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A SURVEY OF INTERNATIONAL AVIATION

KENNETH COLEGROVE*

In September 1930 the secretariat of the League of Nations published its first survey of international aviation under the title of *Enquiries into the Economic, Administrative and Legal Situation of International Air Navigation*.¹ The report was undertaken by the secretariat's Organization for Communications and Transit. It comprises four parts with the following captions: (1) Present Economic Conditions of Civil Air Navigation, (2) Relations between Civil and Military Aviation, (3) International Commercial Aviation and National Administration, and (4) Principles of Public Law Applicable to Air Transports. Each of these sections was prepared under the direction of well-known experts. Monsieur Bouché, the learned editor of *l'Aéronautique* (Paris) was responsible for the first section; Brigadier-General P. R. C. Groves, formerly of the British Royal Air Force prepared the section dealing with military aviation; Dr. Hans Oppikofer, director of the Institute of Aerial Law at Königsberg wrote the third section; while Salvatore Caccopardo, a bureau chief in the Italian Air Ministry, compiled the fourth section.

The report assembles a wide range of facts and presents some valuable conclusions and recommendations. Unfortunately the study fails to give proper attention to aviation in Russia and northern Asia; omits discussion of some of the acute phases of recent diplomatic competition in Europe and South America, presents an inadequate, contradictory discussion of the relation between civil and military aviation and lacks proper documentation in all sections but the third. Nevertheless, in spite of its numerous faults, the

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1. *Series of League of Nations Publications*, VIII, *Transit*, 1930, viii, 6.

Report offers a valuable contribution to the understanding of international aviation, and, it is hoped, will stimulate the solution of many problems which now confront international co-operation in the air regime. The conclusions and recommendations advanced by the Report invite the serious attention of jurists and administrators not only because of their official source but also because of their intrinsic merit.

The Place of Aviation in the World's Economic Organization

In the ten or eleven years surveyed in this Report, the decade following the World War, a new industry has achieved large proportions. The passengers carried by air transport between London and Paris has increased from 691 in the year 1919 to 45,017 in 1929, and the postal traffic from 8,250 kilograms to 1,923,650. In Germany, where commercial aviation represents the total aeronautical resources of the country, since military aviation is prohibited by the Treaty of Versailles, the year 1929 saw 29,800 kilometres of air-lines, carrying 120,711 passengers and 2,510,000 kilograms of postal matter; France had 31,533 kilometres of lines, which carried 25,000 passengers and 1,800,000 kilograms of postal matter; while the United States had 59,500 kilometres of air-lines, which carried 165,263 passengers and 3,220,000 kilograms of postal matter. Statistics for the whole world were as follows: on 225,000 kilometres of regular air lines, 600,000 passengers and 14,000 tons of postal matter were carried by 2,000 airplanes and seaplanes, while there were 3,000 aerodromes or equipped flying-grounds at the disposal of aviation.

Europe to-day is covered with a complicated system of air-lines. Containing in area but one-thirteenth of the earth's land, the European continent possesses four-elevenths of the world's air-lines. From Europe, great colonial air-lines extend across Africa and Asia, while a line to South America is now in operation. The United States and Canada are crossed by great continental lines with connecting lines radiating north and south. In the past several years South America has been mapped out with routes along the coast of all its sea-bordering countries while almost a dozen lines reach into the interior. Australia has made a promising beginning. Unquestionably these far-reaching systems make an impressive appearance in the map of the world. The question remains: Do they render an efficient and needed service?

Efficiency of Air Transport

The present accomplishment of air transport is due to a considerable extent to the artificial development of the aeronautical industry following the World War. But it must be admitted that its growth is also due to the technical qualities inherent in aviation. Its ultimate success in competition with other transport systems depends on what it has to offer in the way of speed, regularity, safety and working costs. Now, in regard to speed, it must be admitted that the public has an exaggerated idea of the commercial value of the airplane. Airplanes have made the stupendous rate of 575 kilometres per hour; but such flights are not possible for commercial planes and over long routes. From time to time the press announces that on some lines, as the Paris-London or the Paris-Berlin, an airplane has surpassed all records, making 260 or 280 kilometres per hour. These announcements have no technical importance, for the speeds in question are due to a strong wind which carried the machine in its flight, but lowered the speed of the commercial machines flying on the same route in the opposite direction to 60 to 70 kilometres per hour. At the present time an average speed of 150 kilometres per hour must be considered, in the words of the Report, "as exceptionally high for a passenger plane."

This speed still places the airplane far ahead of other means of transport, namely the fast steamer at 45 kilometres per hour, the automobile at 70 kilometres, and the express train at 90 kilometres. But there are two other factors which seriously cut down commercial speeds for airplanes. In the first place, the railroad or bus-line has direct access to the heart of the city, while air-lines are now handicapped with the loss of time required to transport passengers and mail to the aerodromes which are usually located on the outskirts of the city. In the second place, a serious drawback is found in stoppage at night. At present there are few routes along which an airplane can fly by night with reasonable safety. The handicap is all the more serious inasmuch as the man whose time is most valuable can afford the luxury of a sleeping car and thus spends the night in traveling in order to avoid waste of time. On the other hand, even without night flying long-distant airlines show a superiority over ships. On the route to India, British airplanes have an average speed of only 48 kilometres per hour between London and Karachi; but this gives a saving of seven days out of sixteen for the railroad connection to Calcutta.

The airplane possesses an undoubted advantage in regard to speed, but this superiority may be more than offset by defective records in respect to regularity, safety and operating costs. As to regularity, it is significant to note that under French administration a railway train is regarded as irregular if it arrives at its destination one minute behind its schedule whereas many aviation companies still count an aerial voyage as regular if completed (whatever the distance) on the day on which it is scheduled to arrive. Recently, it should be stated, there has appeared a tendency to adopt the more exacting definition of the Twenty-Third International Aeronautical Conference to the effect that a stage of an air journey is regular if completed with a delay of less than one hundred per cent on the timetable.

Measured by even these generous rules, aviation falls far short of a perfect standard. In 1928, the German Luft Hansa maintained an average of 90 per cent in regularity which rose to 97.3 per cent in July and fell to 49.1 per cent in December. On the other hand, the Report fails to emphasize the fact that almost without exception each year sees some improvement in the records of regularity in every great air system.

As to safety, the Report complains that the statistics are "few in number, rarely comparable, and not always readily published." Certainly, in this field there is need for many more careful studies such as *Aviation and Life Insurance* published in 1930 by the Guggenheim Fund. The Report admits that among the great systems of the world the methodical Germans still lead in safety as well as in many other phases of aviation. Expressed most roughly and based on the available statistics as to passenger-kilometres, it appears that the safety of railways is 160 times greater than that of airplanes if we consider the number of passengers injured, and 1,060 times greater if we consider the number of passengers killed. The Report makes no attempt to indicate whether the index for safety shows an increase or decrease.

Finally, in regard to working costs, the Report accepts the estimate of Monsieur Dautry to the effect that the cost of transportation by railway is 0.10 franc for each ton per mile, while the cost by airplane is from 15 to 30 francs.² Under these circumstances it is evident that the airplane can pay its own way only if it is used in a judicious manner, in other words, "only if it renders services in proportion to the price at which its kilometres

2. *Rapport sur l'Aviation marchande, au nom du Conseil National Economique* (Paris: 1928), p. 28.

are sold and to the new risks which it introduces." This is not the case in Europe to-day. The public is asked generally only one-quarter of the cost of operation and the deficit is covered by governmental subsidies. The Report concludes:

"A lowering in working costs in the near future is not very probable because the airplane must become faster, more regular and safer before it can be really adopted as a normal means of public transport. In addition, if the transport of passengers is to be regarded as the chief or as an important resource, the airplane must become much more comfortable than it is at present. All these improvements will tend to increase working costs or to neutralize economies made elsewhere. (p. 43)."

It appears to the present writer that in its expression of the above quoted conclusion the Report is unduly pessimistic. Undoubtedly technical progress will bring considerable reduction in cost of operation. The appearance of the Junkers G-38 carrying thirty passengers for distances of 1,500 miles and of Dr. Dornier's seaplane Do.-X carrying 100 passengers for long distances promises a new era in air traffic. The Report also leaves out of consideration the possibilities of the dirigible which the genius of Dr. Eckener has already exhibited. Aviation will be an unusual exception in the world of science if technical improvements fail to bring about a reduction of working costs.

Governmental Subsidies

The Report properly devotes considerable attention to governmental subsidies. After ten years experience, on every continent, air-lines have failed to achieve an independent financial position and are under the necessity of receiving support in some form or other from the State or from administrative bodies. The Report admits only one undoubted exception, namely the well-known Scadta (Sociedad Colombo-Alemana de Transportes Aéreos). But peculiar circumstances explain the exception. This German-Colombian company has a monopoly of flying between the Colombian capital, Bogata, and the sea coast. By boat and rail the journey requires from eight to twelve days. The airplane makes the flight in eight hours. As a consequence the Scadta is able to charge rates nearly five times the rates of European lines, and thus, without a governmental subsidy, is able to pay good dividends. The Dutch K. L. M. (Koninklijke Luchtvaart Maatschappij voor Naderland en Koloniën) is also frequently cited as an air-line conducted with profit on sound business principles. Nevertheless it received governmental

subsidies to the amount of 925,000 florins in 1929, and probably a million florins in 1930.

In maintaining that aviation even in America is dependent on subventions the Report declares:

"Commercial aviation in the United States still lives on subsidies. It receives special Government grants for mail services, and private grants for other branches of air transport in the form of generous donations in initial capital—a circumstance which was largely due to the superabundance of ready money in America between the beginning of 1928 and the middle of 1929 (p. 45)."

It is true that the fourteen or fifteen million dollars annually paid by the United States Government to air-lines for carrying mails constitutes in part a subsidy, inasmuch as the Government does not recover the entirety of this amount from the public in the form of postage. On the other hand, there seems to be little justification for treating initial capital as a subsidy. In France, the bulk of the capital investment in air-lines is contributed by the aeronautical manufactures, but these investments—made to promote an industry whose existence will redound to the prosperity of another industry—are not regarded in the light of subsidies.

In western Europe the system of governmental subventions has reached unusual proportions. Fortunately, for purposes of study the figures are to a large extent open to the public, inasmuch as the subsidies are charges on the national treasury and must be approved in the parliamentary budget. The story of the Air Union, a French company, will illustrate the general European experience. The Air Union operates three lines: a short airplane line from Paris to London (375 kilometres); a medium airplane line from Paris to Marseilles (730 kilometres); and a long seaplane line, Marseilles-Ajaccio-Tunis-Bona (1,300 kilometres). The Paris-London line, although short, has made rapid growth; and although it represents but 1.2 per cent of the total length of all French routes it carries 25 per cent of the kilometre-tons and earned 23 per cent of the commercial receipt of all French companies. Nevertheless the line does not succeed in recovering from its customers the cost of the service rendered. In 1927, the commercial receipts on the Paris-London line were 9,460,000 francs, which were supplemented by 15 millions in subsidies. In other words, commercial receipts amounted to 38 per cent and subsidies to 62 per cent of the gross income.

The reasons for the present condition are two fold. In the first place, the receipts are derived from rich or well-to-do passengers

particularly tourists, many of whom would be deterred if charged the actual cost of operation. In the second place, competition with the British Imperial Airways over the same route makes it difficult to reach an agreement on prices and on schedules which would raise rates and promote co-operation in operating services.

Despite these handicaps the Paris-London line is the chief asset of the Air Union. On the Paris-Marseilles line the subsidies amount to 80 per cent of receipts, and on the Marseilles-Bona line to 81 per cent.

In France, in 1929, governmental subsidies comprised 73.6 per cent of the total receipts of the air-lines. These were paid by the Government under separate contracts with the four air companies at designated rates for kilometres flown and traffic carried. In the same year the Luft Hansa which has almost a monopoly of air-lines in Germany received about 67 per cent of its gross receipts from governmental subsidies. In general, the Report estimates that each kilometre of air transport cost the taxpayer in 1929: 20 francs for the British lines in Europe (but 90 to 100 francs for the British Empire air routes), 14 francs for the German airways, 17 francs for the French airways, 12 francs in Italy and 11 francs in the United States.

The Report takes the position that the continuance of this condition of subventions is unfortunate, that, "in the long run there can be no hope for a commercial enterprise unless it succeeds commercially (p. 68)." This view may be criticized as over-conservative. It will be a long time before aviation in Europe and Asia will be divorced from its political connections. At the present moment there are more powerful arguments for subsidizing air fleets than merchant marines. Aviation carries the national emblem over land as well as sea; it extends the colonial bonds and opens the way for exploitation of new lands; it appeals to the national imagination and augments the national prestige. Moreover, aviation is a new industry which has revealed unlimited possibilities of development and deserves the patronage of the State. How an aggressive communistic State seeking to develop its resources to the highest point reacts toward the new invention is illustrated by the gigantic program for aviation incorporated in the Five Year Plan of Soviet Russia. Taxpayers grumble the world over, but European parliaments make comparatively few protests against the payment of aerial subventions.

Recommendations for Financial Reconstruction

In conclusion of its survey of financial conditions the Report addresses itself to a program of reconstruction. The Report assumes that where there is latent wealth co-existing with means of communication still in the primitive stage, aviation can accelerate the pulse of the country and hasten its exploitation. Likewise, where the intensity of industrial life has promoted a dense network of communications, aviation can still expedite business and make it possible to reduce stocks and gain on the period of inertia which travel imposes on securities, goods and men themselves. In Europe the problem is international. In the words of the Report:

"We have nations shut off in water-tight compartments and shrinking away from their neighbors; we have only a small volume of long-distance traffic, and few of those continuous strong currents which, across six million square kilometers, form the characteristic feature of the vitality of the United States of America. At the same time, we have national aircraft industries which are too powerful to be able to live on their own areas, and neutralize each other's efforts on foreign markets or international lines, exhausting themselves in this struggle notwithstanding the supporting policies of their Governments—or perhaps actually because of this excessive support. Such is the situation in Europe (p. 70)."

The international character of air traffic has already called various international organizations into being. Twenty-two States have conferred on C. I. N. A. (Commission Internationale de Navigation Aérienne) the task of regulating public aspects of international flying. Thirty-two States co-operate through C. I. T. E. J. A. (Comité International Technique d'Experts Juridiques Aériens) in drafting multi-lateral treaties dealing with private international air law. Frequently, at the various European capitals, are held International Aviation Conferences attended by government officials and technical experts, chiefly for the purpose of exchanging information. The International Chamber of Commerce has promoted international traffic, and in particular has secured several reforms in the carriage of air mail. All the great air-lines of western Europe are represented in the loose federation known as the International Air Traffic Association with headquarters at The Hague for the purpose of publishing time-tables, combining traffic and securing other commercial co-operation. It has created by its periodic meetings an atmosphere of confident and friendly personal relations between the heads of the principal European systems. Finally a large number of treaties govern and facilitate the relations between individual

States. The Report, with propriety, recommends that this form of international co-operation be energetically continued.

The Report goes on to recommend an improvement in national systems which will likewise aid long distant international flying, namely an increase in the ground organization along the great airways of Europe. In this respect Europe compares unfavorably with America. On January 1, 1930, the United States had 453 municipal aerodromes, 495 commercial and private aerodromes, 285 intermediate fields equipped by the Department of Commerce, and 235 auxiliary fields supplied with marks and beacons—in all 1,468 non-military and well-equipped landing-grounds. In Europe, at the same time, there were less than 700 airports open to civil aircraft. It is estimated that between June 1928 and December 1929, \$330,000,000 was expended on the establishment and upkeep of American aerodromes, whereas France in the past ten years has spent only five million dollars. The Report intimates that in all European States governmental subsidies should largely be devoted to the construction and maintenance of more efficient ground organizations.

Naturally the ground organizations should follow along the great international airways, but before too much money is spent on an unorganized system it behooves European States to reconstruct their air-routes in order to conform to a more economic arrangement. This can only be done through international co-operation. In the opinion of the Report, the scheme for a continental air system proposed by Dr. Pirath³ overemphasizes German air-lines and requires great reduction in the Teutonic area. This point really raises the interesting question which the Report ignores—probably with intention—namely, whether France or Germany should constitute the chief path of continental air-ways. Both countries claim superiority, whereas, as a matter of fact, both countries are equally important, Germany lying closer to Russia and the Orient, France closer to the Americas and Africa. In any case, some international agreement on a continental system is urgently required unless extravagant sums are to be wasted on routes which have no justification save the national pride and prejudice of competing States.

The Report calls for a radical reform of air mails in Europe. It proposes that there be established an accelerated transport system connecting all lands of Europe and functioning automatically. If the public are to be persuaded to use the air mails more fully, they must not be compelled to look up time-tables to ascertain whether

3. *Forschungsergebnisse des Verkehrswissenschaftlichen Instituts für Luftfahrt* (Oldenburg: 1927), vols. 1 and 2.

the time saved is worth the extra money. The public should not need to do anything more than buy an "express stamp" instead of an ordinary stamp, if they wish their letters to go by the quickest route. To secure this accelerated postal traffic it will be necessary to establish a single express postal rate within the bounds of Europe, treating the entire continent as a single unit. The prolongation of European air postal services toward Africa, South America and the Orient has actually preceded a proper co-ordination of the continental system.

The Report further recommends a combined transport or collaboration between air-lines, railways and motor-lines. In this matter, Germany again has led the world, and as Herr Wronsky has recently pointed out "every little town in Germany is automatically linked up with the air system." In the International Chamber of Commerce, in the International Air Traffic Association and in the Conference of the International Railway Union at Nice in 1929, Herr Wronsky has urged the extension of the combined transport system which the Luft Hansa has so successfully developed in Germany. A first step would be to secure a general agreement so that every air-transport ticket might be accepted at any railway station in Europe in respect to its unused portion.

Numerous suggestions have been made to the effect that international co-operation might be obtained through a pooling of air interests. The Report, however, takes no stand on the question of air-line syndicates. It goes no further than a recommendation for the establishment of a common fund to which all lines should make annual contributions. Such a fund should be devoted to the promotion of national ground organizations following the main routes of traffic and to the perfection of European co-operation in the great international air-lines. The Report also demands free trade in regard to all aeronautical supplies as a consistent aid to technical progress. In conclusion of this section of the Report it may be said that while its recommendations are conservative they indicate a logical program for international co-operation which ought to bring some pattern of order out of the present confusion and waste caused by the competing national systems.

The Relations between Civil and Military Aviation

It is a disappointment for the reader to turn from the lively and logical pages of the economic section of the Report to the superficial discussion of the Relations between Civil and Military

Aviation. The section is devoted to a brief statement of what represents the opinion of a considerable proportion of the military experts without any careful weighing of conflicting opinions, nor marshalling of technical argument, nor comparison of military and civil administrations.

The entire section of the Report is devoted to a contradiction of the recommendation of the Committee of Civil Aviation Experts which met at Brussels in 1927 and reported to the Preparatory Commission of the Disarmament Conference. The Experts recommended that the development of civil aviation should be directed solely toward economic ends, and should remain outside the sphere of military interests. It urged the separation of the administration of civil aviation from the military departments of Government and proposed that:

"Every effort should be directed toward differentiating more and more clearly between civil and military aviation; in this way civil machines will become capable of maximum economic return and will become less and less useful for military purposes."⁴

The Report throws itself into a general denial of the Experts' thesis, basing its position solely upon the argument that air-liners are convertible into war planes, and ignoring the fact that this argument has little connection with the Experts' recommendation for the separation of military and civil administrations. It is readily admitted that air-liners can be converted into bombing planes, and that they can be used for military purposes other than the special fighting machines that require great climbing ability. The Experts, however, aimed at divorcing civil aviation from the hampering restrictions and extravagant, uneconomic requirements imposed by the military departments. The Experts had in mind the testimony of a civilian member of the committee, a Dutch manufacturer, who denounced all governmental connections with the aeronautical industry even subventions and war office grants as a hindrance which prevented the development of speed, safety and carrying-load and kept the attention of the industry riveted on military requirements.⁵

At the present time the great air Powers in Europe relegate commercial aviation to the same administration as military aviation. Great Britain adopted this system in 1919, Italy in 1926, France in 1929, and Soviet Russia has followed it from the beginning. Only

4. *League of Nations: Documents of the Preparatory Commission of the Disarmament Conference, Minutes of the Third Session, March 21 to April 26, 1927, Series IV, p. 419 (C. 310. M. 109. 1927 IX).*

5. Compare Madariaga, *Disarmament* (New York: 1929), p. 196.

in Germany, where military aeronautics are proscribed, is civil aviation under the administration of a strictly non-military department. It is thus not a matter of surprise that Germany should lead in the technical development of commercial aircraft and should develop the most elaborate national air system.

In this connection, attention may be called to American experience, where under the Air Commerce Act of 1926 civil aviation belongs to the jurisdiction of the Department of Commerce and has been allowed to develop without the restrictions of military supervision.

Without any apparent purpose than possibly to belittle commercial aviation, the Report offers an isolated statement reading as follows: "At present, European States, with few exceptions, devote less than five per cent of their annual air votes to the development of commercial aviation." No figures are offered to support this statement, and it should not be allowed to pass unchallenged. In France, in 1929, the military air budget was 924,540,620 francs, while 172,000,000 francs was devoted to subsidies granted to airlines.⁶ In other words at least 15 per cent of the French vote went to commercial aviation. As to Germany, the entire parliamentary vote was devoted to commercial aviation. Indeed, it would be difficult to find any European country with a percentage as low as that indicated in the Report.

As to the question of convertibility, it appears that military experts have now a fairly accurate basis for classifying a country's civil aircraft into the following groups:

1. Potentially aggressive, that is, suitable for inclusion in a striking force.
2. Potentially non-aggressive, that is not suitable for inclusion in a striking force.
3. Suitable for miscellaneous naval and military duties.

As the Report correctly observes there is no gain in blinking the fact that air-liners can be converted into bombers. But this fact, in its turn, does not constitute an argument for submitting commercial planes to military administration in time of peace.

This section of the Report ends with a veiled appeal to the national prejudice of nations whose war budgets have not been on the increase since the year 1925. It is a matter of astonishment that the secretariat of the League of Nations sanctioned the publication of the second part of the Report.

6. *Journal Officiel de la République Française*, April 29, 1929.

International Commercial Aviation and National Administration

The third section of the Report directs attention to the relation between international commercial aviation and national administration. An examination of this field indicates that aviation raises problems entirely different from some of the older modes of international transportation. A train of railway cars may be carried beyond the national boundary, but its journey within the new territory is effected by another and foreign concern operated by a foreign staff and subject to a foreign administration. Again, in maritime shipping, a vessel flying the flag of a State may enter the territorial waters of a second State. It thereby becomes subject to a foreign administration whose requirements are easily enforced since the movement of the vessel can only take place within a restricted area, namely the harbors, territorial waters and rivers of that State. Aircraft, on the other hand, are less amenable to administrative control. National legislation, as the Report points out, may erect frontiers reaching up to the stars, but the administrative regulation presents new and difficult problems; for aircraft are able to cross boundary lines at night or at great altitudes, and may perform in a manner which endangers the lives and property of the citizens. All of these considerations require a totally new system of administration. The situation is further complicated by the fact that commercial air fleets have been promoted by competing States not entirely for commercial purposes, but also for military or imperial reasons, and this fact tends to impede international co-operation in administration. Consequently, the task imposed upon the mechanical expert in the promotion of the technique of flying is no greater than that confronting the diplomat and jurist.

The administrative authority having charge of commercial aviation is not uniform in all countries. In twelve States, commercial aviation is under the direct jurisdiction of the Ministry of War. Other States, desiring to avoid the unfortunate rivalry between the Ministries of War and Navy, and at the same time desiring to develop commercial aviation as a complement to military aviation, place all branches of aviation under a special Ministry of Air. There are seven such States, including Great Britain, France, Italy, Soviet Russia, Spain, Australia, and Panama. In twenty-nine States the regulation of aviation is given over to a civil ministry. The Report fails to discuss the advantages and disadvantages of these three systems. It overlooks the considerable accumulation of argument that has recently appeared in favor of a combined Air Ministry as

well as neglecting a study of the experience of the United States and other countries which follow what seems to be the more logical policy of separating military and civil administrations.⁷ Space forbids a discussion of this problem *de novo* in the limits of the present article but the question merits a full investigation.

Licensing of Aircraft

The Report proceeds to a discussion of: (1) the licensing of aircraft according to national law, (2) aircraft crews, (3) aerial law in general, and (4) international commercial aviation. Now in regard to licensing aircraft; the International Air Convention of 1919 tacitly recognizes the right of States to license aircraft, although certain rules are laid down as to the certificates of airworthiness and competency which aircraft and officers engaged in international navigation must carry. Furthermore, Article XIII provides that these certificates shall be recognized as valid by all member States. But only twenty-two States are members of *Cina* (Commission Internationale de Navigation Aérienne). In the case of non-member States, the recognition of validity must depend of course, upon any existing uni-lateral or multi-lateral agreements, or in lieu of these agreements, upon the domestic law of the State. It is thus clear that a study of licensing of aircraft requires an investigation of the national laws of the fifty or more States which attempt to regulate aviation.

The survey of the Report in this field of law covers: (1) airworthiness, (2) registration of aircraft, (3) distinctive marks of aircraft, (4) insurance responsibility, (5) special regulations, and (6) the special category of state aircraft in juxtaposition to commercial aircraft.

The insistence upon a test for airworthiness is a reasonable demand of the State in order to insure the safety of the lives and property of its citizens. The Report examines the laws of 32 States and comes to the conclusion that the regulations laid down in the interest of safety are often prejudicial to national and international aviation (p. 101). This is shown chiefly in the methods by which the States carry out the tests for airworthiness. The Report refrains from indicating what States offer abuses in this matter.

7. The case for a unity of administration has been fully presented in G. A. Nebout, *Le Ministère de l'Air* (Paris: 1929) and in J. M. Spaight, *The Beginnings of Organized Air Power: A Historical Study* (London: 1927).

As to the registration of aircraft, it is apparent that some formality of this sort is required for the purpose of identifying machines which are subject to traffic police. On the other hand, many States go further than this primary purpose, and require that not only must airworthiness be proved but also that the machine must be the exclusive property of a citizen or a national company in the registering State. As regards the company's nationality, the laws are not uniform. Some States require that the majority of the shares be held by citizens of the registering State, and there are various other requirements.

The Report exposes the inconsistencies which follow from the lack of uniformity on this subject in the following language:

"The nationality requirement for the purposes of registration has sometimes been explained on the grounds that aircraft regulations were—rightly or wrongly—based on the rules of maritime law concerning the registration of vessels. This may be true of the earliest attempts to construct a theory of aerial law, but it cannot explain a legal clause which has been applied with such persistence by the legislation of the majority of the countries. It is in the last resort, political considerations which are here paramount. Insofar as the State does not impose restrictions upon itself through international treaties, it desires in principle to reserve its territory to the aircraft of its own nations, and in this way to give them precedence over foreign owners of aircraft. It has frequently been pointed out in recent times that, while regulations of this kind have very few positive advantages, their negative effect is to impede international air traffic. They do not insure the protection of national interests. Aerial espionage, for example, is just as practicable from aircraft belonging to a national. Regulations which consist in registering only aircraft belonging to nations become an administrative absurdity in cases when international conventions oblige the State to permit the passage of foreign aircraft over its territory.

"Let us suppose that an owner of aircraft of A nationality is domiciled in country X, which, in virtue of an international convention, is obliged to permit the flying in its territory of aircraft registered in country A. In this case, the tests and control of airworthiness and all the registration formalities would have to take place in country A, of which the owner is a national, while the aircraft would be stationed and used in country X, where its owner resides. How can the owner's native country exercise technical control over aircraft which an aviation company belonging to that country employs on foreign air routes, possible in another continent? Imagine, too, the difficulties confronting an owner, who, for the purposes of tests, certificates and subsequent inspection in respect of his aircraft used abroad, must apply to his country of origin. In practice he will be referred to his consulate, but this procedure is exceedingly dangerous from the traffic point of view, since consulates do not as a rule have either the laboratories or the experts required for these examinations (p. 103)."

The question of nationality of aircraft had prominence in the Extraordinary Session of *Cina* in June 1929 which met for the amendment of the Air Convention of 1919, and it is evident that general international agreement has been far from perfected.

As to marks of identity, the Report indicates that requirements have not been unified under conditions fully satisfactory to international traffic. The international conventions, with the exception of *Cina* and the Ibero-American Convention of 1926, are not specific. Likewise as to insurance responsibility we find considerable diversity. Before registration is permitted some countries require a deposit of security or conclusion of an insurance contract to cover any damages that may be required as the result of an accident due to the operation of the aircraft. There are also various special regulations peculiar to particular States and not adopted by any other State.

Finally there exists great diversity of national laws and international agreements as to the status of public aircraft and commercial or private aircraft. Space forbids any adequate discussion of this problem in this place. But at least mention should be made of one of the excellent features of *Cina* highly commended by the Report. In order that the advantages of aviation conventions may be enjoyed by aircraft which, like postal aircraft, do not serve the political administration of the State, in spite of their official character, *Cina* has assimilated to private aircraft all State aircraft except military, customs and police aircraft. Thus public aircraft employed on postal business, health work, surveying or dusting crops against harmful insects, are enabled in international traffic over the territory of certain States to fly under the same conditions as private aircraft.

Aircraft Crews

Airworthiness of the machine is not the only requirement to insure safety of air traffic. The competence of the crew is equally necessary. The Report finds that the issuance of certificates of competency to aircraft crew involve numerous technicalities, and that there are wide differences in the national laws regarding the forms of the authorization, the conditions under which it is given, and the validity of the certificate. Furthermore some States require pilots to show not only a certificate of competency but also a police permit. The requirement of such States as Poland to the effect that only nationals are granted certificates is dictated by a military policy, envisaging the idea that only such persons will be licensed

to fly over the country as can be mobilized for the air forces in time of war.

The Sovereignty of the Air

Passing from a survey of national laws, the Report next turns its attention to international air law. The sovereignty of the State over the aerial space above its territory is a well-established rule of international law. This principle, in spite of the earlier thesis of Fauchille and the French school favoring freedom of the air, was firmly written into the Air Convention of 1919 and was later recognized in the Ibero-American Convention of 1926 and the Pan-American Convention of 1928. It is characteristic of the present attitude of nations that no suggestion was made in the Extraordinary Session of *Cina* in May 1929 to amend the article on sovereignty in any way to lessen the authority of the State over the air space above its land, colonies and territorial waters.

The report shows that the sovereignty thus recognized in international law is reflected in domestic legislation, many national laws precisely asserting this right of the State. All States claim, explicitly or tacitly, complete sovereignty. There is one exception. Peru, in a decree of November 15, 1921, proclaims freedom of navigation at an altitude of 3,000 metres.

Sovereignty over the air space involves the right of any State not only to regulate this space but also to exclude therefrom any aircraft and airmen, especially those of foreign origin. However important its air territory may be to international air traffic, a State can reserve this jurisdiction for its own nations, or for certain air Powers, or close it to all. Such conduct will be consistent with modern concepts of international law no matter whether the exclusion of foreigners is dictated by considerations of national defense or economic interest. The Report correctly indicates that the national advantages accruing from such a policy may be out of all proportion to the injury inflicted upon the excluded nations and upon international air traffic. The jurist may here see an abuse of rights and will consider the possibility of granting harmless passage over international air routes through the recognition of a way of necessity (*Notweg*) from excluded States through the air way of a foreign country. But international law does not yet admit of any such doctrine and the Report concludes that some universally recognized rule is needed to reconcile the interests of each individual country with those of the commonwealth of nations.

By various treaties States have accepted certain limitations of their sovereignty in international aviation. The Report examines these limitations under the following heads: (1) the "peace-time" clause, (2) mutual recognition of registration and airworthiness certificates and certificates of competency, (3) the right of passage, (4) the right of landing and use of aerodromes, (5) equality of treatment as regards transport prohibitions, (6) the most favored-nation clause, and (7) periods of validity and time-limits for the air agreements.

With justification the Report condemns the "peace-time" clause found in most air agreements. This clause means that the right of free navigation for aircraft ceases not only when either or both of the two contracting parties is at war, but also when a war exists among third parties even if the two contracting States remain neutral. It is eminently correct that a State when engaged in war should bar flight by foreign craft over its territory. But the prohibition of all foreign aircraft during the time of neutrality appears as illogical and unprogressive. Even belligerent States ought to have access to routes between their own territory and the seat of the League of Nations. In view of these circumstances, the Report urges the adoption of some general regulations governing neutral rights in regard to aviation. Before dismissing this subject, correction should be made of the Report's error in inferring that a "peace-time" clause is found in the American-Canadian Arrangement of 1929.

The right of passage which States accord to their co-contractants means, of course, "innocent passage." As the Report points out, the texts nowhere explain what is meant by "innocent." The interests of the State whose territory is traversed are fully protected by the special provisions of the conventions. The reservation relating to "innocent passage" is thus a general clause. If it goes further than the special provisions it may well be considered a subtle intruder in the treaty inspired by fear and permitting the contracting States at any moment to annul the effect of the treaty. The Report, accordingly, recommends its suppression in all agreements.

The right of passage does not automatically include the right to land on the territory of the foreign State. It is to be noted, however, that treaties which contain no clause concerning the right of landing are precisely those which allow foreign aircraft to make use of public aerodromes or even compel them to land at specific aerodromes. The Report commends the clause found in *Cina* and

in most treaties whereby the aircraft from contracting States may use the public aerodromes under the same conditions as national aircraft. Such provisions greatly facilitate international aviation.

Does the most-favored-nation clause as found in general commercial and navigation treaties apply to international air traffic? The Report holds in the negative unless the treaty in question specifically refers to every kind of transportation. On the other hand, the most-favored-nation clause is found in various air agreements. The German-Italian Agreement of May 20, 1927, for instance, provides that each of the contracting States grants to the other most-favored-nation treatment in all matters affecting their mutual relations in commercial aviation. In view of the European practice which regards the most-favored-nation clause as unconditional any advantage which one contracting State accords to a third Power for a consideration is extended to the second State even if it fails to grant the same advantages to the first State. For this reason the Report mildly deprecates the use of the most-favored-nation clause.

Finally, the Report, with justification, maintains that the time-limits for denunciation of treaties are too short. *Cina* allows one year; the American-Canadian Agreement, only two months.

Conditions Circumscribing International Aviation under International Agreements

When the rights of air traffic granted by contracting States are examined it is found that international navigation is restricted to a very considerable degree, and the Report makes recommendations as to certain of these restrictions. The first recommendation concerns cabotage or the limitation of the right to maintain lines wholly within the territory of a State. In most treaties, cabotage is reserved to the nationals of a State, and in the opinion of the Report this creates an obstacle to international air navigation. Again, *Cina* (article xv) and most conventions require that special agreements must be made with any State permitting the establishment of international routes over its territory. The reasonableness of this provision has been generally admitted. Comity of nations is promoted by a complete agreement and exchange of information regarding the air routes over the territory of the contracting States. But, nevertheless, under this régime it is possible for a State to reserve peculiar advantages for its national lines. "In short," as the Report concludes, "we find that, in spite of the obligations arising out of general conventions on air navigation, most countries decide by autonomous

regulations whether and how far they will admit foreign aviation undertakings in their territory. Even when an international convention, like the Habana Convention, establishes a general international obligation to admit these enterprises, the State flown over can still exercise a decisive influence even over international traffic above its territory owing to the fact that it is perfectly free to regulate the organization of its air routes, aerodromes and transport organizations (p. 120)."

The principle of territoriality which is implied in *Cina* and expressly reserved in most bi-lateral air agreements raises difficult problems. Which of the domestic regulations of the subjacent State are completed, replaced or cancelled by international conventions? As the Report points out, this breach which treaties make in the body of national law varies in extent in the different air agreements. Some agreements employ a negative formula and declare that the law of the subjacent State applies "unless the present agreement decides otherwise" or "except in so far as it is inconsistent with the provisions of the present agreement." Other conventions, like the Belgian-Swiss Agreement of 1922, employ a positive formula and stipulate that the foreign aircraft shall not be subjected to such regulations of the subjacent State "as relate to registration, navigation licences, pilots' certificates and logbooks, which shall be regulated by the laws of the country of origin." A third group of agreements subject foreign aircraft to the domestic law of the State flown over, with a provision whereby the navigation licences, airworthiness certificates and certificates of competency issued to the aircraft and the crew shall have the same validity in the other country as the corresponding certificates issued by the subjacent State.

In general the agreements provide that the certificates issued by one State will be recognized by the other contracting States. This provision constitutes a substantial undertaking for each State since it compels it to apply in its own territory foreign rules of law without having a hand in their formulation unless the State is a member of *Cina* and has exercised some influence in the drafting of the annexes to the Convention of 1919. But even in this case, as the Report indicates, the State remains subject to an obligation to recognize the validity of foreign certificates which are issued with the minimum requirements of *Cina* while its legislation formulates stricter requirements. If State A, for instance, imposes x requirements for certificates and State B imposes x and y requirements; nevertheless State A will be compelled to admit any

person duly bearing a certificate of State A. In order to prevent citizens of a State with high requirements from resorting to a State with low requirements, almost all of the conventions permit each contracting State to refuse to recognize the certificates issued to its own nationals by another State.

The competence of the two or more administrations involved in international air traffic is thus recognized in the various air agreements. On the one hand, the administration issuing certificates controls these certificates and may examine them periodically, renew them or revoke them. On the other hand the police regulations of the State flown over may render the possession of such certificates valueless for purposes of flight. In the words of the Report:

"The main source of all competence of the State flown over would seem to reside in the police regulations which, according to the law of all civilized countries, authorize and pledge the police to take the necessary preventive measures against nationals and foreigners whenever public order and security are threatened. In virtue of these regulations the police of the State flown over can, at any time and in spite of the recognition of foreign certificates, suspend international air traffic if it can claim that public safety is threatened, owing, for example, to constructive defects in foreign aircraft or the incompetence, illness or drunkenness of the foreign crew or passengers. It is not even necessary that the danger involving the prohibition or restriction of traffic should have been caused by the foreign aviator or be due to his fault. It is sufficient that the national air routes should be defective; examples of such defects are the absence of luminous signals on air-lines by night, defective working of existing lights, the bad state of certain airdromes, unfavorable atmospheric conditions, etc. Nothing is easier than to find or create conditions of this kind when a State administration, which is bound by a convention to permit international traffic, wishes to hamper that traffic over its own territory. The only brake upon the police administration in the arbitrary exercise of its power is the fear lest the foreign State concerned should apply similar measures against its own aircraft. In cases, however, when there is no such convergence of interests in matters of international air navigation—for example, in the case of competing countries or countries which do not operate air navigation lines—it has been found that the application of police measures dictated by considerations of public safety have constituted a never-failing means of intervention and one which is, in fact, scarcely open to attack from the point of view of international law (p. 127)."

The solution offered by the Report for such conditions is the creation of a better understanding between nations, the conclusion of a universal convention like *Cina* and the extension of the special agreements.

International Aerial Law

The fourth section of the report has the title of "Principles of Public International Law applicable to Air Transports." It gives

a brief history and synopsis of the Air Convention (1919), the Ibero-American Convention (1926), and the Pan-American Convention relating to Commercial Aviation (1928). It also reviews in brief the numerous agreements relating to air navigation concluded by various countries, and devotes some attention to special questions such as the treatment of air traffic above the City of the Vatican, aircraft of the League of Nations, and customs agreements concluded by certain countries to facilitate international tourist traffic.

In expounding the rules of international air law, the Report does little more than compare article by article the three multilateral treaties above-mentioned—an undertaking much better performed by Professor Henry-Coüannier and others.⁸ Then follow several useful chronological lists, including: (1) Separate General Agreements concluded between various countries, (2) Separate General Agreements which have now expired, and (3) Separate Agreements relating to Special Questions.

The Report shows that general agreements are negotiated not only between the members of *Cina* but also between member States and non-member States. In general, these agreements provide:

1. Every aircraft must have a nationality, that is to say, it must be entered on the register of the country to which it belongs.
2. Every aircraft must be provided with a technical document certifying that it is airworthy (navigation permit, certificate of airworthiness, etc.) and also with a log book.
3. Every member of the crew of an aircraft must be in possession of documents proving his identity and competency to undertake his duties.
4. No aircraft must carry wireless apparatus without special authorization.
5. Every aircraft used for commercial purposes must carry a list of passengers' names and documents required by the Customs in regard to the transport of goods.
6. The authorities of one contracting State are entitled to visit aircraft belonging to the other State.
7. The principle of equality of treatment for national aircraft and aircraft belonging to the other contracting party as regards the operation of aerodromes open to public use and measures of assistance and salvage.

8. Compare his *Éléments Créateurs de Droit Aérien* (Paris: 1929).

8. Both contracting States must communicate to each other periodically full particulars concerning the regulation of air navigation in general (laws, regulations, decrees) or particular operations, (customs, aerodromes, prohibited areas, etc.).

In general, the Report finds that the separate agreements concluded by the various countries for the regulation of their mutual air relations are based on common principles and rarely deviate from the fundamental rules laid down by the great collective agreements.

The separate agreements concerning special questions generally relate to: (1) the establishment and operation of regular air lines, (2) the transport of mails by air, and (3) customs service.

The special regime governing the circulation of aircraft over the City of the Vatican is established by the Lateran Treaty of February 11, 1929, between Italy and the Holy See, which provides in article vi that agreements shall be concluded between Italy and the Papacy regarding the circulation of aircraft over the Vatican City; while article vii provides, "in conformity with the regulations of international law, aircraft of any kind are prohibited from flying over the territory of the Vatican." The latter excludes all reciprocity of treatment for aircraft of the two contracting parties.

The Report commends the attempts of the League of Nations to secure special treatment for aircraft employed to communicate with the League whether in time of war or peace. It also commends the recommendations of the International Aeronautic Federation to facilitate the movement of touring aircraft from country to country by the issuance of a triptych or "carnet des passages en douane."

In conclusion, the Organization for Communications and Transit of the League of Nations is to be congratulated upon its ambitious survey of the problems of international aviation. The obvious defects of its Report are largely due to haste and lack of co-ordination in its preparation. These mistakes should be avoided in the future. The present study, it is hoped, will be preliminary to a more scientific report by the League of Nations upon this important and ever expanding field in international relations. It is evident that careful investigation should precede governmental promotion of the agencies for international co-operation. Sufficient evidence has been adduced to indicate the need for a more universal air regime. The time has come for a far-reaching program of international co-operation. The League of Nations will add to its prestige if the program can be introduced and accepted under its auspices.