



A week is time enough to learn to ski at the *Chateau Frontenac Ski-Hawk School*. The famous Parallel Technique method teaches 3 out of 4 beginners how to handle themselves on the hills *within one week!* Slalom courses are near-by...skating on the hotel rink. Reservations: Madison Avenue at 44th Street, VA 6-4444.

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Nazi Research

It has been rumored that Nazi scientists have used civilian prisoners as guinea pigs for macabre biological experiments. Last week the rumors were documented. A French investigating commission reported on a huge prison camp in Alsace where hundreds of men & women had been tortured and killed under carefully controlled conditions in order to supply data for Nazi science.

The camp, known as Struthof-Natzweiler, was found in a thick wood in the Vosges foothills, 30 miles from Strasbourg. Near its rows of dark green huts was a "laboratory" equipped with gas and torture chambers, a crematorium, a vivisection room. There some 20,000 people (mostly Jews) were used and killed.

Some were inoculated with plague and leprosy germs. Thirty women were deliberately blinded, then given a 15-day "treatment" during which they screamed incessantly. (At the end a few recovered their sight, but all were put to death.) In another experiment, a white-uniformed doctor led 84 young women in batches to the gas chamber. German professors watched their dying reactions through a window.

The investigators got this sickening story from captured German assistants in the laboratory and French peasants who lived nearby. Director of the Nazi researchers was a Professor August Hirt of Frankfurt, an SS officer.

Reported Sonia Tamara, New York *Herald Tribune* correspondent: "The French have a picture of Hirt—a quiet, thoughtful-looking man."

Byrd's Dogs

Dog-lovers were moved by the revelation of a hitherto unpublished story about the third Byrd expedition's escape from the Antarctic in 1941. Hemmed in by a closing ice pack, the 26 men at the Palmer Land camp had to risk an emergency flight out in their battered Condor plane. The plane could make only two trips, would be barely able to carry the men. What to do with their well-loved sled dogs?

Byrd's men made a hard decision. Of the 61 dogs, 34 were shot. But if the plane should crash on the second take-off, the men would need dogs to help them try an escape over the ice. Reluctantly they buried three 50-lb. sticks of dynamite under the snow, staked the 27 youngest and strongest dogs over the charges, attached to the dynamite an alarm clock rigged to close an electric circuit and set off the charges. It was set to go off three hours after the take-off. The plane barely got off the ice. As they flew away, the last thing the men saw in the vast loneliness of snow and ice was the cheerful, upturned faces of their dogs, patiently crouched above the time bomb.

At the Chinook Kennels in New Hampshire, where Admiral Byrd got the sled dogs for his expeditions, there now stands a Byrd memorial: "To All Noble Dogs whose lives were given [in] Little America . . . to further science and discovery."

Ice Fighters

The airman's meanest natural enemy is not fog but ice. Pilots, who do not hesitate to fly by instruments through the thickest fog, still consider a freezing rain unflyable



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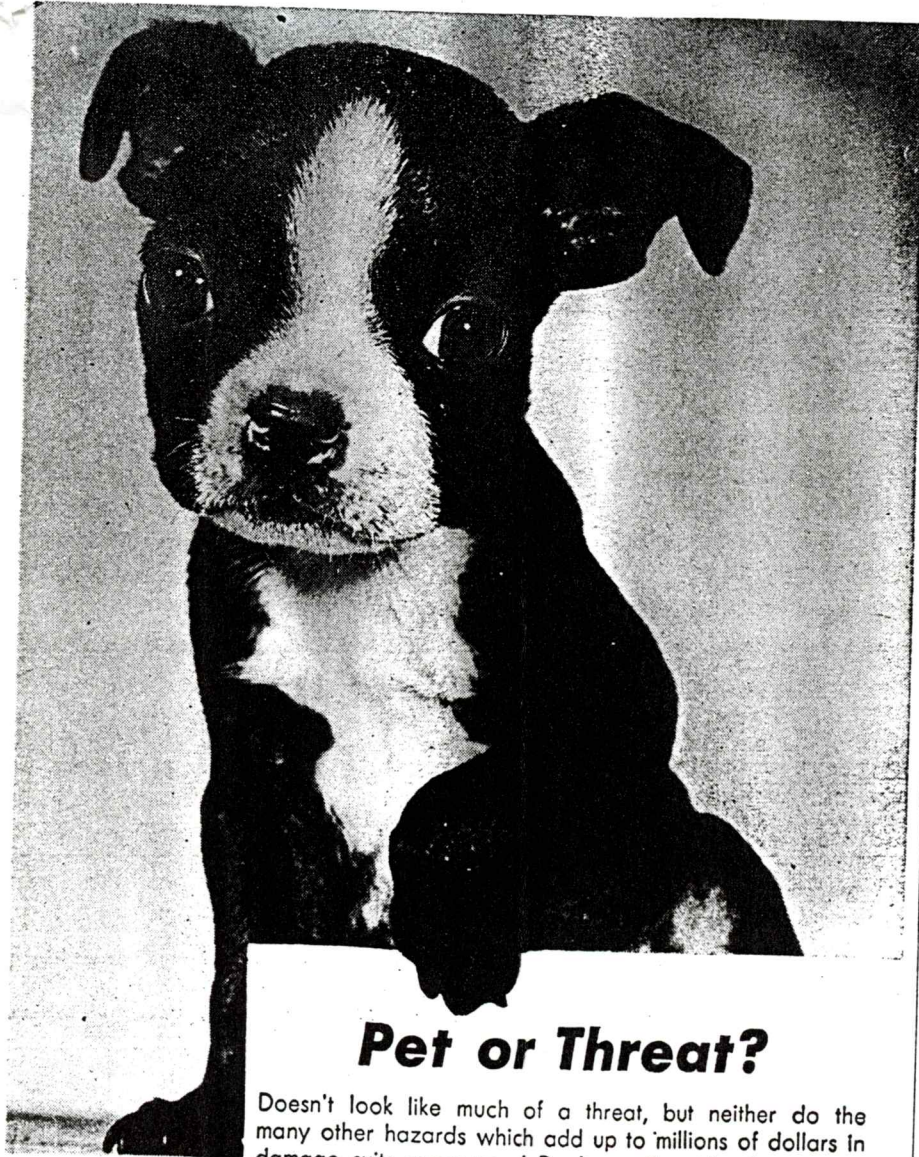
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weather. But last week a group of test flyers took off from a Minneapolis field in a specially equipped B-25 named *Flaming Mamie*, headed straight for a wave of freezing rain. The plane flew through the storm unscathed. When it landed safely at the field, its wings almost as clean as a dentist's fingernails, the plane and crew were greeted by a group of cheering flyers and engineers.

For three winters this field has served as an ice research laboratory for the Army Air Forces' Wright Field Air Technical Service Command. Said one of the watching experts: "The day is in sight when we'll have an airplane in which pilots can just forget ice."

The research station, operated by Northwest Airlines under the supervision of two Army airmen, Major Al Olsen and Lieut. Myron Tribus, has enlisted the help of topnotch U.S. scientists, among them famed Physicist Irving Langmuir of General Electric Co. They began with fundamental studies of water drops. Their newest gadget, designed to show how well a heated wing repels ice at various temperatures, is an odd-looking plane with a vertical wing section, like a shark's fin, on its back. High-speed cameras, mounted in a special plastic turret, photograph water drops as they hit this upright wing, record the speed of ice formation.

Rain drops in the air, for reasons which scientists do not completely understand, may remain liquid at temperatures far below water's freezing point, turn to ice only when they hit a solid such as dust particles or a plane wing. Then they freeze fast. Big drops hitting a plane wing form a smooth, uniform coat known as "glaze" ice; it does not change the wing contours, but its weight may eventually make the plane crash. Small droplets make a rough, pebbly surface, called "rime" ice, which is more dangerous than glaze because it quickly changes the plane's airfoil (the wing shape, on which the plane's ability to fly depends).

The Minneapolis researchers have found that the most efficient wing de-icer is the exhaust-gas heating system for wing edges which is now standard on B-24 Liberators (TIME, Aug. 9, 1943). But this method could not be applied to a propeller, which is just as vulnerable to icing as the wings. That problem was finally solved by electrical heating; a small generator, mounted on the hub of the propeller, supplies current to heating filaments inside the propeller blades.

Testing these and many another device, the base's pilots have made hundreds of flights in the most dangerous icing weather. They still have a few tough icing problems to solve. A particularly baffling one is ice formation on radio antennas. In an ice storm, an antenna thickens like a ship's mast, is soon torn away.

Foo-Fighter

If it was not a hoax or an optical illusion, it was certainly the most puzzling secret weapon that Allied fighters have yet encountered. Last week U.S. night fighter

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As yet the new food (actually a vegetable-meat) has not been named; it will not be offered under the unappetizing title of "yeast." The Army and Lend-Lease are already buying millions of pounds. Post-war possibilities are obviously enormous, and the product's wildest enthusiasts stop at nothing: observing that a 10-ft. vat can produce as much meat in a year as 1,000 acres of pasture, they fancy that the world's cattle may be heading for the last roundup.

Wing Anti-Icer

After decades of experiment in many quarters, a simple, practical method of preventing ice formations on plane wings was announced this week by Consolidated Vultee Aircraft Corp. Heat from exhaust gases does the trick. Said Chairman Tom Girdler: "The Catalina long-range patrol bombers have been in production several months equipped with the radically new thermal anti-icer." He gave credit to the National Advisory Committee for Aeronautics for the original idea and part of its development.

Most effective and widely used device now is a de-icer: B. F. Goodrich's "rubber-boot"—a rubber strip fastened in place along the leading edges of the wings. When the pilot shoots compressed air into the boot, it expands and contracts, the ice cracks off. But the addition of the rubber strip increases the wind drag on the plane, *i.e.*, decreases its lift; the strip has to be taken off during the summer months to make it last even as long as two winters; repair jobs are frequently necessary on spots subject to severe strain. A ground check of the entire system is necessary every 50 hours.

In October 1937 two N.A.C.A. engineers patented a continuous system for using exhaust gases to vaporize water in a boiler built around the exhaust pipe. The vapor traveled into a long, perforated pipe inside the front edge of the wing; the condensed vapor drained back into the boiler. The boiler added more weight to the plane, and there was always the leakage danger inherent in any water-circulation system. But this impracticable system was the beginning of last week's new idea.

Early in 1941, spurred on by reports of German developments, N.A.C.A. appointed a committee to study the possibilities of using engine-exhaust heat. Water plays no part in the new system. Instead, air is heated as high as 350°F. by the exhaust pipes, is circulated through the wings' leading edges, keeps them at 60°F. no matter how far below zero the outside temperature goes. Satisfactory tests in far-northern climates lead engineers to hope that the long search is finished. If so, the U.S. can relax about what was once the No. 1 peril of winter flying.

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