

Two planes are spraying with DDT nearly 3,000 acres of the 600 infested square miles in Carbon, Luzerne and Lackawanna Counties. The gypsy moth has been confined to this area by State and Federal control work over the past 12 years at a cost of about \$6,000,000.

New York State has 6,000 square miles

of moth-infested territory, heaviest along the eastern edge. Connecticut, Massachusetts and Vermont have fought the insect for many years. Last year more than 250,000 acres of trees were completely defoliated by the pest in the New England states alone. The use of DDT, however, may change all this.

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BACTERIOLOGY

Leads Double Life

The leprosy germ has at times a rod form, and at other times a granule or spore-like form. This makes detection of bacilli difficult.

► THE LEPROSY germ, like that of tuberculosis, may lead a double life, at times going through a phase in which it has rod-like form and at other times having a granule or spore-like form, Dr. Eleanor Alexander-Jackson, of Cornell University Medical College, reports. (*Science*, June 1).

This finding may explain, she believes, why leprosy has such a long incubation period and why it is difficult to find the bacilli in certain kinds of leprosy sores.

The discovery was made on material obtained at the Branch Laboratory of the New York State Department of Health from the nasal septum of a Mexican with an early case of leprosy. Dr. Alexander-Jackson used a triple-stain

technique which has been successfully used to detect the tuberculosis mycobacterium. It causes one form of that germ to stain red, and other forms to stain blue, while other organisms, tissue cells, etc., form a light green background.

Unfortunately, when the case was diagnosed as leprosy, the patient suddenly disappeared, making it impossible to obtain further smears for study. But Dr. Alexander-Jackson believes the results she has already obtained from 32 smears of this and other patients from the U. S. Marine Hospital at Carville, La., and from Willard Parker Hospital, to be significant enough to encourage further use of the triple-stain technique.

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PSYCHOLOGY

Lack of Shame Normal

The stubborn refusal of individual Germans to admit any guilt in war crimes is due to natural defense of human mind against loss of self-respect.

► REPORTS indicate that the German people do not feel any sense of shame or guilt, either personal or national, over the cruelties inflicted on prisoners and on the people of other nations.

It is not surprising. Even the most vicious criminal may have no feeling of guilt when he is brought to justice; instead he is likely to feel that he has been "framed" and be sorry for himself.

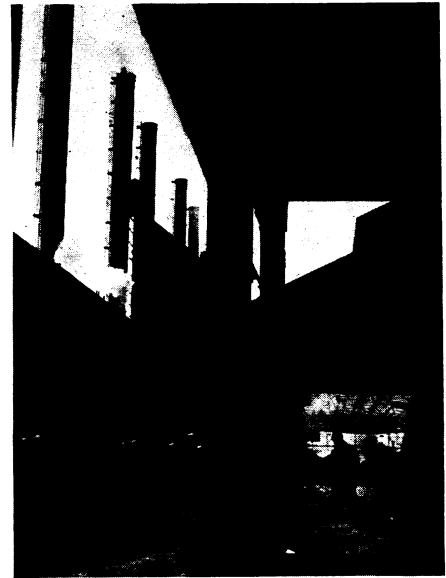
The explanation is that the deepest, strongest need of human nature—stronger almost than the need for life itself—is the need for self-respect. No one can bear to face the thought that he is fundamentally wrong or evil.

When a man is faced with undeniable

evidence of his own guilt, his mind automatically builds up defenses. He refuses to believe that his acts have had such ill effects; he says to himself that he was forced to commit the crimes, that he acted in self-defense; someone else was responsible; or perhaps he says to himself that his victims were not quite human, anyway, and so were not capable of feeling as you or I would about the torture.

Such self-deception is not healthy. But it is better than it would be for a man to admit in his own heart that he is guilty of crimes all the rest of mankind abhors.

It is a good thing that the German



ARC WELDED—These smokestacks, replacing those of conventional design, tower over this industrial scene and signify the importance of the electric arc process in steel mill maintenance. Photograph by the Lincoln Electric Company

people cling to their self-respect even when, in the eyes of the rest of the world, they must share responsibility with their leaders for serious crimes against all humanity. For when a man loses not only the respect of other men but his own as well, there is no longer any hope of his being a useful member of society. Either he kills himself or he abandons any attempt to do what is right and what is expected by one man of another.

What hope there is for building a decent society in what was Germany lies, psychologists believe, in building up on this stubborn remnant of self-respect. Keep the German people from letting go of it and saying to themselves, "I can't help what I do, I am no good." Encourage them, instead, to feel a responsibility for demonstrating to all the world that they are worthy not only of their own self-respect, but the respect of other men as well.

For example, in a declaration of the basic facts regarding human nature that must be considered to attain a lasting peace, more than 2,000 American psychologists agreed that:

"Liberated and enemy peoples must participate in planning their own destiny. Complete outside authority imposed on liberated and enemy peoples without any participation by them will not be

accepted and will lead only to further disruptions of the peace. The common people of all countries must not only feel their political and economic future holds genuine hope for themselves and for their children, but must also feel that they themselves have the responsibility for its achievement."

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AERONAUTICS

Airplane Will Furnish Primary Policing Medium

► USE of the airplane as a policing medium for world security to prevent acres of gas-filled rockets from being aimed by enemies at distant cities was predicted by T. P. Wright, U. S. Administrator of Civil Aeronautics, in delivering the thirty-third Wilbur Wright Memorial Lecture before the Royal Aeronautical Society. He pointed out that while attempts at inaugurating security organizations heretofore were not successful because of the absence of a suitable policing medium, the airplane promises to fulfill that need.

Mr. Wright declared that we are "on the threshold of the greatest period of aeronautical development that has yet been witnessed." He cited as items which may completely change aviation technique the gas turbine, jet propulsion, electronic devices which will make all-weather flight safe and practicable, and advanced designs of private planes and the helicopter. He estimated that in the postwar years the aviation industry will employ over 600,000 people, 12 times as many people as it did before the war, and will carry 20 million passengers a year on U. S. lines at speeds of 300 miles an hour and at a cost of three cents a mile. At this estimated rate you could fly from New York to Chicago for \$22.26 instead of today's fare \$38.40. Fares from New York to Washington would be \$6.87 and from New York to Los Angeles about \$78.

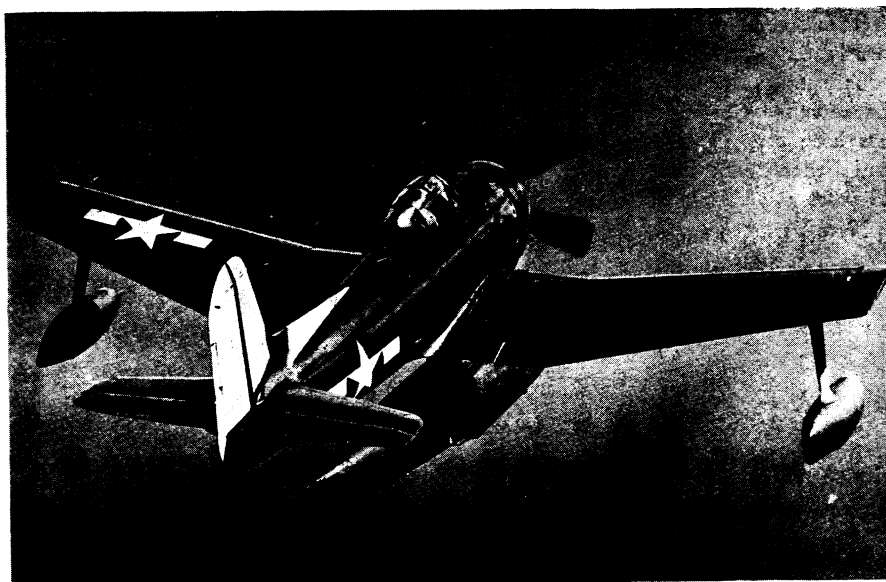
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PUBLIC HEALTH

Varnish Makers Protected From Skin Irritation

► PERSONS working with cashew nut shell oil, used in the manufacture of varnishes and resins, may now be saved from skin infection by a protective cream. A New Jersey plant discovered that the poison ivy protective cream developed by the U. S. Public Health Service was effective in this case also.

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CLIMBING—Skillful design of this new bird, the "Eye of the Fleet", is dramatically shown in this view as it soars from the water. Note pronounced dihedral angle of the wings for greater stability.

AERONAUTICS

Speed Doubled

The Navy's new observation-scout plane, designated the SC "Seahawk," can fly higher and farther than any previous Navy models.

► LAUNCHED into active combat from battleship and cruiser catapults recently, for the first time, is the Navy's new observation-scout airplane that is reported to be twice as fast, and can fly higher and farther than any previous Navy models.

Designated the SC, "Seahawk," this new scouting airplane has a single float, and low wing construction, plus nearly three times the horsepower of the OS2U "Kingfisher," the plane used up to now for such work.

The fundamental jobs of the SC are to scout for enemy fleet units, to spot gunfire both in sea actions and in the shelling of enemy shore batteries during landing operations, and to act as an air-sea rescue plane. While the Seahawk is fitted to carry only the pilot, a bunk can be arranged back of the pilot seat into which one man may crawl.

Observation-scout planes are usually considered easy targets for the enemy. With its greatly increased speed and maneuverability, plus added fire power and its ability to carry bombs and depth charges in the float, the SC introduces

into warfare a formidable weapon for use against the enemy in an emergency.

Both airplane and engine are designed and built by the Curtiss-Wright Corporation. The SC uses the newest air-cooled airplane engine in production, the Cyclone 9, which is reported to generate more power per pound weight than any other engine for aircraft in the world. The new engine generates more than 1,200 horsepower, greater than the horsepower of the engine used on the B-17 Flying Fortress, producing more than one horsepower for every pound of weight.

According to P. B. Taylor, vice-president of Wright Aeronautical, the new engine has the power of more than 25 automobiles, power enough to generate current to operate the Empire State Building, and more power than most heavy-duty tugboats.

The Seahawk is equipped with a four-blade hollow-steel propeller that has an unusually wide blade, designed to provide the tremendous thrust necessary to the airplane's fast rate of climb, and cruising efficiency at high altitude. The