

BIOCHEMISTRY

Synthesize Part of Large Vitamin Fragment

► PART of the biggest piece of anti-anemia vitamin B-12 has been synthesized by scientists of Merck and Co., Inc., Rahway, N.J. The synthesis is considered a key both to the vitamin's structure and to its complete synthesis, as well as to more knowledge of how the vitamin acts in the body.

The vitamin, made up of 183 atoms of six different kinds, is produced by fermentation methods similar to those used for production of penicillin and other antibiotics.

The synthesis, by Drs. Karl Folkers, Frederick A. Kuehl and Clifford H. Shunk, was announced by Dr. Folkers at the International Congress of Biochemistry, Brussels, Belgium.

Science News Letter, August 13, 1955

PUBLIC HEALTH

Nearly Eight Million Get Polio Vaccine Safely

► ADDITIONAL ASSURANCES that "accidents" with polio vaccine are the exception, not the rule, comes from the fact that nearly eight million children have now received the vaccine without harmful effect, in the opinion of Dr. Thomas Francis Jr., director of the Poliomyelitis Vaccine Evaluation Center at the University of Michigan.

The eight million includes children vaccinated in Canada and Denmark as well as the United States.

Contrary to some authorities, Dr. Francis thinks that polio has not been overemphasized as a disease problem.

"The fact that other diseases are more prevalent or more severe only indicates that they too need adequate investigation looking toward control," Dr. Francis said.

Science News Letter, August 13, 1955

ASTRONOMY

Three Asteroids Are Named by Discoverers

► THREE ASTEROIDS, or minor planets, have now been named by their discoverers, Cincinnati Observatory has reported.

Following international custom, the astronomers who first spotted these celestial fragments picked the asteroids' names.

The minor planet 1942 AA will be known as Wingolfia, in honor of a Heidelberg student fraternity, banned during Hitler's time, which celebrated its 104th anniversary June 17. K. Reinmuth of Konigstuhl Observatory, Heidelberg, Germany, chose the name.

Dr. L. Boyer of the Algerian Observatory, Algiers, discovered two asteroids five years ago. The one formerly known as 1950 CA will now be called Paloque after E. Paloque, director of the Observatory of Toulouse, France. The minor planet 1950

WA will henceforth be known as Giomus, so named in honor of the birthplace of P. Pretre. It is the sixth-century name of the present town of Gien (Loiret), which suffered terribly during the Nazi occupation of 1940.

Minor planets are believed to be remnants of an exploded planet that once traveled in an orbit between Mars and Jupiter. Stellar in appearance, they have no light of their own, shining only by reflected sunlight.

Science News Letter, August 13, 1955

RADIO ASTRONOMY

Strong Radio "Star" Found in Milky Way

► DISCOVERY of a new, strong radio "star" in the Milky Way galaxy is reported by Drs. H. C. Ko and J. D. Kraus of Ohio State University, Columbus, Ohio, in *Nature* (July 30).

Radio "stars" send out energy as do visible stars, but in the form of radio waves, not light. Very sensitive receivers known as radio telescopes pick up this cosmic static.

When Drs. Ko and Kraus aimed their receiver toward the constellation of Monoceros, the unicorn, they found a radio source at a position agreeing closely with that of the Rosette nebula.

Their discovery was made during a survey of that part of the sky in a direction opposite from the galaxy's center. Eighteen other intense radio sources were also detected in that region, according to the scientists' report.

Science News Letter, August 13, 1955

METEOROLOGY

Hot August Forecast for Northern Part of Nation

► A HOT AUGUST for almost all the northern two-thirds of the nation, with temperatures averaging above seasonal normals, has been predicted by the Weather Bureau's long-range forecasters.

Thermometer readings will register especially higher than average in the Central and Northern Plains regions, they forecast. Only exceptions to above average temperatures in the North will be in the Pacific Northwest and in northern New England, where near normal temperatures are expected during August.

Below normal temperatures are predicted for the Gulf states and the Southeast. Unspecified areas are expected to average near normal in August.

Precipitation is forecast to exceed normal along the Gulf Coast and over the southeastern quarter of the nation, as well as in the western inter-mountain region and the Pacific Northwest.

Subnormal amounts of rain are anticipated over the Central and Northern Plains, the Great Lakes region and the Northeast.

Science News Letter, August 13, 1955

IN SCIEN

MEDICINE

Ultrasound Relieves Phantom Limb Pain

► PHANTOM LIMB PAINS, a troublesome affliction in amputation cases, and pains in amputation stumps can be relieved in many cases by ultrasound treatment, Veterans Administration doctors have reported.

Rheumatic diseases and some painful muscle and nerve conditions are also helped by treatment with high frequency sound waves that cannot be heard by human ears.

Equipment for ultrasound treatments has now been installed in nine hospitals and one regional center, and will be installed in other VA facilities as soon as qualified personnel are trained for its use, the VA has announced.

The treatment is not considered a cure-all and patients are carefully selected to make sure they will benefit by it.

Science News Letter, August 13, 1955

CYTOLOGY

"Leaky" Cells May Cause Muscular Dystrophy

► MUSCULAR DYSTROPHY and other primary muscle diseases may be caused by "leaky" cells with inherent defects that permit potassium to drain out.

This was suggested by doctors at the University of California at Los Angeles Medical Center and the Los Angeles Veterans Administration Center.

Measurements were made of cellular potassium in patients with muscular dystrophy and certain other muscle disorders, and among members of the patients' families. Potassium level was found to be low in all patients and among several apparently healthy children of muscular dystrophy patients.

Patients with childhood muscular dystrophy had particularly low potassium content. There was also some correlation between potassium level and degree of physical disability.

The study indicated that a critical level of body potassium may exist, below which normal muscle function cannot be maintained, resulting ultimately in muscular atrophy and degeneration. The low potassium content of some healthy children of muscular dystrophy patients suggested that an inherent cellular defect might be responsible for this condition.

The study, reported in *Neurology*, was performed by Drs. William Blahd, Franz Bauer, Raymond Libby and Augustus Rose under a grant from the Muscular Dystrophy Associations of America, Inc.

Science News Letter, August 13, 1955

CE FIELDS

MEDICINE

Drug Restores Deranged Brain Waves to Normal

► A DRUG that shows promise in clearing hallucinations, delusions and other symptoms in some mentally sick persons now is found to restore deranged brain waves to normal.

The drug is a pipradol chemical trademarked Frenquel by the manufacturer, the Wm. S. Merrell Co. of Cincinnati.

Its effect on abnormal brain waves is announced by Dr. Franco Rinaldi of the University of Cagliari, Cagliari, Italy, and Dr. Harold E. Himwich of the Galesburg State Research Hospital, Galesburg, Ill.

In patients with the mental sickness schizophrenia, and in a drug-induced mental condition that mimics schizophrenia, brain wave patterns are similar but both differ from normal. They show a change of the brain's electric activity, with choppy rhythm and low-voltage fast activity.

In rabbits, these brain wave changes were brought on by LSD-25, lysergic acid diethylamide, the drug that causes schizophrenia-like hallucinations in normal persons.

Within two to ten minutes after giving Frenquel, however, the normal pattern of brain electric activity was restored.

The effect of Frenquel is apparently specific for changes caused by LSD-25 in the rabbit brain waves. The findings give further evidence that the action of Frenquel is restricted to the brain and central nervous system and does not affect the autonomic nervous system.

Science News Letter, August 13, 1955

AERONAUTICS

Plane Can Land on Any Surface With New Gear

► A SKI-WHEEL landing gear, known as a retractable hydro-lift, now makes every beach in the world a potential airfield for long-range bombers, as well as jet fighters.

A small businessman's aircraft, the first airplane to be equipped with the landing gear, has flown successfully, its designers, the All American Engineering Company, reported in Wilmington, Del. Capable of being tailored to fit any airplane, the hydro-lift permits land-based planes to operate from water, snow, mud, ice and runways.

Using the same principle as water-skiing sportsmen do, the hydro-lift gear resembles a pair of short wide skis with wheels protruding from the center. On land, the gear operates as on a conventional wheeled plane. On water, the retractable skis allow a pilot to skim the water at 15 miles per hour or more until he taxis it onto a beach

or wooden ramp.

On take-offs, the procedure is reversed. The pilot starts from the beach to pick up speed before turning into the water for take-off.

In mud or snow, the hydro-lift airplane uses skis to prevent sinking and for take-offs.

The hydro-lift's developers see many military and civilian applications for retractable ski-wheel landing gear. They pointed out that bombers equipped with the gear could be strung out along beaches, eliminating crowded and "vulnerable" airfields.

Jets could be water borne, and for island-hopping operations could be landed right on the beachhead. Cargo aircraft could act as landing ships for a beachhead operation.

Commercial airliners equipped with the gear, they said, can get closer to the center of cities located near water. Private pilots near lakes or rivers can have private airports.

Science News Letter, August 13, 1955

VETERINARY MEDICINE

Animals Looking Rabid May Have Distemper

► WILD ANIMALS showing rabies symptoms—aggressive behavior, convulsions, frothing at the mouth, lack of fear of man—may really be suffering from canine distemper, two University of Connecticut scientists have discovered.

Examining 35 foxes, skunks and raccoons, displaying rabies symptoms, Drs. C. F. Helmboldt and E. L. Jungherr found no rabies cases among them, but they did discover canine distemper in 20 of the animals.

Laboratory tests on the remaining 15 animals for distemper were not conclusive, but the scientists believe that some of these suffered from canine distemper too.

In wild animals of relatively rabies-free areas, the disease should not be diagnosed from symptoms alone but requires complete laboratory testing, they concluded.

Their findings are reported in the *American Journal of Veterinary Research* (July).

Science News Letter, August 13, 1955

TECHNOLOGY

Air-Filled Cushions Soften Equipment Drops

See Front Cover

► FOUR PARACHUTES and six Aero-Pallet cushions take the shock out of drops of heavy military equipment during tests at the Naval Air Auxiliary Air Station, El Centro, Calif.

The barrel-shaped cushions, developed and built by Firestone Tire & Rubber Company, fill with air while falling from a cargo plane, as shown on the cover of this week's SCIENCE NEWS LETTER. After cushioning the shock of landing, they collapse. They reduce ground impact in parachute drops of weapons, jeeps, bulldozers and other equipment.

Science News Letter, August 13, 1955

CHEMISTRY

Debasement of Coinage Practiced in 50 B.C.

► DEBASING CURRENCY is not just a modern economic expedient.

Chemical evidence has revealed that silver money was debased some 2,000 years ago by cutting down the silver content in the ancient kingdom of Parthia's money.

Parthia became an independent kingdom about 250 B.C. and, despite Roman attacks, remained so for nearly 500 years. Its area covered most of what is now Iran.

Under King Orodes I, silver content of the Parthian coin, the drachm, dropped as low as 40%, well below that of coins struck off before and after his reign. All U. S. silver coins from a dime to a dollar contain 90% silver.

Chemical analysis of the ancient coins was made by Dr. Earle R. Caley of Ohio State University and Prof. Charles D. Oviatt of Tarkio College, Mo. They reported their findings in a monograph to the American Numismatic Society.

"Extraordinary circumstances" may have accounted for this severe debasement of the Parthian coinage, Dr. Caley said. Such circumstances may have included the internal struggle for power between Orodes and his brother, Mithradates III, military clashes with the Roman Empire, and the Parthian invasion of Syria in 51-50 B.C.

"Between 57 and 50 B.C.," Dr. Caley said, "it may well have been that the available supply of pure silver simply could not keep pace with the increased demand for coins. . . . Since there was no reduction of the weight standard for the drachm, the only way by which the demand could then be met would be by the debasement of the coinage silver."

Science News Letter, August 13, 1955

MEDICINE

Cancer Greater Risk To Men Than to Women

► THE RISK of developing cancer is 60% greater for men than for women, if cancer of the reproductive organs and breast cancer are excluded, surveys by the National Cancer Institute, Bethesda, Md., show.

"This greater risk is related, in part, to the survey findings that cancer of the lung and bronchus occurs more than five times as frequently, and laryngeal cancer 12 times as frequently in men as in women," Dr. John R. Heller, director of the National Cancer Institute said.

The data further indicate that the death rate from cancer is now definitely higher for men than for women in the white population.

These findings from ten metropolitan areas studied by the Institute are reported in "Morbidity from Cancer in the United States—Variation in Incidence by Age, Sex, Race, Marital Status, and Geography," by Dr. Harold F. Dorn and Sidney Cutler. (See p. 108.)

Science News Letter, August 13, 1955