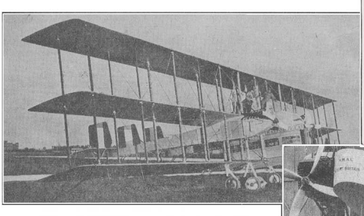
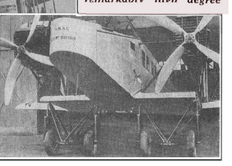
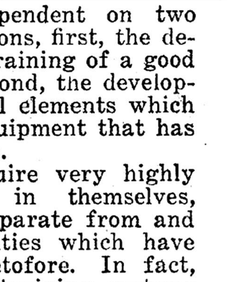
Foreign Progress in Post-War Aviation





Left, Caproni triplane transport, the latest model among Italy's passenger aircraft. Below, a British Handley-Page night bomber converted into a sixteen-passenger commercial bus and now used in the London-Paris service. It can carry a full ton of freight or mail instead of passengers. France, too, has developed commercial aviation to a remarkably high degree



By William Mitchell
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AIR power is dependent on two main considerations, first, the development and training of a good air personnel, and second, the development of the industrial elements which go to make up the equipment that has to be used in aviation.

Both of these require very highly specialized services in themselves, which are entirely separate from and independent of activities which have been carried on heretofore. In fact, during the war, the training systems that had to be adopted for the production of air personnel constituted an entirely new element in the national organization, as did the industrial system which had to be built up to produce the equipment.

When it is realized that some seventy-five trades have to be used in order to produce and keep up the equipment, and that these have to be coordinated, the complexity of this arm of national defense may be realized. Even with an excellent system of training personnel and a good foundation for the industrial part of air power, success cannot be obtained unless a sound organization for an air force is developed.

All countries started out by having different existing agencies of the government handle some part of aviation. This multiplied the overhead and complicated the whole air question to such an extent as to cause actual loss in money expended—sometimes as high as fifty percent of the total. There was an added loss in efficiency, because the methods of work, both tactical and industrial, in accordance with which each branch of the government was handling these matters, were different, whereas all aviation matters should be handled under a single direction.

The nations which looked seriously at the development of their air forces have therefore consolidated this overhead and created a real air personnel, as distinguished from an army and navy personnel, not only so as to make every cent they spend go the maximum, but also to keep up the high morale among their flyers. Flying is done in the air and not on the ground. It is dangerous at best, and in war fatalities in this arm of the service are very high. Consequently, the personnel has to be imbued with the highest morale possible.

Each nation, of course, has its own particular problem to face. England recognized what her problem was very early in the World War, and in 1917 she concentrated her whole aviation into an arm co-equal with the army and the navy under a Minister of Air.

She recognized clearly the difference between what an air force is and what an air service is. An air force is an active offensive instrument and is used to fight the enemy, whether it be his aviation, his ground troops, or his navies, whereas an air service is merely the observation aviation attached to troops for their own domestic use; that is, for adjusting the fire of the artillery, reconnaissance and liaison.

All money appropriated—and the appropriations are very large in England—is applied directly to aviation. One overhead carries the whole thing. There are no separate training schools, experimental stations, supply bases, or transportation systems for five or six different departments of the government. If they go to war, their whole air force can be concentrated where the main decision is to be obtained.

As England's position on the British Isles demands that her sea communications be kept open, and as she clearly realizes the great potentialities of air power in controlling the sea lanes, her air force has developed airplane carriers which can go to sea with the fleet. Not only can these airplane carriers reconnoiter and find out where the hostile naval forces may be, adjust the fire of artillery of the fleet, and maintain connection between each element of the fleet, but they can also directly attack any hostile air forces that may be operating with an enemy fleet. Moreover they can attack the hostile fleet with torpedoes, bombs, gas, and even mines at a distance of one hundred miles from the fleet. Thus a logical development of British air power over the water will make it unnecessary for their great ships to fire a gun, as the air force will be able to accomplish the destruction at a distance of from five to ten times the range of any of their artillery.

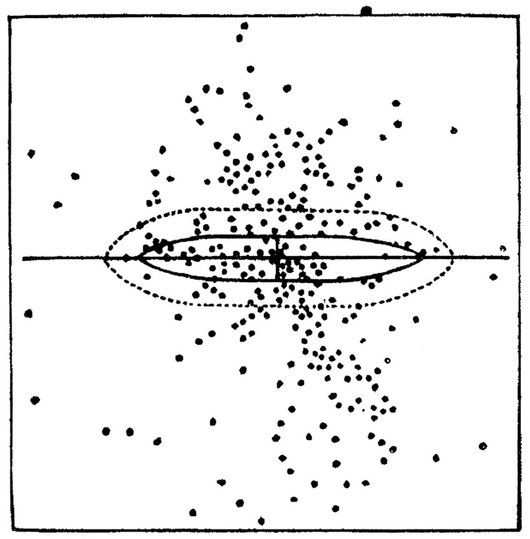
As things stand today, the air power that England has over the water, if opposed to a fleet larger than its own but which has no air power or an insufficient air power (because an inferior air power which can be destroyed easily by an enemy is merely making the people think that they have something which they have not—or "leaning on a false staff," as General Washington put it) would certainly enable the British fleet to destroy any hostile fleet. It would therefore be suicide for any navy unequipped with a proper air force to oppose the air power that the British Empire has developed for use over the water.

England has applied her air power since the war in many new ways. For instance, the Mad Mullah in Somaliland had been operated against by British forces for a great many years, and millions of dollars had been spent in an attempt to subdue him. In 1919, one squadron of the British Air Force, consisting of twelve airplanes, thirty-two officers, and 164 men, was sent to Somaliland. They debarked from their ships at Berbera, set up only eight airplanes, and immediately attacked the forces of the Mad Mullah with machine guns and bombs.

The attack was pressed to such an extent that the Mad Mullah's forces were scattered, his towns menaced, and the morale of all his people shattered. He surrendered in three weeks. Quiet has reigned there ever since. In the face of air power, no recurrence of such a condition can ever take place.

In Mesopotamia the British are holding the whole country with their air forces. Their squadrons are deployed up and down the Euphrates river; they carry out regular patrols, and are ready at any time to put down any hostile uprising that may occur. Their airdromes are guarded and held by detachments of infantry, Stokes mortars, armored cars, and, in some sections, armed transport. This whole force, under the command of the air force, acts in conjunction with the civil authorities maintaining peace in that region.

England maintains airways from the British Isles to India, and a trail for an airway to Australia has been mapped out by a route flight from England to Australia, as is the case from the Cape to Cairo, through



Bomb hits scored on a ground target the size of a modern battleship by aircraft flying more than a mile high

Africa. The Royal Air Force maintains airdromes all through these areas and Royal Air Force men are there, ready to take care of any airplanes that come in, repair them, give them fuel, and lend the crews any assistance necessary.

This alone is the greatest help to civil aviation that can be given, because a ground organization is just as necessary to the development of air power as is a road with gasoline stations to an automobile. England has directly subsidized commercial aircraft and also the development of air engines, and now she is helping airship (that is, dirigible balloon) lines to be established.

Britain's air force is regarded as her first line of defense, and is instantly ready to take the field with a complete organization and system for every department of it. As a whole, it stands today the best organized air force in the world, from the standpoint of administration and control of all the elements that go to make up aeronautics—military, civil, and commercial.

Germany, in 1916, developed a system which was ahead of any other nation at that time. In other words, she consolidated all her aviation under a single department, with the result that that country, alone, organized her personnel and industry to such an extent that her air power was for a time superior, almost always equal, and only began to weaken at the end of the campaign. Such a result could have been brought about by no other means.

Realizing the great strength which would accrue to Germany were she allowed to keep her air power, this has been cut down to nothing by the Allies, so as to deprive her of her strongest element of offense at a distance. German development of air power at this time, therefore, is mainly a question of technical studies, which are being carried out in the hope that some day the Germans may be able again to develop their air power.

France, from the standpoint of technical development of equipment and training of its air personnel in the tactics of air forces, is second to none. Her air force is organized into regiments, brigades, and divisions. The French Air Division, which is a complete organization in itself, contains pursuit and bombardment regiments and brigades, and can go to war with a complete self-contained organization of about 1,200 airplanes.

This is the strongest single air organization in existence today, and is

maintained, at the present time, at about half this strength, ready to strike at once. It is stationed in Alsace, and is ready to hit Germany if occasion requires. The Germans are more afraid of this Air Division since they have been deprived of their own air forces than of any other one thing which the French have.

Again, France's observation air service is organized as a service, and assigned directly to the troops. The system of training is uniform throughout, and a great deal has been done since the war in the development of personnel along tactical lines.

Civil aviation is encouraged in France to a greater extent than in any other country. Very heavy subsidies are paid directly to the companies operating aircraft that come up to certain specifications which would make them useful in war. A subsidy is given them for the size of the aircraft, the pilots that use them, and the number of passengers carried. In France, the commercial air companies actually make money, and France is the only country at this time in which they do. They have established air lines through France, from France to England, and from France to the French possessions in Africa that maintain regular schedules, have very comfortable accommodations, and suffer very few casualties from accidents.

The French organization of their whole aeronautical development is not so good as that of England, because, in spite of the efforts of the flying personnel to consolidate the work, political considerations and the resistance of the older services have prevented such an organization. Their army air force is an arm co-equal with the infantry, cavalry, or artillery. The navy has a small air service attached to it; this, in comparison to that of the army, is exceedingly small, as it very rightly is developed for use with the fleets and not for use on shore.

French civil aviation is organized under a bureau of aviation with a subsecretary at its head. It has to do with all features of civil aviation and its development. Everything points to the consolidation of all aviation activities and an organization along the lines of the British aviation within a few years.

Again, France's air power is its first line of defense, and will be the first to engage in war. Of course, France's strategical position in Europe demands that she protect herself with her armies and air forces primarily, and not over the sea as England does, so that, naturally, the organization is somewhat different.

In Italy, we find an excellent technical development, and the materiel of aviation is fine. The air forces are not developed to the same extent that the British and French are, but a great deal of work is done, not only along heavier-than-air lines, but also in the development of dirigibles and airships. A central control for aviation exists in Italy. This has been altered several times since the war and is still undergoing changes.

The last nation to enter the lists as an air power is Japan. The Japanese always do everything very thoroughly, and although they have had a nucleus for their aviation for a long time, they have recently thoroughly culled the lessons of the Great War in the organization of their air power, taking the best wherever they could get it. During the latter part of the War a French mission was sent to Japan to assist them in their air organization.

Japan's air forces are organ-

applied in an ideal way from land bases directly against hostile fleets, or, if her fleet and an opposing fleet come into contact, the Japanese air power may be used directly also. Any campaign by a foreign nation against Japan, therefore, demands primarily the use of aeronautics because, without a well-organized air force, any fleet operating against her will be at a tremendous disadvantage.

Japan is organizing her airplane carriers for offensive work over the seas in the same way that England has done; in fact, a group of English officers is now in Japan directing the organization of her aviation for this purpose, as the French mission left some time ago.

Japan's development as an air power will be rapid as was the transformation of her army from a practically feudal state, forty years ago, to the excellent offensive organization which she had in the Russo-Japanese War.

Air power will control the destinies of the Pacific eventually, the same as it will that of any other sea. It must be remembered that Behring Straits, separating Alaska from Asia, are only fifty-two miles wide, or less than a half hour's flight for an airplane.

Air power takes a long time to organize, but, so far as the number of men and total expenditures of money are concerned, it is cheaper than the other arms. We must remember that the man power of our own country is its greatest defense. We must also remember that air power is one of the greatest potential auxiliaries—if not the greatest—which man power can have. We must not neglect the lessons of the Great War and of what the other powers are doing.

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