IMPRESSIONS OF CIVIL AVIATION IN THE UNITED STATES OF AMERICA

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On 17th December, 1928, leaders of aeronautical progress from all parts of the world assembled on a bleak, desolate sandhill in North Carolina for the laying of the foundation stone of a memorial commemorating the 25th anniversary of the first flight ever made by man in an aeroplane. The honoured guest of the occasion was Orville Wright, who, 25 years before with his brother Wilbur, had taken a quaint craft out on the lonely sandhills near Kitty Hawk, and to the amazement of an incredulous world had actually accomplished the first aeroplane flight—a distance of 120 feet in 12 seconds, reaching a height of about 10 feet from the ground. Just after an air journey of some 2,200 miles, mostly in a comfortably upholstered cabin holding 12 passengers, crossing range after range of mountains with peaks towering up to 15,000 feet, flying and landing both by day and night, the realisation of what already had developed from those first crazy experiments, came almost as a shock. If there was among the thousands looking out over that desolate stretch of sand one whose faith in the future of aviation was weak or wavering, that backward glance must have given new and limitless belief in its future.

Strangely enough, the country that was the birthplace of the aeroplane was until about two years before that anniversary the most backward and unorganised of all great nations in the practical application of the aeroplane to commerce. Up to 1926 civil aviation was nobody's child in the United States, and like most uncontrolled children it was generally regarded as rather a nuisance. While England, France and Germany had, by means of active Government support, given mostly in the form of generous subsidies, de-
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developed many splendid air transport organisations, in America civil aviation was haphazard, uncontrolled, and generally unsatisfactory.

In May, 1926, the Federal Air Commerce Act was passed, and the Department of Commerce, under the Secretaryship of Mr. Herbert Hoover, the new President, undertook the control of civil aeronautics throughout the United States. This was the first serious step in the organisation of the new industry.

Just a year later, when the spade work had been done and something like order was being made out of chaos, the amazing Atlantic flight of Lindbergh, followed by his equally wonderful but less appreciated tours of the United States and South America, fired the imagination of the American people and aroused unprecedented enthusiasm for aviation. The influence of Lindbergh on American aviation has been without parallel in any other country, and his universal appeal to his fellow-countrymen is remarkable. No other man or woman in the world, among the many who have made extraordinary flights, has ever stood in quite the same position as he. Others have received the hero worship of their countrymen, but practically without exception their reign has been a nine days' wonder—forgotten in the excitement of the next thrilling stunt. But “Slim” Lindbergh is still an idol in his country—tall, slight, simple, and utterly unspoilt by adulation, he still occupies a position that no other man has held in the history of aviation. His popularity and influence are undiminished after two years, and he is the man who has more than any other turned the thoughts of the people of the United States to the air. The American people, with their amazing relish for new movements, having been well infected with the virus of aviation, have taken it up with unbounded optimism in the last two years, and the very manner in which they are tackling its problems makes it seem almost certain that they will lead the world in civil aeronautics.

I think that the fundamental difference between the civil aviation in America and Europe lies in the manner in
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which the Governments and the people are tackling it. Germany, France, and to a lesser extent England, have highly developed passenger air services, but all are really dependent on substantial subsidies from their Governments. In the case of the famous German Luft Hansa over 50 per cent. of its revenue comes from direct subsidies. Without its subsidies it could not carry on, and though its technical equipment, organisation and general development are remarkably good, it is in fact averaging only about 30 per cent. of the capacity loading of machines in use. In the same way Imperial Airways, the great British subsidised monopoly line, is in many respects a model of technical organisation; but even with its huge subsidy it only paid its first small dividend last year. The French lines are no models of organisation and are equally dependent on unearned revenue.

Great Britain and Europe have definitely adopted the direct subsidy to enable air transport to be carried on at fares that are far below cost in the hope of encouraging people to use air travel.

In America, on the other hand, even though air transport development lagged up to a point, now they are tackling civil aviation on a strictly business basis in the firm belief that it can not only render great service, but can be made commercially self-supporting. Government assistance to aviation is generous, but is given in an indirect form, mainly in the establishment of airways and aids to air navigation, and, except in a few rare instances, contracts for the carriage of mail are on a basis of payment according to load carried. The result is that the air line operator must get business to pay his way and cannot sit back with the comforting feeling that there is a fat subsidy from the Government whether his machines are empty or full.

America's outstanding achievement in air transport is the air mail, on which most of its energies have been centred up to date. Passenger transport has been more or less secondary to the air mail; but now, with the record of reliability and the wealth of experience gained from the
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organisation of the air mail services, America is seriously undertaking passenger services with a better backing of public confidence and a sounder prospect of commercial success than any country. Having built up the finest air mail system in the world, America is now convinced that passenger transport can be just as useful and successful.

I think there are two fundamental reasons for the difference between the outlook on civil aviation of the American people and that of the people of the British and European countries. The first is that in the British Empire, France and even Germany, the Governments look on civil aviation mainly from a defence standpoint. In England and Australia, for example, civil aviation is only a sub-department of a defence department. In Germany the prohibition of military aviation has made civil aviation the only possible preparation for air defence. While it is possibly true that civil aviation has some bearing on defence, the result of its subordination to defence is to put it in a false light before the public.

In America, on the other hand, civil aviation is in no way connected with defence. The administration of the Air Commerce Act is in the hands of the Aeronautics Branch of the Department of Commerce, and it, therefore, stands on the same basis in the public eye as other means of transport such as railways, roads and ships. It seeks no other justification than the service it can render to trade and commerce, and it, therefore, has an entirely different appeal to the people. I believe that this is a most important factor in the whole development of civil aeronautics in America, and that it largely accounts for the practical confidence in its future which is shown by the leaders in every branch of commerce and industry.

The second fundamental reason for this difference in outlook is that there is probably no country which has reaped greater benefits from improved internal transport facilities than the United States. With great distances to cover the people have learnt the value of good railroads
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and highways and are quick to appreciate the immediate benefits to be gained from air transport, which now offers a still faster means of communication. There is certainly no country in the world in which the leaders of financial, manufacturing, and other business organisations are taking anything like the same practical interest in the development of air transport as in the United States.

My outstanding impression of aviation in America is the extraordinary part that is being taken in its development by many of the great financial and industrial leaders of the country. To take only one example, the Ford Motor Company has invested huge sums in the establishment of an airport, an aircraft manufacturing plant and a series of air lines. Again great railroad companies, such as the Pennsylvania and Santa Fe, are large stock holders in the recently-formed Transcontinental Air Transport Co., which is establishing a 48-hour combined rail and air passenger service from New York to San Francisco.

Since 1926 the development of civil aviation has been really remarkable and a wise Government policy has undoubtedly done much to foster and guide the young industry through the problems and difficulties of the past 24 years. From something haphazard and unorganised the aeronautical industry to-day is in a flourishing condition, and is attracting the serious attention of financial institutions, leading engineering organisations, railway companies, and some of the principal universities and scientific institutions in U.S.A.

The whole country has become air-minded and everywhere one finds a live and intelligent interest in air transportation. The general view seems to be that the next decade will see the aeronautical industry develop much in the same way as those living to-day have seen the automobile industry grow. Airports and aircraft manufacturing organisations have sprung up like mushrooms and the sales of aircraft and engines are growing rapidly. It is estimated that the output of aircraft during 1929 will exceed 5000. There is in all this a distinct atmosphere of a "boom" and this is reflected in the prices of leading aero-
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nautical stocks which, in some cases, can only be based on optimistic discounting of the future. The peak of this "boom" will probably be reached during the present year, and will be followed by a re-action, which is not only inevitable, but in many ways desirable, in order that the industry may settle on to a really firm and solid basis. Many of the weaker organisations must go to the wall, and I think that this will leave a comparatively few well-organised and financially sound organisations in control of the industry. Already the leaders of the industry are busy with amalgamations, and mergers, and even at present the tendency is for all the principal commercial activities to gravitate towards one or another of four leading groups. These groups at present are as follows:—

(a) The Curtiss Group.

This is headed by Mr. C. M. Keys, President of the Curtiss Airplane & Motor Co. (Inc.), and is probably the most important group. Its principal components are:—


(2) The National Air Transport (operating the Chicago, New York, Toledo-Detroit, Dallas-Chicago, and Kansas City-Chicago air mail contract routes covering 2221 miles of airways).

(3) The recently formed Transcontinental Air Transport which is organising a transcontinental passenger service over the Southern route in conjunction with the Pennsylvania and Santa Fe Railroad Companies.

(4) The Pratt & Whitney Engine Company.

This group has formed a very large finance company under the name of North American Airways Inc.

(b) The Wright Aeronautical Corporation Group.

The main components of this group which is headed by Mr. Charles L. Lawrance, President of Wright Aeronautical Corporation are:—

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(1) The Wright Aeronautical Corporation, manufacturers of the well-known Wright Engines.

(2) Robertson Aircraft Corporation, operating the St. Louis-Chicago and St. Louis-Omaha contract mail routes of about 670 miles.

(3) Universal Air Lines and a number of smaller subsidiary companies.

(c) The Western Air Express-Fokker Group.

This group is headed by Mr. Harris M. Hanshue, President of Western Air Express and of the Fokker Aircraft Corporation of America. Its principal components are:

(1) Western Air Express, operating contract mail routes from Los Angeles to Salt Lake City, Pueblo to Cheyenne, covering 833 miles of air routes as well as passenger and express services from Los Angeles to San Francisco and Los Angeles to Catalina Island.

(2) The Fokker Aircraft Manufacturing Corporation.

(3) A close association with the Richfield Oil Co. of California, the President of which Company, Mr. J. A. Talbot, is a Director of the two above corporations.

This group is also organising a southern transcontinental passenger service similar to that proposed by Transcontinental Air Transport.

(d) The Boeing Group.

This is headed by Mr. W. E. Boeing, President of the Boeing Airplane Co., and Boeing Air Transport Inc., and its main components are:

(1) Boeing Airplane Co., manufacturers of aircraft of very high repute.

(2) Boeing Air Transport Inc., which operates the contract mail routes from San Francisco to Chicago—a distance of 1950 miles.

(3) Pacific Air Transport, operating the contract mail route from Los Angeles to Seattle—a distance of 1080 miles. It is also thought that a merger of
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some sort will shortly be effected, bringing into this group Maddux Air Lines, which operates passenger services between Los Angeles and San Francisco and Los Angeles and San Diego.

Among the principal independent organisations which are at present not directly linked to any of these groups, the Ford Motor Co. stands first. This immensely strong organisation is building aircraft and operating passenger services through its subsidiary Stout Air Services between Detroit and Cleveland, Detroit and Chicago, and Detroit and Buffalo, and is so strong financially that it is able to remain independent of any of the four groups.

Another important independently financed organisation is the Fairchild Aviation Corporation, with its subsidiaries the Farchild Airplane Company, the Fairchild Camera Company and Fairchild Aerial Survey Company.

This group formation is the outstanding feature of civil aeronautical finance, and it seems to me that while there is a pretty general frenzy for aviation stocks at the moment the really far-sighted men are preparing for the inevitable reaction, by consolidating the finances of the industry. In every instance the group comprises a leading manufacturer, and a leading air transport organisation.

It is conservatively estimated that the present value of the investment represented by actual assets comprising flying equipment and factories in the American Aircraft industry is over $150,000,000.

In 1926 it was estimated to be less than $5,000,000.

The next phase of this development can already be detected in the rivalry of the existing groups, and the struggle for leadership of the industry. Personally I think that all these groups are sufficiently strong to survive the struggle, though many of the smaller manufacturers and operators will be either broken or swallowed up in the struggle of the giants.

The whole development of the American Aeronautical Industry is, I think, destined to follow closely the lines of the Automobile Industry, in its methods both of manufac-
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ture and finance, but in this case the movement will be much more rapid and decisive, because there is such a clearly-defined track for the industry to follow.

The extraordinary and unique feature of the present stage is that, despite the climatic and topographical difficulties which have to be overcome, not only the American people but leaders of the financial, scientific and industrial life of the country no longer question the practical value of air transport, but are so certain of its future that they are almost scrambling to get in on the ground floor in an industry which they believe will have as remarkable a development as the automobile industry. Making full allowance for all the speculative aspects of the present rather hectic period for the typical American financing and stock selling methods sometimes employed, and for the inevitable re-action that must take place, I am still convinced that the American Aeronautical Industry must take its place among the great manufacturing and transportation industries of the world, and that the application of the efficiency methods of which the new President is the chief prophet will place it on an economically sound and profitable basis long before that of any other nation in the world. In my opinion the secret of this lies in the national policy of payment only in return for and reasonably commensurate with services actually rendered, as opposed to the British, French, and German system of subsidy to keep an unprofitable industry alive. While this latter method tends to create an industry which relies too much on its Government doles and to destroy its self-reliance, the American policy is undoubtedly creating a progressive and self-reliant industry, the existence of which depends on its own ability to create business at prices which are competitive yet sufficient to pay its way.

I do not mean by this that the United States Government does not assist the industry generously, but that its assistance is given in an indirect way, as by the development of aeronautical research, the establishment of air navigation facilities available to all users of aircraft and the granting of contracts for public services, such as the car-
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Rriage of mail on a basis of payment by weight carried so that is still rests mainly with the operator to create his own market for the services he offers to the public.

I have previously mentioned the importance of the mental attitude of financial and business interests, and the general public to aviation as a useful means of transport, and air transport is at the present time going through a period of development which reflects this national outlook. Even at the present time the outstanding feature of air transport in U.S.A. is its use mainly as a means of quick despatch of mail and express goods. Passenger transportation has not up to the present made anything like the same progress. The air mail has been developed with great energy and from a purely experimental service operated by the Government it has grown into an amazingly strong commercial undertaking. In this the Post Office Department the Aeronautics Branch and the Operating companies have co-operated to instil into the public mind the value and reliability of the air mail.

In July, 1928, the Air Mail postage was reduced to 5 cents for the first ounce and 10 cents for each additional ounce, and this has brought about an enormous increase in the volume of mail carried. Within 30 days of the reduction the air mail was doubled, and in October 1928 the mail carried was 467,422 pounds compared with 423,838 pounds in the preceding month. The more energetic operators employ staffs of canvassers who visit business houses and interest them in air mail. The postal officials all co-operate in encouraging its use, and practically every postal box carries an air mail notice. Air Mail Stamps and envelopes are on sale everywhere, and the writing-tables in hotels are almost invariably supplied with air mail envelopes. So great has been the expansion of the air mail business that the U.S. Postmaster-General prophesied during an address at Chicago that within two years all first-class mail travelling 500 miles or more would go by air.

In June, 1928, there were 24 domestic air mail contract routes in operation, and six subsidised mail routes from
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U.S.A. to foreign countries. The payments to all contractors on domestic routes are on a basis of pounds of mail carried, but on the foreign routes where mail is light, the payments are on a trip or mileage basis. The highest pound-age rate paid to any contractor is $3 per pound and the lowest is 78 cents. The average rate per pound is $2.09.

With so much energy directed to establishing and popularising the Air Mail, passenger transportation was comparatively neglected, and was mainly left to small organisations and rather haphazard. The mail planes usually had accommodation for one or two passengers, but no real effort was made to go out after passenger business. The only operating company which seems to have made a really energetic effort to establish passenger transport on a large scale is Western Air Express which, in addition to operating the Salt Lake City—Los Angeles and Pueblo—Cheyenne mail routes, has established a purely passenger service from Los Angeles to San Francisco. This service is well organised and equipped with very comfortable large Trimotor Fokker aeroplanes, and an active publicity and canvassing campaign has attracted considerable passenger traffic. It runs in competition with Maddux Air Lines which has the mail contract for this route, and also carries passengers in Trimotor Fords. The Western Air Express Model Airway from Los Angeles to San Francisco also has the competition of excellent railway steamer and motor coach services between these cities. Using these 12-passenger aeroplanes, it averages about 44% of capacity loading which its officials state is sufficient to return a profit at the competitive prices charged. Of course this Company derives its best revenue from its air mail contracts on the other routes, but its officials claim that its passenger line is already profitable without any direct subsidy.

Now that the Air Mail services have been so successfully established a great deal more attention is being directed to passenger transport, and the present year will see very big developments in highly organised passenger services. One of the most important of these undertakings is Transcontinental Air Transport Inc., which, under the dir-
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Section of Mr. C. M. Keys of the Curtiss Group, Colonel Paul Henderson, Colonel Charles A. Lindbergh and other men of very high standing in the industry, is establishing a trans-continental passenger service in conjunction with the Pennsylvania and Santa Fe Railroads. Their scheme is to provide an express passenger service travelling by aeroplane during daylight and by train at night, and the journey will comprise two days of air travel and two nights of rail travel.

Summing up the position of Air Transportation in U.S.A., I think that the public are now satisfied through the success of the air mail that aeroplanes can provide fast transportation that is, when well organised, comparable with other means of transport in reliability, and that the new era of passenger transportation by air has every prospect of success.

The fundamental difference between the development of passenger traffic in U.S.A. and in England, France and Germany seems to me to be that while these European countries have developed a fair volume of air traffic by running services at fares which are only a fraction of the cost of operation, the U.S.A. has concentrated on reducing air transport to a self-supporting basis, waiting till public realisation of its advantages will bring passengers at fares that will show a margin of profit. Europe has pinned its faith to direct Government subsidy to support services which cannot pay their way at the fares charged. I think that time will prove that the American policy will produce better results in strong, well-organised air transport companies supplying a public service at a reasonable profit. The vital difference in the two policies is that while under the European system operators cannot see daylight without their subsidies and financial and business circles regard air transport as a luxury that is economically unsound, the Americans look on air transportation as a definite step in the progress of their country, and financial and business leaders are throwing their weight behind the movement to make it economically successful.

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