

MEDICINE

**Artificial Respiration
By Verbal Direction**

► GIVING VERBAL artificial respiration, or telling the patient to breathe, may be life-saving in some cases of bulbar poliomyelitis, it appears from a report by Drs. Stanley J. S. Sarnoff, James L. Whittenberger and John E. Affeldt of Boston to the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (Sept. 1).

One of the cases they report was a nine-year-old boy who had been doing reasonably well until early one morning when his breathing became very shallow. When he was aroused or became restless, he breathed normally, lapsing into the shallow breathing when he was quiet. He could breathe forcefully when told to do so, showing that he had full control of his breathing muscles.

The shallow breathing which did not get enough air into his lungs apparently was due to a diseased state of the breathing center in his brain. For 72 hours the nurses watched this boy carefully, reminding him to breathe whenever his breathing center "forgot" to do so. After that he was able to breathe all right on his own.

The verbal method of artificial respiration of course cannot be used unless the patient's mind is clear enough so that he can follow directions. Even then some patients will need stimulation of the phrenic nerve in the chest or brief periods in a tank respirator.

Science News Letter, September 8, 1951

AERONAUTICS

**America Well Forward in
Fighting Plane Quality**

► THE QUESTION of which nation in the world has the best jet engine and the best jet plane may never be answered but records made in the recent National Air Races at Detroit by American fighting jets and bombers show that this country is well in the foreground.

More about the Russian engine that powers the MIG-15 jet fighter, and the plane itself, will soon be known by the American Air Force which now has at Wright-Patterson Air Force Base an MIG-15 plane captured fairly intact by the U. S. Navy. It is said to be the first Russian plane of the type that has been captured in good enough condition so that it can be analyzed minutely.

On the 62-mile oval closed course at Detroit, an Air Force fighter made a new world's record of slightly over 628 miles per hour, which bests the former British record of 605 miles per hour. In another run over the same course, not yet pronounced official, the American plane flew at 635 miles per hour. Other records were made by other planes.

American fighting planes taking part in the races at Detroit were standard planes

with standard equipment and full combat loads, including complements of guns and rockets. Planes exactly like the new speed record holder, carrying the same armament, pilot protection and fuel tanks, are fighting in Korea today.

As stated by a retired Naval officer, the races demonstrate that the American aircraft industry has been able to give our operational forces exceptional speed, maneuverability and range—without stinting on the traditional pilot safety and high fire-power characteristics of U. S. planes.

Science News Letter, September 8, 1951

AGRICULTURE

**Leafy Vegetables Keep
Best Near Freezing**

► IF THE holding temperature is known, the total storage life of harvested vegetables can be predicted with reasonable accuracy.

Storage tests at controlled temperatures, made by Leonard Morris of the truck crops division of the University of California Agricultural Experiment Station at Davis emphasize the value of rapid cooling and good refrigeration for leafy vegetables continuously from harvest to purchase from the grocer's counter.

Highly perishable products like spinach and broccoli are usable for as long as 60 days when held at near-freezing temperatures. With each 18-degree rise above 32 degrees, their storage life is cut from one-third to one-half. At 68 degrees they deteriorate beyond use within two or three days.

Potatoes, however, are another story. It is neither necessary nor desirable to have low temperatures for shipping early potatoes.

Since potatoes need a warmer temperature than full icing affords, the practical solution is to permit the ice to become low or even depleted during transit.

Science News Letter, September 8, 1951

PSYCHOLOGY

**Voices from Sky
Cause Red Surrenders**

► AIRBORNE LOUDSPEAKERS shouting messages to enemy troops in Korea have had spectacular effects in causing surrenders, Lt. Col. J. K. Norris of the Army's Office of the Chief of Psychological Warfare told the meeting of the Illuminating Engineering Society in Washington.

The voice from the sky offers Communist troops good treatment and good food if they surrender and stresses the superiority of the UN forces and the UN objectives in uniting Korea.

Another use for the air-borne loudspeaker is in directing refugees—in traffic control, Col. Norris said.

Science News Letter, September 8, 1951

IN SCIEN

NUTRITION

**Supply of Hog Fattener
In Waste from Cities**

► A LARGE potential supply of vitamin B-12, the famous anti-anemia and hog-fattening vitamin, has been discovered in activated sewage sludge.

The discovery is reported by Sam R. Hoover, Lenore B. Jasewicz and Nandor Porges of the USDA Eastern Regional Research Laboratory in Philadelphia in the journal, *SCIENCE* (Aug. 24).

Activated sludge is the more or less solid matter settling out of sewage which is subjected to the action of oxidizing bacteria in sewage treatment plants. Heretofore dried sludge has been of value only as fertilizer. Chick feeding experiments are now under way at the Department of Agriculture laboratories in Beltsville, Md., to determine whether the vitamin in the dried sludge fattens the birds the way B-12 from other sources, such as the streptomycin producing mold, fattens them.

Science News Letter, September 8, 1951

SOCIOLOGY

**First-Born Child More
Likely to Be a Boy**

► THE FIRST-BORN child is more likely to be a boy than children born later.

This is probably the reason for any increase found in the ratio of the number of boys born to the number of girls born during World War II rather than a result of the greater proportion of births to young mothers.

Such are the conclusions of Dr. C. A. McMahan, sociology professor at the University of Georgia in Athens, Ga., from a study of the birth registrations in the United States during the period 1915 to 1948.

The number of males per 100 females is the sex ratio. It affects such things as the chances of getting married, the amount and extent of migration and the death rate.

The sex ratio at birth for the population of the United States is usually regarded as about 106 for whites and 103 for Negroes.

The widespread belief that the sex ratio rises in wartime or immediately thereafter because "nature" compensates for war casualties, from battle, from starvation and from other sources is evidently not so, Dr. McMahan charges. Rather, "war with its accompanying conditions does not directly affect the sex ratio at birth," he states in a report to the Milbank Memorial Fund.

Science News Letter, September 8, 1951

CE FIELDS

MEDICINE

Cold Chemical Helps Detect Heart Murmurs

► A CHEMICAL familiar in nose drops used to relieve stuffiness and congestion in colds can help doctors detect heart murmurs, Dr. E. M. M. Besterman, a rheumatic fever specialist, reports in the *BRITISH MEDICAL JOURNAL* (Sept. 1).

When the chemical, called Neo-synphrine, is injected into the body, it slows the heart rate and at the same time increases the flow of blood and stroke volume, thus accentuating the murmur.

The heart murmur is described as an abnormal, gentle swishing sound caused by a damaged heart valve. It is often the only sign of heart damage, as in rheumatic fever, but in the early stages may be so faint as to go undetected.

Science News Letter, September 8, 1951

INVENTION

Improve Process to Get Natural Gas Carbon Black

► CARBON BLACK, an essential in the manufacture of automobile tires and used for many other purposes, is made from natural gas by an improved process which brought patent 2,564,736 to Charles A. Stokes, Wellesley Hills, Mass. Godfrey L. Cabot, Inc., Boston, has acquired the patent rights by assignment.

The process is characterized by burning streams of natural gas and oxygen, or a mixture of natural gas and oxygen, in a combustion chamber containing no air. The result is a larger yield of carbon black than obtained by older methods, and also the production of a synthesis gas that can be converted into liquid fuels.

Science News Letter, September 8, 1951

TECHNOLOGY

Nitric Acid Substitutes for Sulfuric, Relieving Shortage

► RELIEF FROM the present world-wide shortage of sulfur and sulfuric acid is promised with processes for making fertilizer with plentiful nitric acid. Some four million tons of sulfuric acid have been used each year in the United States to make superphosphate fertilizers.

The shortage of sulfur and sulfuric acid is currently the most acute one facing the chemical industry, chemically-based industries and agriculture, the Soil Science Society meeting in State College, Pa., was told by Dr. Eugene D. Crittenden of Allied Chemical and Dye Corporation, New York.

The Tennessee Valley Authority, he said, has done extensive pilot plant work on nitro-phosphate processes and on agronomic testing of the product. The most successful processes studied by this organization were those using nitric acid in admixture with either sulfuric or phosphoric acid. The product, after granulation and drying, is reported to have good storage properties and to give excellent results in crop-growing tests.

Substitution of nitric for sulfuric acid will require alterations in the whole technology of superphosphate manufacture, he stated. The alterations include equipment, processing methods and product finishing steps. More extensive equipment is needed for finishing nitro-phosphate products than in producing ammoniated superphosphates or ammoniated complete fertilizers.

Science News Letter, September 8, 1951

OCEANOGRAPHY

Find Flat-Top, Mile-High Mountain Mile Below Sea

► A MILE high mountain whose flat top three miles wide is buried a mile beneath the surface of the northern Pacific has been discovered by an oceanographic expedition aboard the *Horizon*, vessel of the Scripps Institution of Oceanography at La Jolla, Calif.

Christened "Holiday Seamount" it is located at 55 N and 143 W. Holiday is a sea area on which little information is available and seamount is the term for a flat-top isolated mountain beneath the sea.

Science News Letter, September 8, 1951

TECHNOLOGY

Facsimile Transmission of News to be Tried in Japan

► THE FACSIMILE system of transmitting exact copies of printed pages, written items, photographs and charts by wire or radio will be used in Japan by a central news agency to distribute daily items to its newspaper subscribers.

The teleprinter system, in general use throughout the Western World, is not satisfactory in Japan and China because of the complicated characters used in writing. With the use of facsimile, perfect, complete copies in eastern characters will be received by the newspapers.

The Japanese News Agency, which specializes in economic and financial news, has been granted an exclusive license under the Hogan facsimile patents in Japan, Formosa, Korea and Okinawa, it was announced in New York by John V. L. Hogan, president of Faximile, Inc.

Equipment will also be made available for other uses, Mr. Hogan stated. Units have already been shipped to the Japanese National Rural Police for installation on its radio communications network.

Science News Letter, September 8, 1951

GEOLOGY

Diamonds Found All Over U. S. But Chances Are Slim

► YOU COULD pick up a diamond from the ground out walking almost anywhere in the United States, but the chances are against it. And the chances that such a find would lead you to a valuable diamond deposit are extremely slim.

Geological conditions ages ago apparently just were not right for the formation of diamonds in the United States. Nevertheless, diamonds have been found in several states—California, Indiana, Kentucky, North Carolina, Texas and West Virginia among others.

The only state, however, where a diamond has been found in the place where it was formed is Arkansas. An Arkansas diamond as well as those from other states mentioned is among the diamonds now in the gem collections of the Smithsonian Institution in Washington.

Diamonds found in the U. S. do not fit into any pattern. The great majority of them have been in glacial drift, brought in one of the huge ice masses that covered most of the northern half of the country at one time. Others have been picked up in the mud and debris deposited by rivers.

Science News Letter, September 8, 1951

AGRICULTURE

Artificial "Sun" Gives More Eggs, Lambs and Flowers

► ARTIFICIAL "SUNS" can help the United States produce the food required to maintain our present standards of living, Dr. Byron T. Shaw, deputy administrator of the U. S. Department of Agriculture's Agricultural Research Administration has stated.

Electric lamps, producing radiations in the visible, the ultraviolet and the infrared will continue to play an increasing role in many branches of agriculture he told members of the Illuminating Engineering Society meeting in Washington. Hens kept entirely out of the sunlight but continuously exposed to ultraviolet light have laid from 10 to 19 per cent more eggs, Dr. Shaw pointed out, than hens kept under the same conditions but without ultraviolet lights.

Lambs for market might be more plentiful if the sheep breeding season could be lengthened. Restricting light received by females to only six hours a day may do just that, Dr. Shaw said.

Because plants respond to a definite day-night cycle, breeders have been able to speed up flowering of plants used in crop breeding to grow two or more generations in one year, instead of just one. It is this response to light and dark, Dr. Shaw noted, that makes it possible for chrysanthemum growers to have flowers in bloom for football games or special holidays.

Science News Letter, September 8, 1951