



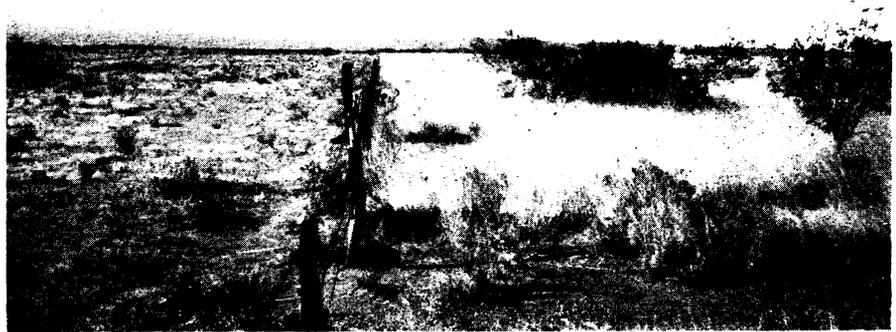
Ecologist at Work: Sequel

HOW a few inches of type on a printed page helped a Western university to acquire a square mile of land was related at the Dallas meeting of the Ecological Society of America by Prof. Charles T. Vorhies of the University of Arizona. It was a story combining science and human interest—with a happy ending.

It started two years ago, when Prof. Vorhies appeared before the Ecological Society at Columbus, Ohio, with an account of how an old man, Joseph T. Page, had redeemed half a section of seemingly ruined rangeland, over a period of 17 years, simply by giving the grass a chance to grow again, with a little help in the way of grubbing out a few weeds every day. At the same time he got rid of burrowing rodents simply by channeling rainwater run-off into their holes. In the end, he had turned a piece of desperate-looking waste into good pasture again.

At the time, the story was made the subject of an item in the *Nature Ramblings* column (SNL, Feb. 3, 1940). It was also printed by a considerable number of newspapers. Notice of Mr. Page's work came to the attention of a New York banker, W. B. Trowbridge, who owned a big ranch near Mr. Page's little one. Mr. Trowbridge, a philanthropist in a quiet way, arranged for the purchase of the Page ranch and its presentation to the University as a range demonstration area. The University had long wanted such an area, but lacked funds for purchase and maintenance.

Subsequently, Mr. Trowbridge arranged for the purchase of an additional half-section immediately adjacent to the original Page tract. This land, still denuded, infested with burrowweed and riddled with rodents, serves for "awful



PRACTICAL CONSERVATION

"Before and After" pictures in a single photograph. The fence marks the boundary of the original Page Ranch, on what is now the Page-Trowbridge Experimental Range Reserve. Before Joseph T. Page began his slow, patient, nature-guided work of grassland restoration, nearly 20 years ago, the right side, now in rich grass, was as bare and denuded as the area on the left.

example" purposes, in contrast to the beautiful crop of grass that waves on the Page acres.

Shortly after its acquisition cooperative agreements between the University of Arizona, the U. S. Soil Conservation Service and the U. S. Forest Service were made, which resulted in surrounding the area with a strong new fence and erection of some buildings, completed early in 1941. On December 4, the tract was officially given the title, "The Page-Trowbridge Experimental Range Reserve."

One note of sadness enters the story: Mr. Trowbridge did not long survive the fulfillment of his benevolence; he died suddenly early last September.

Octogenarian Mr. Page, however, still hale and hearty, was invited last summer to appear on the radio program, "We, the people." He had the double thrill of an airplane ride all the way to New York and back, and of being interviewed before the microphone on a nation-wide network.

Science News Letter, January 3, 1942

PLANT PATHOLOGY

New Disease, Attacking Hardy Roots of Orange Trees

BRAZILIAN-AMERICAN cooperation has resulted in the uncovering of a hidden enemy that bores from beneath, threatening Hemisphere citrus crops. The enemy is a parasitic fungus, and its evil activities were detected by Prof. H. S. Fawcett of the California Experiment Station, Riverside, Calif., and Dr. A. A. Bitancourt of the Instituto Biologico of Sao Paulo, Brazil, who is now in this country, and presented a paper at the meeting of the American Association for the Advancement of Science in Dallas during the Christmas holidays.

The fungus, which bears the formidable name *Phytophthora cinnamomi*,

discovered a few years ago infesting cinnamon trees in Sumatra. Its appearance in Brazil, and on the roots of orange trees, marks its first discovery outside Sumatra, as well as its first detection on a citrus host plant. It has not been found in this country so far, and it is hoped it will remain absent, for it could constitute a major menace to the entire citrus fruit industry.

Although it has been found only on the roots of the inedible sour orange, it is a possible menace none the less, because fully three-fourths of the citrus fruit trees in this country are grafted on the roots of sour orange. These roots

have always been used because of their hardiness, and especially because they have proven themselves completely immune to two other forms of crown rot disease caused by species related to the

present fungus. Discovery of this chink in the armor of the sour orange is therefore causing scientists interested in citrus fruits a good deal of concern.

Science News Letter, January 3, 1942

MEDICINE

Factors Protecting Baby Mice Against Tuberculosis Found

Discovery Announced of Chemicals in Their Bodies Which Destroy Drug-Resistant Parts of Germ

DISCOVERY of chemicals in the bodies of young mice which destroy the drug-resistant waxy parts of the tuberculosis germ was announced at a meeting in Washington of the Committee on Medical Research of the National Tuberculosis Association.

The announcement was made by Dr. Bruno Gerstl of Yale University. Dr. Gerstl and Dr. Robert M. Thomas, also of Yale, found two years ago that newborn mice are immune to tuberculosis. A search was begun for the factor responsible for that immunity.

After analysis of the body organs of young mice, Dr. Gerstl concluded that the factor or factors were enzymes, chemicals produced by body cells which assist the life processes. When introduced into test tubes containing tuberculosis germs, the mouse enzymes broke up the fatty parts of the germs. The fatty components are believed to have defeated all attempts to kill the germ by drugs.

Commenting on Dr. Gerstl's announcement, Dr. William Charles White, chairman of the committee, stated:

"Dr. Gerstl's discovery . . . might lead to development of a preparation from the enzymes which will have a lethal effect on the germs within the human body."

Science News Letter, January 3, 1942

Blood Tests for Prognosis

ANEW method of following the course of tuberculosis in the body was described by Dr. Florence B. Seibert of Henry Phipps Institute, Philadelphia. She traced the rise and fall of albumin and globulin, constituents of the blood serum. To an old and baffling question, Dr. Seibert gave these answers: the albumin content of the blood always drops during tuberculosis; the alpha-globulin rises when the patient is improving; the gamma-globulin falls during the period of improvement, and the beta-globulin always rises just before death.

With these standards, analysis of the blood during tuberculosis can now be made as a diagnostic and prognostic procedure.

Science News Letter, January 3, 1942

MEDICINE

Influenza Prevented In Mice By Anti-Freeze in Gas Form

GAS warfare against germs may be the way to stop epidemics of influenza. The method gave mice 100% protection against the disease in experiments reported by Dr. O. H. Robertson and associates, of the University of Chicago. (*Science*, Dec. 26.)

The gas used by the Chicago scientists is propylene glycol, anti-freeze chemical and a close relative of ethylene gly-

col, the more familiar anti-freeze used in automobiles and high-powered airplanes. They had previously found that a very fine mist of this chemical killed bacteria in the air.

In the vapor or gas form, the chemical is even more effective, they now report.

When a fine mist of influenza virus was sprayed into a 20-gallon glass-walled experimental cabinet for from five min-

utes to one hour, all the mice in the chamber (35 in number) got influenza and died in six to ten days with extensive consolidation of the lungs.

When the propylene glycol vapor was let into the cabinet, in the proportion of one part of vapor to two million parts of air, and then the influenza virus mist was added, all the mice in the cabinet (32) remained well. The lungs of these mice, examined on the eighth day, were normal except for a small area of consolidation in one lobe in one mouse.

Similar results in protecting mice against influenza by propylene glycol mist, instead of the vapor, were reported about 20 days previously by Dr. Werner Henle and Dr. Joseph Zellat, of the University of Pennsylvania. (See *SNL*, Dec. 27, 1941.)

The propylene glycol gas which is so destructive to the influenza virus will not harm humans in the concentration used, and since it has no odor, will not even be noticed by them, it appears from Dr. Robertson's first report on the germ-killing action of the chemical. Associated with him in the work were Dr. Clayton G. Loosli, Dr. Theodore T. Puck, Dr. Edward Bigg, and Dr. Benjamin F. Miller.

Science News Letter, January 3, 1942

The *Incas* of ancient South America used in government administration clever models of towns and provinces, built to scale out of clay and small sticks and stones.

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