

# An Expert Speaks— Victory Through Air Power

Continued from Page One

assume the solution of some aerial or ground problem it is because I have actually solved it through years of study and stand prepared to translate it into equipment.

Theoretically, adequate air power must have a striking effect on the world; and ultimately, without doubt, aviation will attain that circumstantial range.

For practical immediate purposes, a range of 15,000 miles should suffice. Forty per cent of the maximum range of 6,000 miles would then be effective striking radius.

Operating from the periphery of our country, that striking radius would include the vital centers of all major nations, giving us conformity with the axiom of effective air power—a striking range equal to the maximum dimensions of the theater of war.

## DEFENSIVE AVIATION

What should be the range of defensive aviation? How far from our primary bases should defense aviation reach out to meet the foe? At the present state of aeronautical science, a more or less definite answer can be worked out.

Since aircraft is a compromise among such factors as speed, range, and military load, the striking power is of necessity in inverse proportion to the distance.

Hence the logical limit of the striking radius for defensive aviation is half the distance to the enemy.

From this halfway line inward the defensive strength of our aviation becomes more effective because of the contracted distance.

The range of defensive aircraft, in other words, should be theoretically half of the offensive range.

In analyzing equipment we must take for granted:

1. That our air power is geared for world operations and therefore must have a striking reach of at least 6,000 miles, reckoning from the frontiers of continental United States.

2. That we may expect attack from the enemy's primary bases as much as 6,000 miles away.

Under these conditions the air force proper will be divided into a striking air force and a defense air force.

The striking air force will be subdivided into a battle force, bombardment aviation, and transport force.

The defense air force will be subdivided into an interceptor combat command, a fighter command, a bomber command, reconnaissance, interior transport, and ground defense.

In addition there will be the vital co-operation air forces, to serve as an element in ground or naval task groups.

Cutting across these categories, there will be a division in respect to altitude. The best mechanical performance can be extracted from a plane if it is designed for the air stratum in which it is expected to operate.

Most equipment, consequently, will have to be divided into a sea-level force operating from the surface to an altitude of about 30,000 feet, and a strata force having its maximum performance at altitudes from 20,000 feet upward into the stratosphere.

## STRIKING AIR FORCE

This striking air force will consist chiefly of two types: battleplanes and combat bombers. Together they will provide long-range bombardment aviation accompanied by suitable pursuit and convoy fighter craft.

Its task in the first stage will be to destroy the opposing air force, both in the air and on the ground—that is, in its facilities and sources of potential replacement.

## BOBBS

An invading aerial battle force possessing only combat power, however great, can be ignored by the defenders, who may simply refuse to rise for the fight. Therefore the attacking armada must also possess bombing power, to threaten the enemy aviation ground components.

The opposing force will therefore be obliged to rise and accept the challenge or be demolished. Contrary to the popular idea, the initial bombardment is not entirely an end in itself but a device for coaxing enemy air power into action.

There is no real alternative today to separation of the bombardment and combat units, although this does not imply that the bomber must have no combat ability or the fighter no bombardment equipment.

The initial attack on an enemy nation must take the form of a combat action by a force possessing provocative bombing power.

I submit therefore that the backbone of the air force should be a combat plane to which bombing power is added. This combat bomber should, besides, be fully protected by pure combat planes, so that it can proceed to its bombing targets unmolested.

The defensive job, being embodied in a separate unit, would shield the bombing force from any direction in accordance with the tactical needs, just as destroyers shield a battleship against torpedo attacks.

The convoy fighter may be viewed as a "detached turret" because capable not only of retaining in any direction but of being moved around the bomber in situation.

## FIRE POWER

The combat bomber and its accompanying battleplanes are similar types of craft, the principal difference being that the battleplane, since it does not carry explosives, can carry maximum fire power.

## THE AIRACUDA

These combat planes are as yet in the early state of development. As a matter of fact, only one prototype has been made thus far, in the form of Bell YFM-1A or "Airacuda."

The Airacuda has been redesigned repeatedly and still has not assumed definitive form. It is always referred to by officials as a long-range pursuit or escort or convoy fighter—although the military character of these categories is as different as day from night.

Since the fire power of the Airacuda is directed mainly forward, it can never be an efficient convoy fighter.

## DESIGN

Combat planes can and should be designed for exceptional airborne vitality, so that the destruction of one of the guns or the control surfaces will not necessarily wipe out the buoyancy or stability of the craft. This can readily be accomplished, although little if any thought has as yet been given to the problem.

Safety fuels will be developed to resist incendiary shells. Quite possible evolutions of the fuel-injection type will be evolved, to operate both on high-octane fuels and on low-octane fuels.

This will enable us to store high octane in armored parts of the plane for take-off and combat, while using low octane heavy oils are used for approach and return.

Turrets housing the guns need not necessarily house the gunners. Firing can be remotely controlled, synchronized, and operated from a number of battle posts located for the best possible visibility.

Through the development of armament can be made most advantageously, limiting the number of "guns" through the armament of course would still be accessible for servicing and repair in action.

The battleplane, requiring no space for bombs, may ultimately carry all its armament, as well as the crew, explosives, and high-octane fuels, in the fuselage—all enclosed in the armored nacelle.

## PROPELLERS

Propellers may be driven by shafts or remotely controlled hydraulic transmissions. "Space" propellers could be made available for clutching into operation should any of the active ones be destroyed.

## ARMOR

Future planes, I believe, will not have armor plating as an afterthought, as it were. The armor will constitute a structural part of the aircraft; it will not be an overlay on the body of the plane, but the body itself, thus saving great weight.

Measurements have been expressed about the ability of huge planes to survive against short-range enemy aviation. They are unjustified.

In general, the bigger the plane, the thicker its armor, the greater the number and the larger the caliber of its guns; larger caliber, in turn, means longer range of effective fire.

A large plane represents a more stable and more comfortable environment, as well as a platform for more elaborate and hence more accurate fire control as compared with relatively ineffective sighting of the present pursuit.

One large plane, usually, indeed, in pursuit will find it difficult to penetrate the long-range fire of the superplane close enough to use its own guns. After all, once aircraft are locked in combat, in an artillery duel, superior fire power decides the outcome.

Thus one large plane, if properly designed and given suitable military characteristics, can account for a greater part of the opposing air power than several small planes.

One defensive organization should be a reserve in concept. The commander of each type of defensive force would therefore control a reserve of one or more units in charge of sectors of this line.

The foremost ring would be the special responsibility of the interceptor combat command. As its name implies, it will possess necessary equipment for seeking out enemy aviation at a distance from our own territory.

RANGE OF 7,500 MILES Since hostile aviation will attempt to reach us from various altitudes, this force, like the striking aviation, must contain both sea-level and strata-planes. Obviously this force must consist almost entirely of combat types of aircraft, which should have a range of 7,500 miles and a striking radius of 3,000 miles.

The basic plane in this force will approximate the battleplane, but it will be somewhat smaller and will have a different disposition of armament. Where the battleplane requires an even distribution of fire power, the interceptive has to concentrate its fire primarily on forward shooting, at some 45° in rear fire power if necessary.

## HIGHLY MANEUVERABLE

It will be a fast and highly maneuverable craft that can take full advantage of the elements of surprise, initiative of attack, and selection of favorable positions and positions.

It should be noted that paradoxically, offensive aviation must have maximum offensive fire power.

As an outer circle of defense charged with continuous vigilance

patrol" readiness. When the enemy's presence is discovered, attack must follow immediately to ascertain the strength and dispositions of the approaching air force.

## NOT IN SEGMENTS

The combat readiness must be maintained, moreover, in the entire front, because even if attack is expected only from one direction, the enemy's retreat may follow a totally different direction. A vigilant "alert" should be maintained around the entire country, not only in the segment supposed to be under threat.

The whole interceptor command must be flexible and under unbroken control from air headquarters. It should be pliable organized to permit concentration on one sector or many, as dictated by tactical exigencies.

## FIGHTER COMMAND

Should enemy aviation penetrate within 500 miles from American frontiers, it will be met by the Fighter Command. Conventional airplanes very much like our present fighters.

Whether single-seaters or two-seaters, single or twin-engine, they must have consistently high performance.

This second concentric ring—counting from outside inward—would comprise the area from our frontiers to about 500 miles out to sea.

## ITS AIRDROMES

Its airdromes should be close to the shore lines, and control of this zone of operations must be centered at air headquarters. Though the striking-combat radius is only 500 miles, an emergency range of 3,000 miles is essential.

This range would enable the fighters to reach any point in the United States without refueling, thus utilizing fully the advantage of interior lines for quick concentration of available fighter command strength where it is most needed almost instantaneously.

Finally we come to protector or home-defense aviation, which I have called the Captive Pursuit Command. The name derives from the fact that the planes will be of short range and permanently attached to specific localities or targets.

As the enemy striking forces proceed over our soil to their objectives, the Captive Pursuit Command rises to attack the invaders as they pass overhead. Here necessarily the concentric principle can be disregarded.

The force assigned to any point will be commensurate with the importance, size and vulnerability of the target involved. In effect we shall have a series of strong anti-air squadrons, attached to particular industrial aggregates, power sources, Government or military centers, urban population centers, and so on.

## "ROCKET TORPEDOES"

The fighters for home protection must possess, in addition to the qualities of climb, great speed, exceptional maneuverability, and the ability to handle the large-caliber missiles or discharge "rocket torpedoes." Their effectiveness, in other words, would lie in an ability to move swiftly for the delivery of one or a few knockout blows, rather than in sustained combat.

## CO-OPERATION FORCE

There is less need for detailed description of the co-operation force for task assignments with the Army and the Navy, since this is the aspect of aerial warfare in the present conflict best apprehended by American observers.

aviation should be trained, organized, and deployed to permit assignment at a moment's notice to any Army or Fleet.

To tie them into special surface units as members of a permanent combat would be as useful and important as attaching specific fighters or destroyers permanently to one battleship, or tying up specific units of the Navy exclusively with specific Army divisions or coastal artillery posts.

## FOR SERVICE ANYWHERE

In short, the surface co-operation force must be a single and separate aerial unit, ready for service with land or sea forces anywhere in the world, it would be a reservoir from which the High Command can draw air power of the requisite strength with military character to help solve particular tactical problems faced by a composite task force.

Naturally, once assigned to any task force such aviation would be completely under the control of the chief of such combined force.

How shall we defeat Japan? In *Common Sense*, Severely concludes his book with a proposal solution for subduing Tokyo.

## Navy Rule on Signature Lifted

The Navy has removed restrictions pertaining to the enlistment of a married man that require signature of the wife, it was stated at Navy Recruiting Station here today.

Chief T. M. Moore, of the staff, said the new ruling had just been made.

Recruiters were sure that provisions of the dependency payment laws brought about the removal of the restrictions, and privately forecast that the new would be welcomed by some married men who had a yen to fight in the Navy and territories were restricted by the "little woman."

Meanwhile the whole recruiting staff was busy as bees in the bureau examining dozens of men, interviewing others about straight Navy enlistments.

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