

an early morning twilight song of great beauty and of musical interest because it can be "described definitely and analyzed mathematically," a leisurely daytime song, and an evening twilight song.

Composed of three different phrases repeated hundreds of times in varying order, the twilight song is a continuous musical composition. Because the three phrases are easily identified, it was possible for 22 observers, working independently, to cooperate with Dr. Craig in a statistical study to determine the order of the succession of the phrases.

The wood pewee is the only wild bird, anywhere in the world, whose song has been observed cooperatively and analyzed statistically to determine the order of succession of the phrases and hence the musical structure of the song.

Science News Letter, July 22, 1944

MEDICINE

Growth Hormone May Be Tested by New Method

► AN ACCURATE, sensitive method for testing the potency of the pituitary growth hormone has been worked out by Dr. Herbert Evans, Dr. Miriam E. Simpson and Dr. Walter Marx, of the University of California.

The test is based on the fact that a cartilage disk on the end of one of the leg bones, the epiphyseal cartilage of the tibia, changes its width in proportion to the increase of weight of the young rat as it grows. The solution of the growth hormone to be tested is injected for four days in succession into an immature female rat from which the pituitary gland has been removed. At the end of the fifth day the tibia is dissected, split, and hardened with formalin. It is then treated with a silver solution, exposed to light, fixed, and washed, somewhat in the manner of a photographic film. The epiphyseal cartilage shows up as a white band which may be measured under the low-power microscope. Width of this band is proportional to amount and strength of the hormone, the scientists found.

Trial of the growth hormone is as yet limited to work with animals but standardization of a test for potency is one of the necessary steps before any hormone can be used clinically on humans, Dr. Evans pointed out.

The cartilage test is 11 times as sensitive as measuring the growth-promoting qualities by means of increase in body weight of the animals.

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BOMB RACK IN WINGS—The 13th Air Force Service Command in the South Pacific has produced a more versatile and powerful P-38 Lightning plane by designing the external wing bomb rack seen in this official U. S. Air Forces photograph.

PUBLIC HEALTH

Polio Cases Increase

► INFANTILE paralysis cases increased in five states during the week ending July 8, reports received by the U. S. Public Health Service in Washington show. For the nation as a whole, excluding Rhode Island from which no report was received, there were 289 cases, compared with 222 the previous week and 244 for the corresponding week of last year.

Dr. Charles Armstrong, one of the U. S. Public Health Service's experts on infantile paralysis, has returned from North Carolina, where he went at the request of the state health officer. North Carolina is having the worst of the current epidemic and is suffering from a shortage of physicians. This state reported 94 cases for the week ending July 8, 84 the previous week, and a total of 269 so far this season.

All infantile paralysis patients in the state are being hospitalized. At Hickory, center of the outbreak, a nearby boys' camp was rapidly converted into a hospital. Red Cross nurses are on the job, there are plenty of respirators, and the children are getting the Kenny treat-

ment. Dr. Armstrong praised the way in which state and local health authorities, assisted by the Red Cross, the Army and the National Foundation for Infantile Paralysis, have been handling the

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situation. The patients are getting good care, Dr. Armstrong said, and the fact that hospital care is being made available to all of them is enabling many to get attention much earlier than they otherwise might, especially with doctors scarce. Because of the physician shortage, the U. S. Public Health Service has arranged for its emergency health and sanitation service doctor and nurses to assist state authorities if needed.

Next largest number of infantile paralysis cases were reported from New York State, which had 34 the week ending July 8, compared with 25 the previous week. Cases increased from six to 26 in Pennsylvania, from 6 to 14 in Virginia, and decreased from 29 to 28 in Kentucky.

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BACTERIOLOGY

Nervous System Diseases May Get Serum Treatment

► HOPE that serum treatment for nervous system diseases caused by viruses, such as infantile paralysis, might become effective appeared in studies reported by Dr. Charles A. Evans, of the University of Minnesota, Dr. Howard B. Slavin and Dr. George P. Berry, of the University of Rochester.

Failure of serum treatment against infantile paralysis in the past has been explained as due to the blood-brain barrier. The antibodies which might fight the virus may develop or be injected into the blood but are ineffective because they cannot pass this barrier to get at the virus in the brain and nervous system, is the theory.

Working with a different kind of virus, the herpetic virus that attacks the nervous system of mice, Dr. Evans and associates found that anti-herpetic serum did retard the progress of the virus through the nervous system and in some cases arrested it altogether.

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Perennial Calumny

► GOLDENROD is in bloom again, and over wide stretches of the American landscape resound the agonized sneezes of hay-fever sufferers. Because the two things happen at approximately the same time and often in the same places, it is widely assumed that the goldenrod is responsible for the sneezes.

That too-easy assumption of a causal connection works a gross injustice on a group of our most beautiful late-summer wildflowers. For the real villains in the piece, responsible for easily nine-tenths of summer and fall hay fever, are the ragweeds. Ragweed pollen is hundreds of times as abundant in the air as goldenrod pollen, and grain for grain is much more irritating to most sensitive noses.

The case is complicated by the fact that the goldenrod is not utterly innocent. Allergists have found that its pollen does cause some hay fever cases. However, their number is quite insignificant as compared with the huge army of sufferers from the effects of ragweed pollen.

Moreover, it is possible for a victim of the ragweed dust to bring on an

attack of sneezes and smarting, watery eyes by walking through a patch of goldenrod. The pollen that sets him off will be of the genuine ragweed variety, that has fallen on the foliage and flowers of the goldenrod, and is then stirred into the air again by the disturbance. How is the poor, unsuspecting hay-fever victim to know that the goldenrod also is a victim, with incriminating evidence "planted" on it?

Goldenrod has the further disadvantage of being frequently found in bad company. Unfortunately, the same fertile, well-drained soils, with open, sunny exposure that the most abundant goldenrod species prefer are favorable also for the growth of the ragweeds. So it is nothing uncommon to find bright masses of goldenrod and the dark, rank phalanxes of the ragweeds standing side by side.

A final misfortune of the goldenrod lies in the very beauty of its bloom. Most of us think of flowers in terms of bright, conspicuous corollas. Goldenrod flowers have them; ragweed flowers do not. So we see the brightly clad innocent bystander and give it the blame, while the green-camouflaged poisoner of the air escapes detection.

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INVENTION

Ships Unloaded Faster by Cargo Handling Apparatus

► QUICKER unloading of ships in war ports is promised by a newly patented apparatus, the invention of an officer in the U. S. Army, Col. James A. Dorst, on which U. S. patent 2,353,135 has been assigned, royalty-free, to the government.

The device consists of an endless belt mounted on a frame with suitable rollers or pulleys at either end. This can be lowered through the hatchway of a ship by means of a derrick. At intervals, the belt carries transverse rows of well-braced arms or rods, each series forming a kind of slotted shelf. From the edges of the decks adjacent to the hatchway, similar slotted shelves are thrust, so that the moving shelves pass through them. Any box or other package pushed out on one of these shelves will thus be picked up and lifted clear of the upper deck, and when it passes over the top of the apparatus it will be dumped onto a skid-way or roller conveyor.

Run in reverse, the apparatus can of course be used for rapid loading of the ship.

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