



in the west, and Capella, in Auriga, the charioteer, to the northwest.

Other stars of the first magnitude seen on March evenings are Regulus, in the sickle, which is part of Leo; Arcturus, in Bootes, to the northeast, and Spica, in Virgo, the virgin, which is below and to the left of Leo.

A welcome astronomical event of the month comes on March 20, at 7:21 p. m., eastern standard time. Then, for the northern hemisphere, the season of spring commences.

Celestial Time Table for March

Saturday, March 1, 12:57 a.m., Algol at minimum. **Sunday, March 2,** 4:00 p.m., Moon farthest, distance 251,800 miles. **Monday, March 3,** 3:44 a.m., Moon passes Saturn; 5:31 a.m., Moon passes Jupiter; 9:46 p.m., Algol at minimum. **Wednesday, March 5,** about noon, Occultation of Aldebaran.

Thursday, March 6, 2:43 a.m., Moon at first quarter; 6:35 p.m., Algol at minimum. **Thursday, March 13,** early a.m., Partial eclipse of moon; 6:47 a.m., Full moon. **Friday, March 14,** 5:00 p.m., Moon nearest, distance 223,800 miles. **Monday, March 17,** 3:00 a.m., Neptune nearest, distance 2,716,000,000 miles. **Wednesday, March 19,** 9:51 p.m., Moon in last quarter. **Thursday, March 20,** 7:21 p.m., Vernal equinox; sun crosses equator and spring begins in northern hemisphere. **Friday, March 21,** 2:42 a.m., Algol at minimum; 4:31 p.m., Moon passes Venus. **Sunday, March 23,** 11:31 p.m., Algol at minimum. **Tuesday, March 25,** 6:08 a.m., Moon passes Mercury; 10:00 a.m., Mercury farthest west of sun. **Wednesday, March 26,** 8:20 p.m., Algol at minimum. **Thursday, March 27,** Annular eclipse of sun; 3:14 p.m., New moon. **Sunday, March 30,** 5:00 a.m., Moon farthest, distance 252,400 miles; 4:07 p.m., Moon passes Saturn; 11:11 p.m., Moon passes Jupiter.

Eastern standard time throughout.

Science News Letter, February 22, 1941

CHEMISTRY

Good May Come out of War By New Scientific Discoveries

Many Important Chemical Developments Have Come From Search for Substitutes Made Necessary by War

"IF ANYTHING good is to come out of the present war, perhaps it will be some new scientific discoveries and applications resulting from interest in what are so generally called 'ersatz,'" Dr. Harrison E. Howe, editor of *Industrial and Engineering Chemistry* and Chemical Priority Executive in the Office of Production Management, declared before the New York Section of the American Chemical Society.

Many important chemical developments have come from the search for such substitutes, made necessary by war

or national emergency, in the United States and other countries, he stated. "The World War gave us the synthetic organic chemical industry," he said.

"Ersatz," according to Dr. Howe, is only another instance in history where science has been used to lift a nation out of its difficulties. Science also broke blockades by discovering beet sugar, oleomargarine, and how to make soda from common sea salt, Dr. Howe pointed out.

When the price of sugar increased extraordinarily on the Continent because of

Napoleonic policy, Franz Carl Achard in 1801 established a beet sugar factory near Breslau in Silesia, using the knowledge learned from his professor, Andreas Sigismund Marggraf of the Berlin Academy of Sciences, who in 1747 first discovered the existence of common sugar in beetroot. Beetroot sugar factories were soon started in many centers in Germany and France.

Oleomargarine was first made in 1870 by a French chemist, Mege-Mouries, who experimented to obtain a cheap butter substitute for the benefit of the poor. Another French chemist, Nicolas Leblanc, in 1787 was attracted to the urgent problem of manufacturing carbonate of soda from salt. In 1792 he was granted a patent for his process, and a factory was started near Paris. As a result of the French Revolution, the factory was confiscated soon after its opening.

Dr. Howe pointed out a fundamental difference between American "ersatz" materials born of research and those produced in Germany. Ours, he said, are supplements and equivalents of the things which they replace, rather than makeshift products.

"Our scientists have displayed persistence, ingenuity, invention, and powers of discovery equal to those from overseas," said Dr. Howe.

"Our 'ersatz' covers a wide range of articles. We too have produced synthetic fibers, new resins, and clad metals. These new things are obliged to make their way on their merits because fortunately we can still decide what to use and how to spend our dollars. Consequently our 'ersatz' materials must make their way on price and service."

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MEDICINE

Simplified Iron Lung Covers Only the Torso

A SIMPLIFIED iron lung, used for aiding artificial breathing, in the treatment of conditions when the respiratory muscles fail to function, has recently been invented. It encloses only the patient's torso. New means are used for the prevention of air leaks, which are especially troublesome in a small respirator, with its limited total volume of air. (Patent 2,227,847, Theodore J. Shoolman, Brookline, Mass.)

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War has delayed England's nylon yarn production, but nylon is being developed for surgical thread, brush bristles and fishing lines.

