:

UNITED SCIENTIFIC CO.
 204-6 Milk St., Dept. L-94, Boston 9, Mass.

