

## WE LEARN FROM OUR ENEMIES.

BY THOMAS M. JOHNSON

OUR troops splashed ashore in France on D-day from special landing craft which grew out of an idea we grabbed from the Germans. They swooped behind the enemy lines in gliders which embodied many features copied from German gliders captured in Africa. For three days before they landed, midget submarines, undetected, planted markers along the French coast to guide them in; and we got that idea the hard way too, from the Japs at Pearl Harbor.

We are using in France many new secret weapons, jealously hoarded as an invasion surprise. It was reasonable to expect the enemy also had surprises. So with the first troops ashore were specially trained teams of officers and men whose sole assignment was to snatch enemy weapons and equipment for study.

In Africa, in Italy, and on a score of Pacific islands, our battlefield detectives are right out in front. To take apart an unexploded shell or a new type of bomb is all in the day's work. Other enemy weapons are rushed from the battlefield onto planes that fly them to laboratories here for rigorous

analysis and testing. The rocks, mud, sand and dust of the proving ground at Aberdeen, Maryland, are admirably suited in all weather to try out anything from a land mine to a Tiger tank. Aberdeen's present collection consists of over 600,000 items of Axis ordnance.

We have found most Italian weapons to be ill-assorted curiosas, their ammunition so dangerous that we blew it up rather than risk using it, as we use German. But we copied the Alpini mountain boot, with hard rubber cleats that strike no revealing sparks from rocks at night. Japanese material is sometimes good. It was from a Japanese plane that we got an improvement on that most complicated of technical devices, the automatic pilot. In general, Japanese copyable ideas are mostly oddments. They exploded firecrackers to simulate machine-gun fire and confuse our troops; we made missiles that do it better and take less space. They used phosphorescent vines to mark jungle paths at night; we made a fluorescent paint that was better.

In the Aleutians, our troops wear

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many layers of light garments rather than a few heavy ones. That idea reached us *via* the Russians, who got it from the Finns. The Germans also got it from the Russians, but too late. It would have saved them many lives in the winter of 1941-42.

The German stuff is good, and we know a lot about it — we captured much material of theirs at Bizerte. The celebrated Volkswagen is a muscle-bound snail compared to our jeep, but they are leaders in half-track vehicles. Nearly 500 different German items we have studied show long planning and careful workmanship.

Here is an example of how this "war within the war" is waged: In the 1940 blitz the British fired coast-guard rockets at German planes. The Nazis copied the rocket idea with their Screaming Mimi, a squat bundle of stovepipes shooting black-powder rockets for 7800 yards to land rather helter-skelter but with a violent concussion.

Meanwhile the British had captured a new enemy tank. An Intelligence officer rushed his precious prize rearward, pursued by German bombers eager to destroy it before its secrets could be studied. They tried to sink the ship on which he loaded it at Suez. Study showed that the new tank had armor too heavy for the usual infantry anti-tank gun. The problem was passed to Washington, where someone remembered Mimi. How about a rocket gun so light any infantryman could use it? Rockets had no recoil but terrible explosive power.

The result was the bazooka, which we rushed into production. Seven days after the first lot was finished they were in Africa and shortly afterwards in Russia.

They wrought such havoc that the Germans made special efforts to capture one and succeeded. In six months they had produced a more powerful bazooka, which they are now using against our tanks. But such a comet's tail of sparks flashes through the open rear that the gunner's life depends on an asbestos suit and a prayer. This improved bazooka we re-improved as soon as we in turn captured it.

The Germans began firing rockets from planes. We captured some, studied them, evolved new tactics to use against them, and mounted rockets on our own planes. Our next step was to mount them on the naval craft that lead our amphibious invasions. Probably neither side has exhausted the possibilities of this idea first used against us in the War of 1812.

The dream of every Intelligence officer came true in one recent astonishing incident. A Nazi pilot, "brownd off" with war, landed a twin-engine high altitude Ju-88 medium bomber on an Allied field. Our fliers flew it to Dayton. There it became the subject of eager study. First, it answered the question: Why do all the Ju-88's we capture seem to have their tails shot off? The explanation was that they carry an explosive charge there, which the pilot detonates rather than let us get a plane

intact for study. In the new plane we discovered also some piping that carried hot exhaust gases to the wings to melt ice, and we stole that idea, too.

## II

At Wright Field nearly a score of enemy planes are being tried out. There is a Messerschmitt that Allied fighters ganged up on and forced to land intact. One Jap plane was fitted together from parts of five. When mechanics at Wright Field got hold of their first German plane, they found it took them twenty-two minutes less to dismount the motor than was required to do the same job on any American plane. We promptly adopted the German mounting.

German aircraft design is not letting down but improving, and so is that of the Japanese. But German bomb-sights are about as accurate as our second best. If, despite all precautions, they have captured one of our famous Norden sights intact, they have thus far been unable to reproduce it and probably won't for a while. It has a thousand or so parts.

Experiments sometimes show that an enemy idea is not as good as it looks. Back from the South Pacific came a Japanese machine gun that our observers noted fired phenomenally fast — but there was no ammunition with it. We captured ammunition on Attu and tested the gun. Report: "This gun is too fast for its own good. It shoots crooked."

The light Japanese weapons had

advantages in jungle fighting, but in open country they have to be replaced with heavier weapons. That shift doubles the problem of production and of training troops. We stuck to our heavier stuff with more punch and the Japanese have lately emulated us by introducing a man-size rifle. It is slower, shorter-ranged, and less accurate than our Garand. The German paratroopers who so stubbornly defended Cassino were the first to use the Nazi copy of the Garand. But the imitation is only passable and so complicated that before they can produce it in quantity the war will be over.

The device that crews of planes and ships at sea drop overboard to broadcast an automatic "SOS" is improved from a German invention. The American version, called the "Gibson Girl" because of its hour-glass shape, is now saving Allied lives on the seven seas.

German planes dropped mines upon Coventry, causing devastation then unprecedented. The charges were tremendous and they exploded on contact instead of after they had been muffled by burrowing in the earth. A parachute slowed the mine's fall and gave the plane time to escape the concussion. This gave the British ideas which led to the development of the blockbuster bombs.

Scrutiny of enemy equipment dramatically reveals vital facts the enemy would like to conceal. Fuel in captured tanks in German airplanes is analyzed to find out what proportion of it is

synthetic, what from Rumania. That checks up the effect of our bombings. Recent tests show that German oil economy is strained.

Tests of ball-bearings taken from German tanks and planes show that when we destroy a German ball-bearing factory the Germans make up their shortage by importing more ball-bearings from Sweden. Which explains our pressure on Sweden to stop this. Tests of captured German steel showed the Nazis were short of manganese and were substituting chrome. Whereupon the Allies pressured Turkey into stopping shipments of chrome to the Nazis.

For shell cases the Germans first used brass, then brass-plated steel, then blued steel. Now they're using shell cases of iron. German shell fuses are poor; our testers say 20 per cent of them do not explode. This is supposed to be the result of sabotage by slave labor and cheating by Nazi manufacturers.

Experts examining gas tanks from captured Nazi planes were amazed to discover that they were leakproofed, not, as earlier specimens had been, with synthetic rubber, but with natural rubber. Then we captured new Japanese equipment that showed German influence. Were the Japanese swapping rubber for German ideas?

The British and American navies intensified their search of the seas and found that under various flags Ger-

man ships were plying between Bordeaux and the Far East. East-bound, the ships carried special steels, machine tools and plans and samples of new German weapons, airplane engines and motor transport for the imitative Japs. They brought back to Europe vegetable oils, tin and rubber. We put twenty-five good enemy ships, including lately some submarines, out of the war and we gained valuable inklings of enemy needs and shortages.

In developing engines of war the enemy had a twenty-year start on us. Before 1939 we let anyone pick our good Yankee brains. Germans and Japs bought the secrets of military inventions at the Patent Office or at the Government Printing Office for ten cents. Dive bombers, paratroopers, caterpillar treads for tanks and mobile guns — all these are American ideas seized upon by the Germans. Only now have we caught up.

We still have many secret weapons up our sleeve. Most of them we have been holding back for the psychological moment. Some we will hold back indefinitely, because they are so terrible that their use would help us less than shocked world opinion would harm us. Our experts hope we have learned our lesson: keep our secrets, watch what is going on in the world of weapons, and tie our research, our science and our industry closely to national defense in that future which no man can foretell.



# THE GOVERNMENT'S BLUEPRINT FOR PEACE

BY FLORA LEWIS

WHATEVER tricks the Axis may still have up its sleeve, whatever events may hasten or delay the consummation, there can be no doubt that the Allies will win the war. The momentous problem now, second only to the military struggle, is to achieve a durable peace — a peace so widely endorsed, so firmly grounded, so ably maintained, that no nation's hunger for power or thirst for revenge can upset it.

For more than two years our State Department has been working intensively on this problem. It has dealt with the dynamics and the structure of world organization for peace. In the broadest outlines the character of this effort has just been revealed by the President of the United States. But those close to the diplomatic workshops, so to speak, know that the outlines have in part already been filled with concrete proposals and specific intentions.

American diplomats do have a plan. It is subject to revisions by Congress, by the American people and, of course, by the other nations whose consent and collaboration are essential. But

critics of American foreign policy who assume that we are without definite policies and goals are mistaken. Talks are being held with important representatives of our three chief allies — Britain, Russia and China. In effect these discussions are the initial stages of the World War II "peace conference," and a formal conference such as the one in Versailles after the last war may never take place at all.

Concrete enough in its framework, the State Department plan is vague in detail. This is not accident but purpose. The idea is to allow for wide adjustments in a shifting world. Our plan can be summed up in a single phrase that reverses the old Machiavellian maxim — *right backed by might*. There are many facets to that simple doctrine, but the reasoning of American diplomacy is rooted in it.

Actually it was also the vision of Woodrow Wilson. Present-day peace planners, however, are not disheartened by Wilson's failure. They believe that this time it can be done, provided we benefit by experience and avoid four Wilsonian mistakes. These are:

1. Clinging to the illusion that in-

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